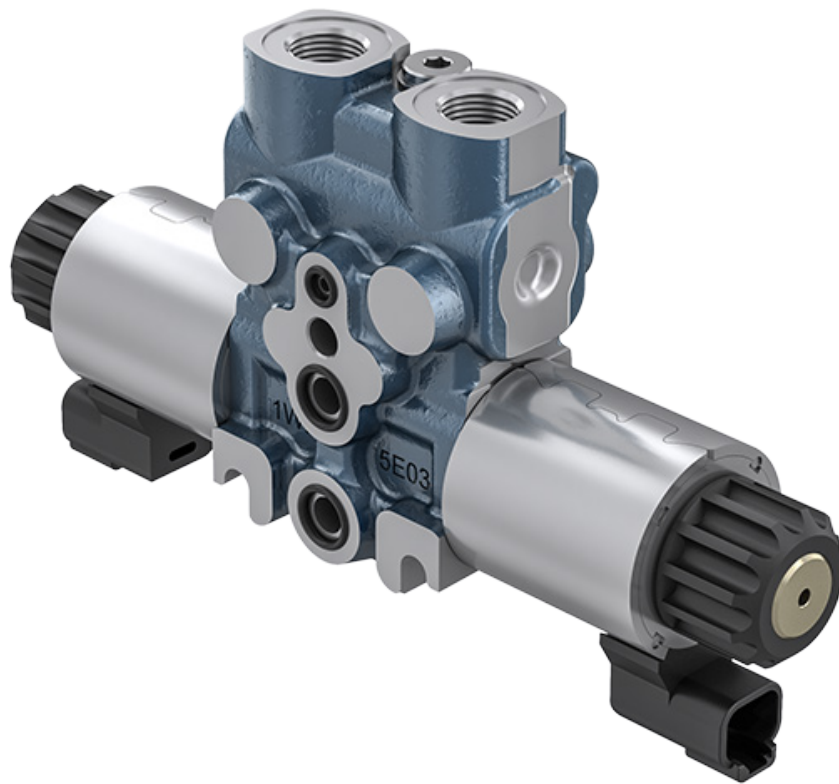
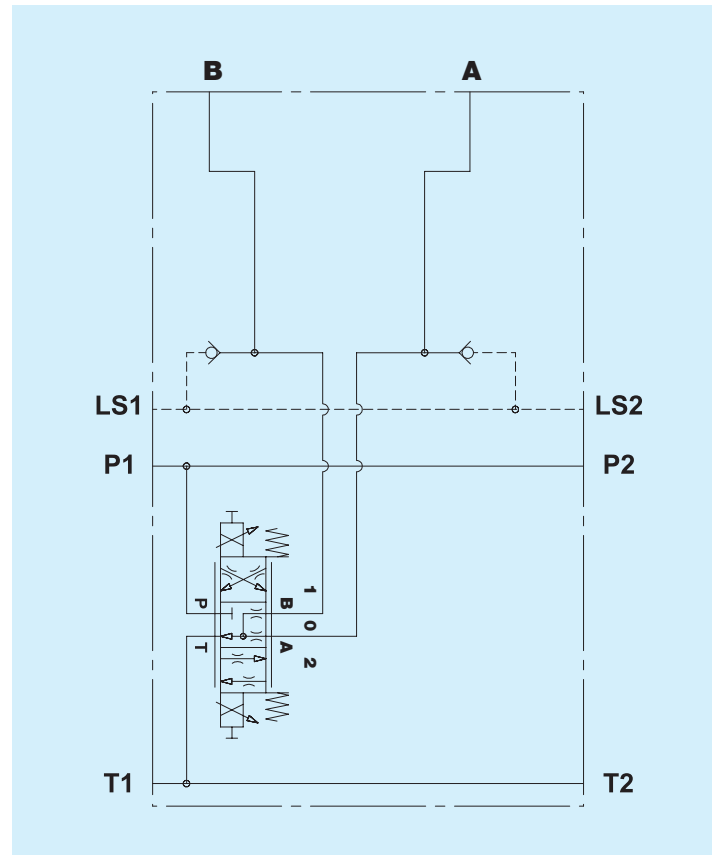


BW0511LP Wide element 4/3 Proportional with Load  
Sensing Signal  
Interface IBW0511

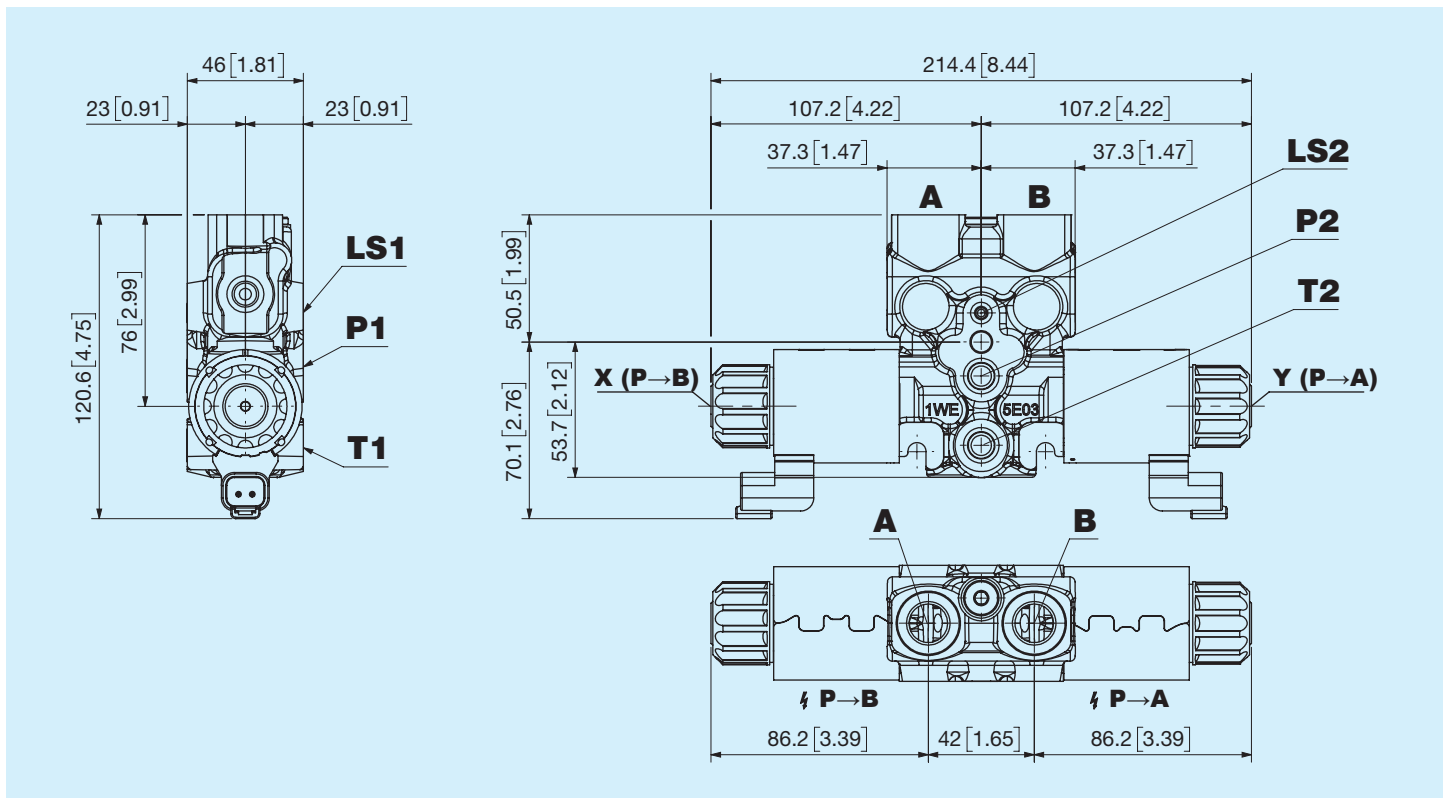


Prior to use, carefully read the document GENERAL USE INSTRUCTIONS FOR DIRECTIONAL CONTROL VALVES

|                         |                                                                                                       |
|-------------------------|-------------------------------------------------------------------------------------------------------|
| Nominal flow rate       | <b>45 l/min - <math>\Delta P=18</math> bar</b><br><b>11.89 US gpm - <math>\Delta P=261</math> psi</b> |
| Nominal pressure        | <b>250 bar</b><br><b>3625 psi</b>                                                                     |
| Maximum tank pressure   | <b>50 bar</b><br><b>725 psi</b>                                                                       |
| Temperature range       | <b>-20°C +85°C NBR seals</b><br><b>(max peak +100°C)</b><br><b>-20°C + 130°C HNBR seals</b>           |
| Operating oil viscosity | <b>from 15 mm<sup>2</sup>/s to 90 mm<sup>2</sup>/s</b><br><b>(15 cSt to 90 cSt)</b>                   |
| Fluid                   | <b>Hydraulic fluids defined by the ISO 6743-4 standard</b>                                            |
| Weight                  | <b>1.7 kg</b><br><b>3.75 lb</b>                                                                       |
| Interface               | <b>IBW0511</b>                                                                                        |
| Hysteresis              | <b>&lt;10%</b>                                                                                        |

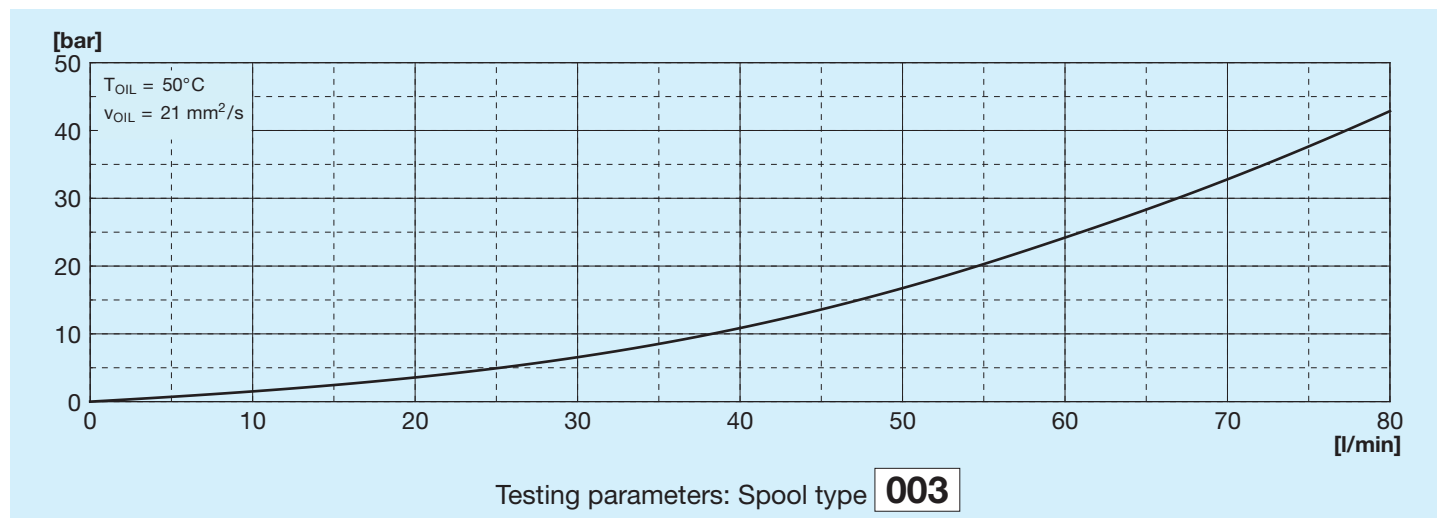


## Overall dimensions

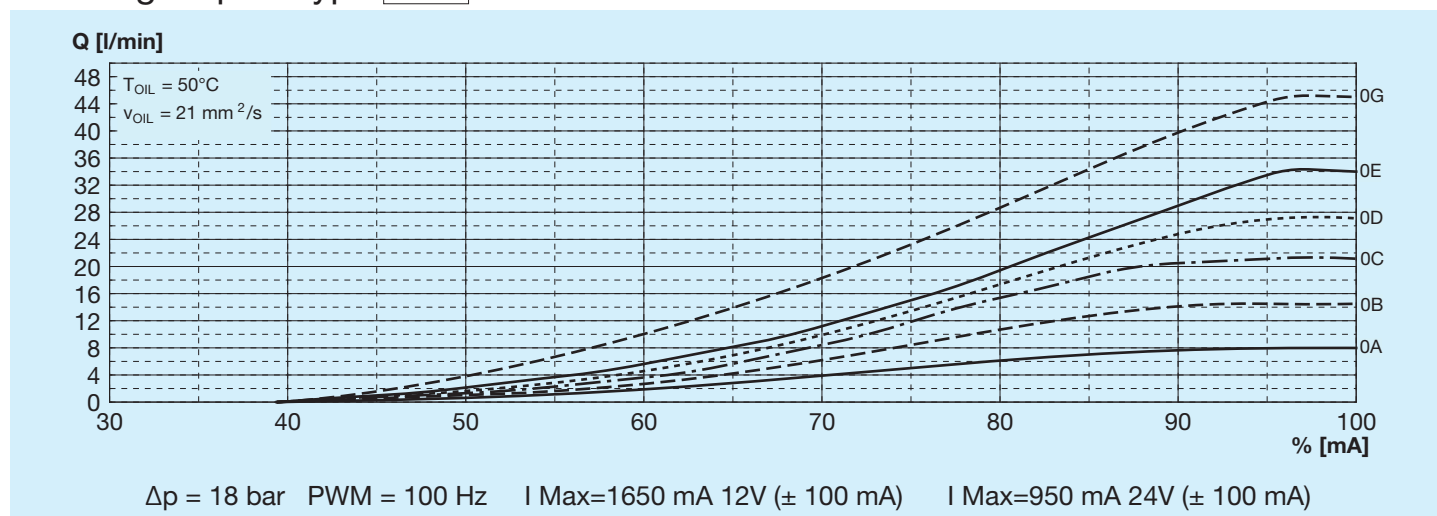


X - Y = Push type manual override

## Pressure drop B-T



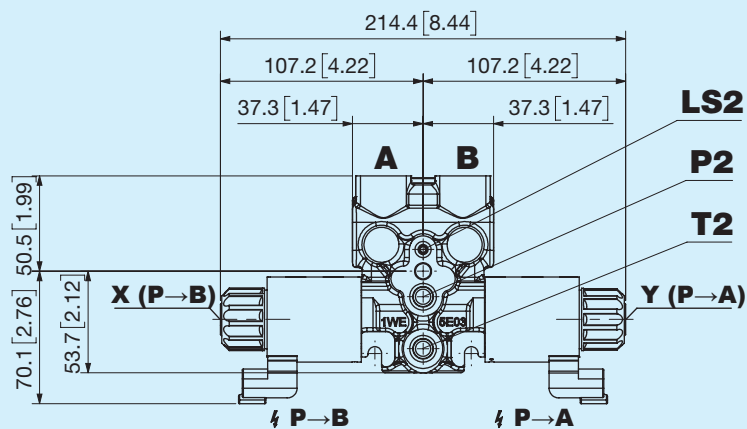
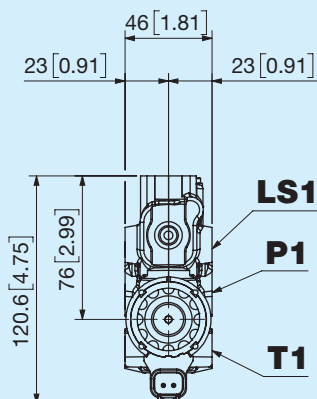
## Metering - Spool type 003



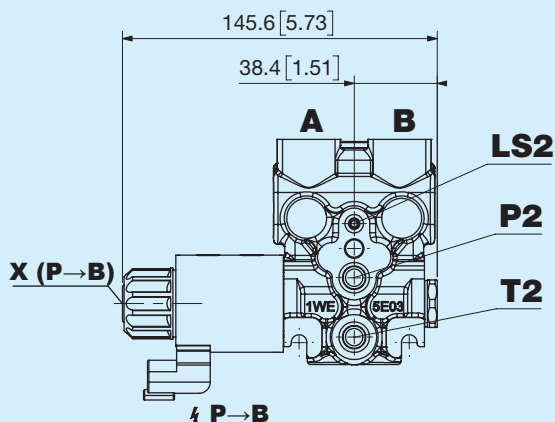
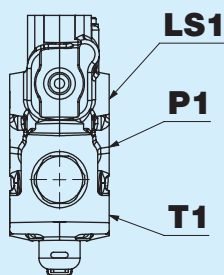
## Electrical characteristics of coils for proportional actuation

| Voltage               | 12   | 24    | V ( $\pm 10\%$ )   |
|-----------------------|------|-------|--------------------|
| Resistance<br>Cu 20°C | 3,62 | 13,55 | $\Omega (\pm 4\%)$ |
| Nominal<br>current    | 1,9  | 1     | A                  |
| Power                 | 18,8 | 20,2  | W                  |

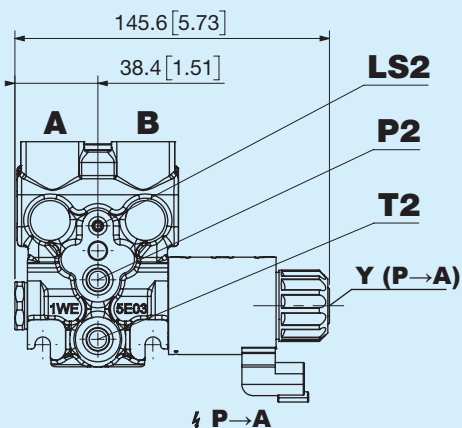
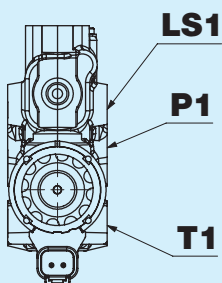
## A Two coils port side A and B



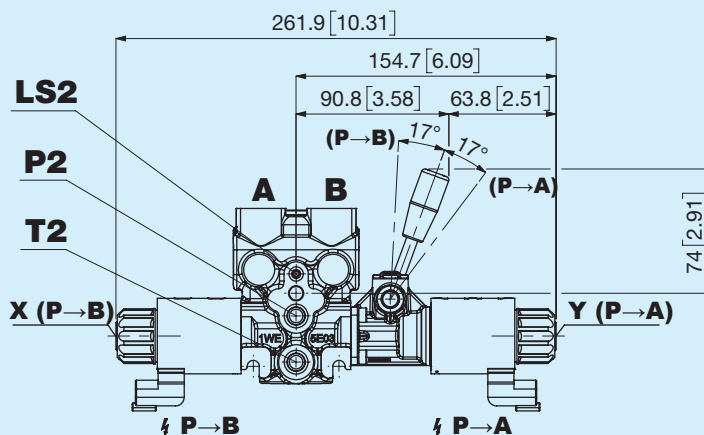
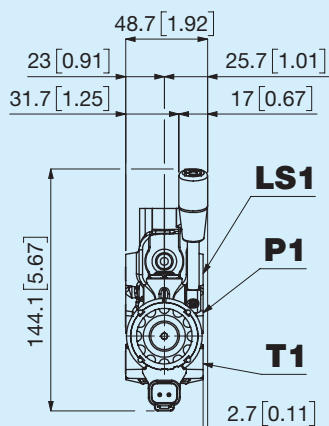
## E One coil port side A



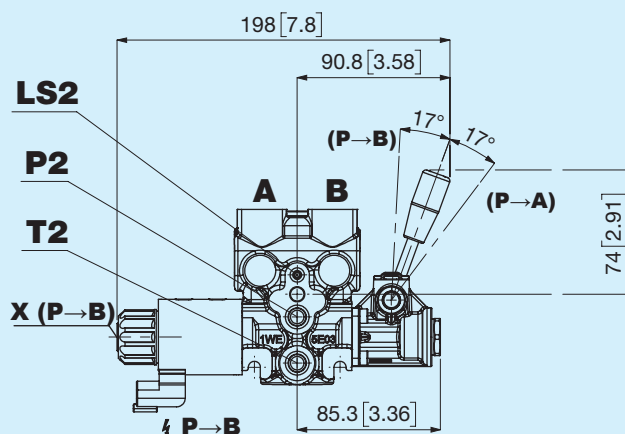
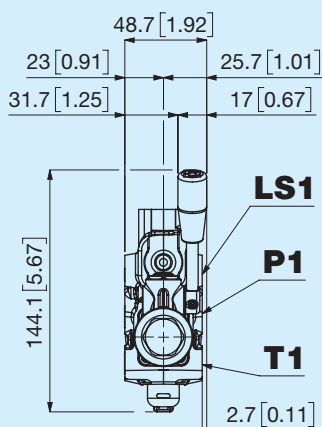
## F One coil port side B



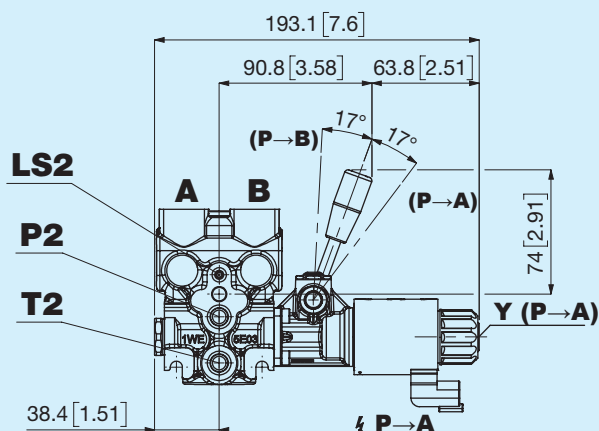
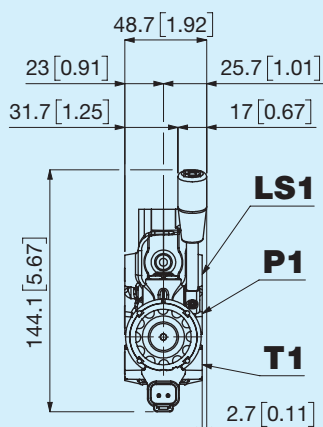
## B Two coils A and B port side with lever override



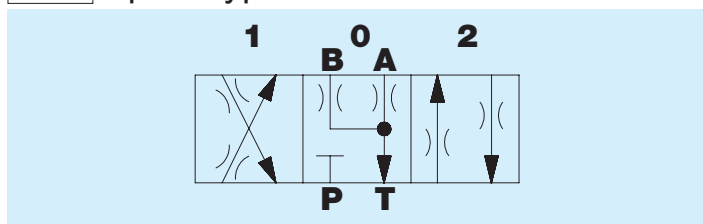
## C One coil port side A with lever override



## D One coil port side B with lever override



## 003 Spool type



## Positions

| 1          | 0           | 2          |
|------------|-------------|------------|
| P→A<br>B→T | B,A→T<br>P— | P→B<br>A→T |

## Flow rate $\Delta P = 18$ bar

| Code | l/min | US gpm |
|------|-------|--------|
| 0A   | 8     | 2.11   |
| 0B   | 14.5  | 3.83   |
| 0C   | 21    | 5.55   |
| 0D   | 27    | 7.13   |
| 0E   | 34    | 8.98   |
| 0G   | 45    | 11.89  |

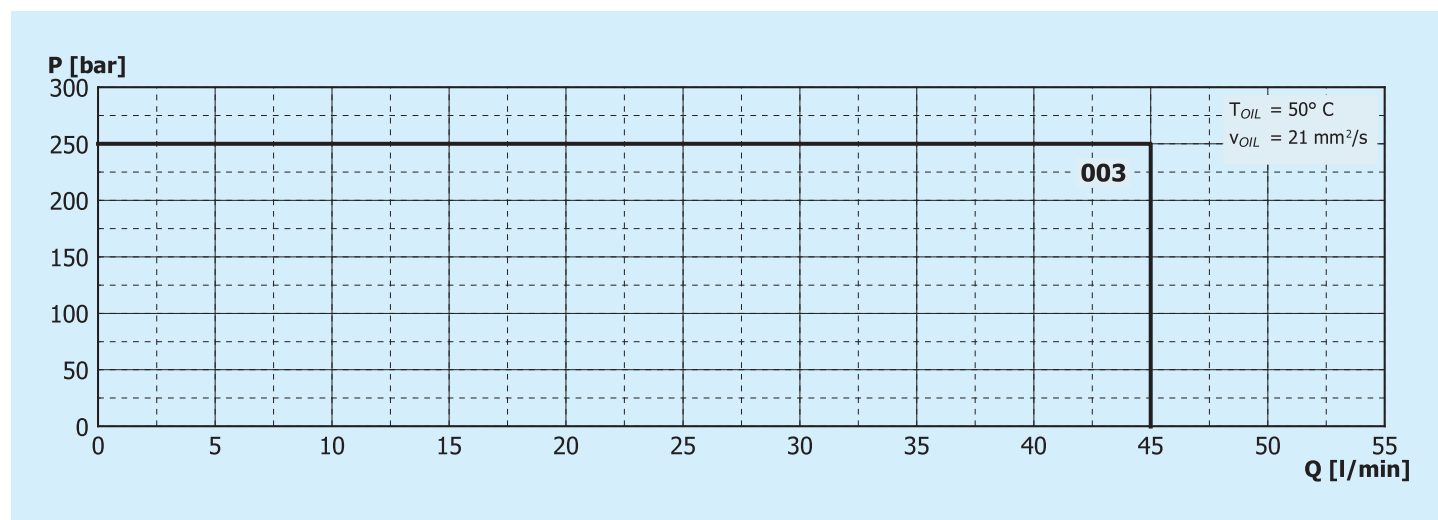
## Flow rate $\Delta P = 20$ bar

| Code | l/min | US gpm |
|------|-------|--------|
| 0A   | 8     | 2.11   |
| 0B   | 15    | 3.96   |
| 0C   | 22    | 5.81   |
| 0D   | 29    | 7.66   |
| 0E   | 36    | 9.51   |
| 0G   | 48    | 12.68  |

## Flow rate $\Delta P = 25$ bar

| Code | l/min | US gpm |
|------|-------|--------|
| 0A   | 9     | 2.38   |
| 0B   | 16.5  | 4.36   |
| 0C   | 25    | 6.60   |
| 0D   | 32    | 8.45   |
| 0E   | 40    | 10.57  |
| 0G   | 53    | 14     |

### Performance limits for spool type



**Thread Port A and B**

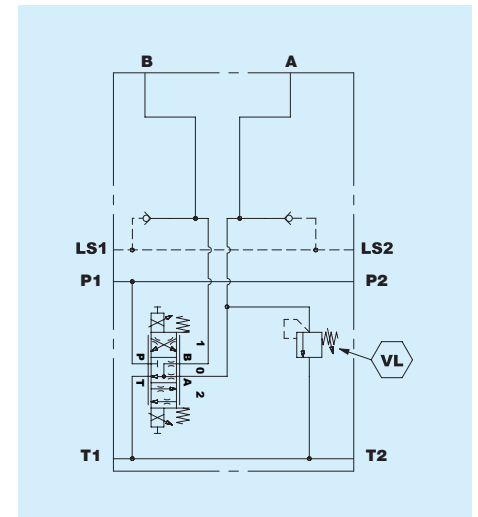
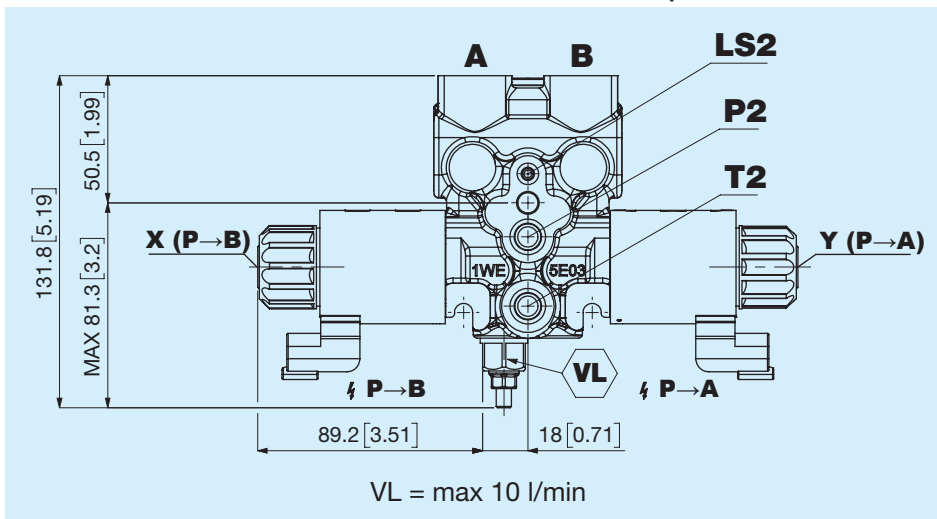
| Code     | Type                  | Tightening $\pm 10\%$<br>Nm |
|----------|-----------------------|-----------------------------|
| <b>A</b> | 3/8" GAS ISO 1179     | 45                          |
| <b>C</b> | M18x1.5 ISO 9974      | 45                          |
| <b>W</b> | M18x1.5 ISO 6149      | 45                          |
| <b>E</b> | 3/4" 16 SAE ISO 11926 | 45                          |



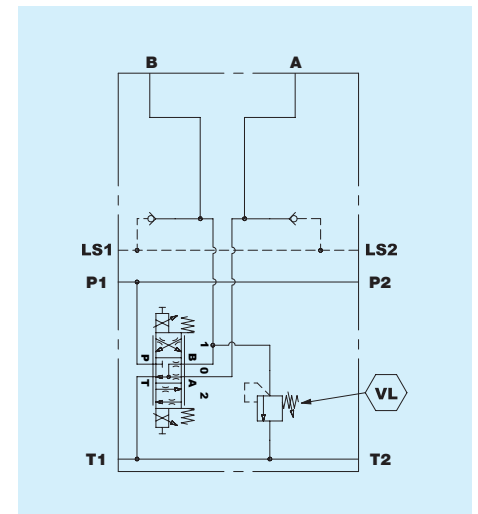
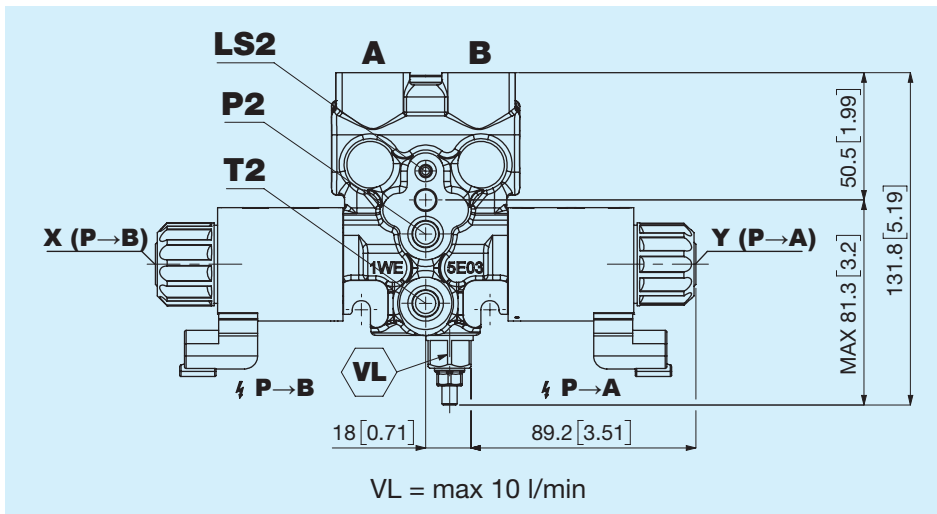
# VL located under ports

**BW0511LP**

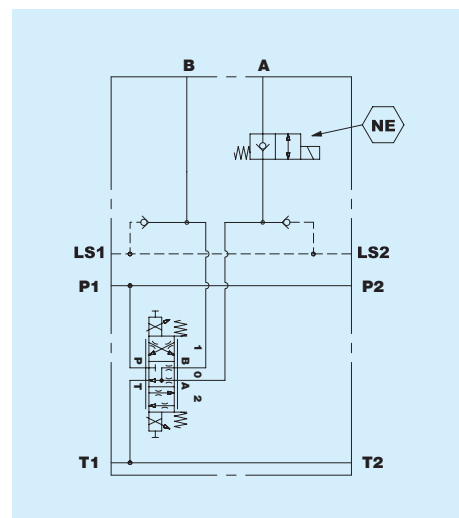
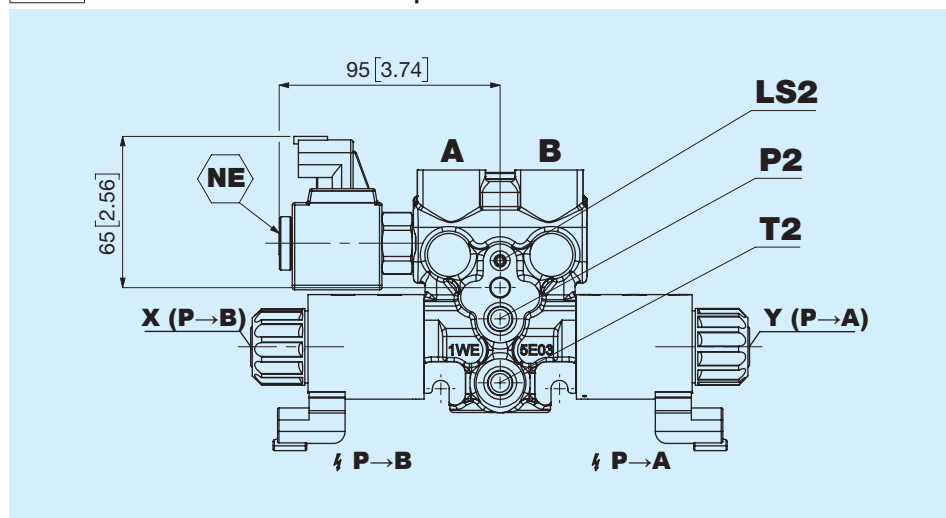
VL - Pressure relief valve located under port A



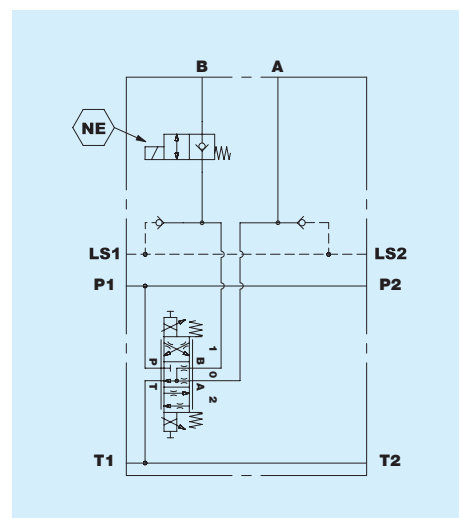
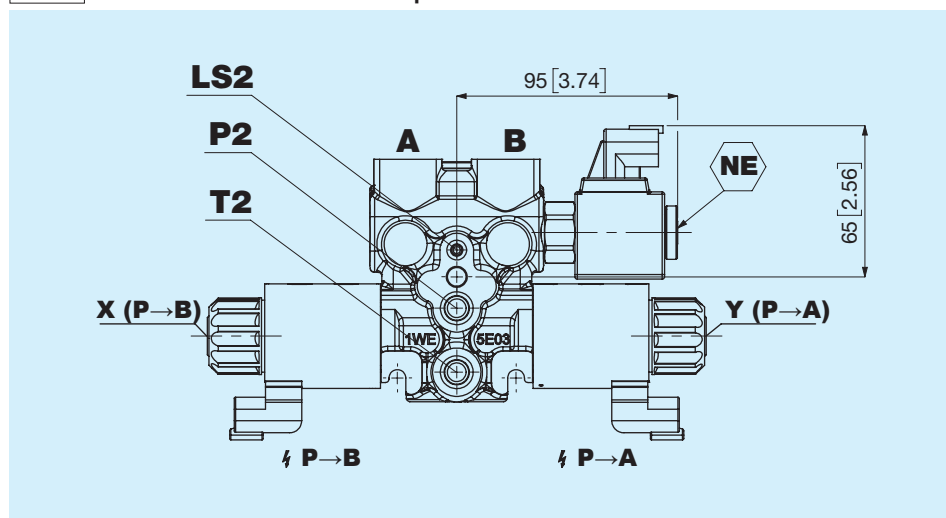
VL - Pressure relief valve located under port B



## NE Solenoid valve 2/2 port A



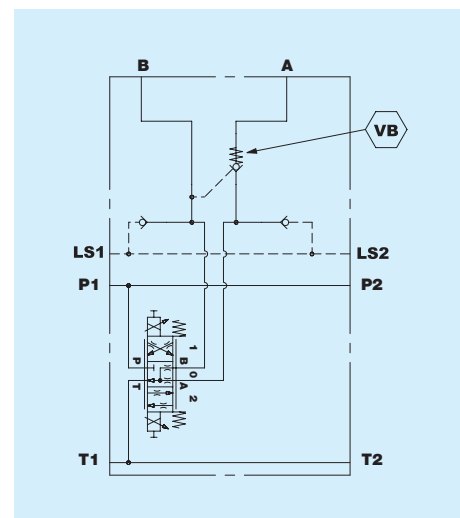
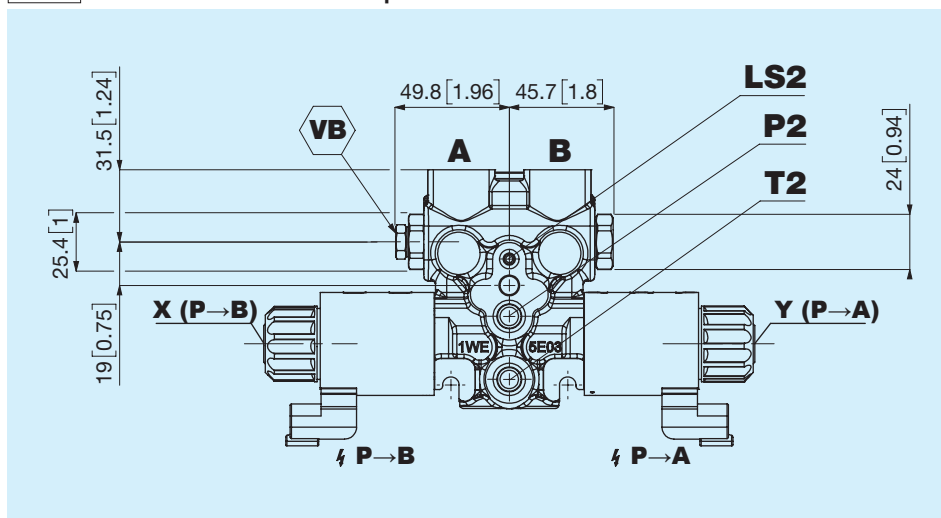
## NE Solenoid valve 2/2 port B



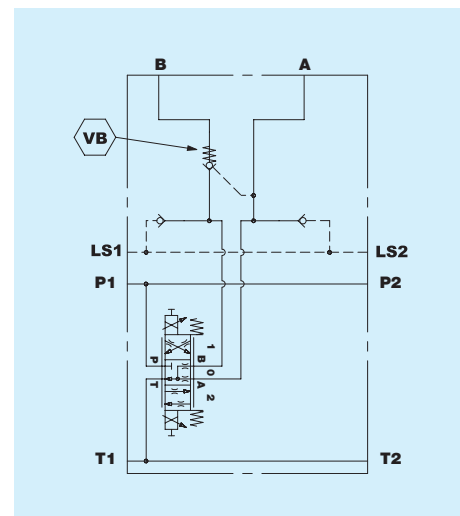
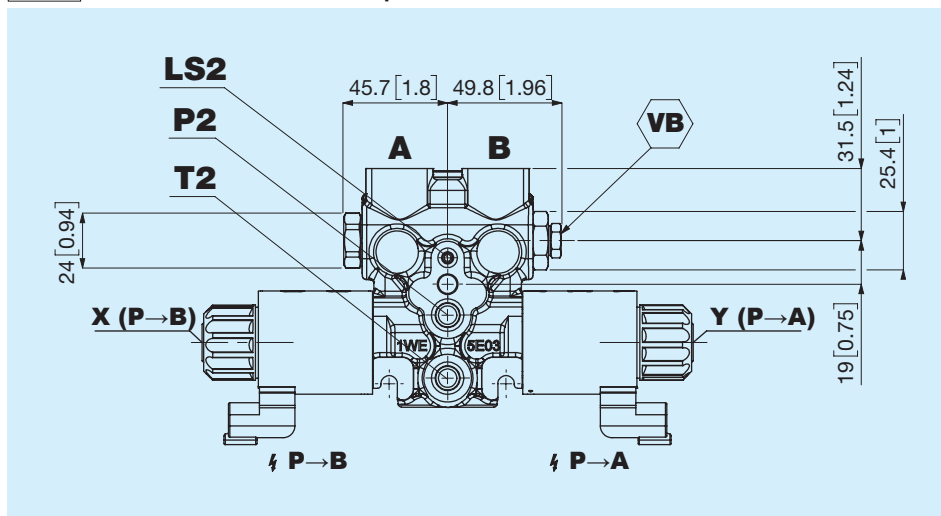
## Electrical characteristics of solenoid valve 2/2 coils

| Voltage               | 12   | 24   | V (± 10%) |
|-----------------------|------|------|-----------|
| Resistance<br>Cu 20°C | 7,7  | 19,4 | Ω (± 7%)  |
| Nominal<br>current    | 1,55 | 1,24 | A         |
| Power                 | 18,6 | 30   | W         |

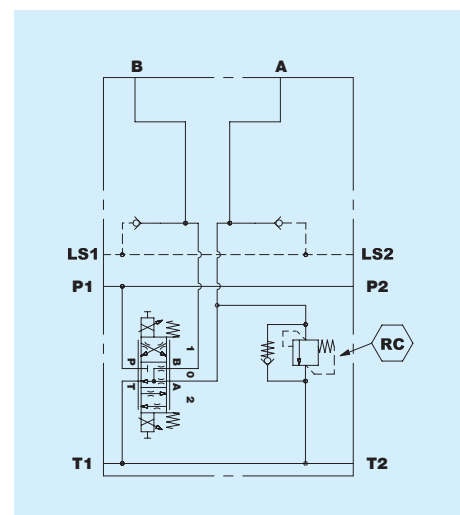
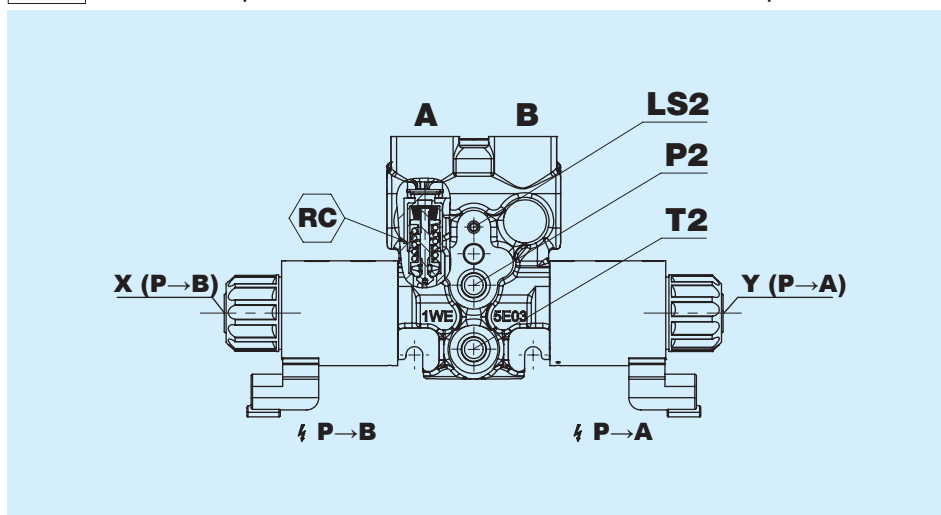
## VB Pilot check valve port A



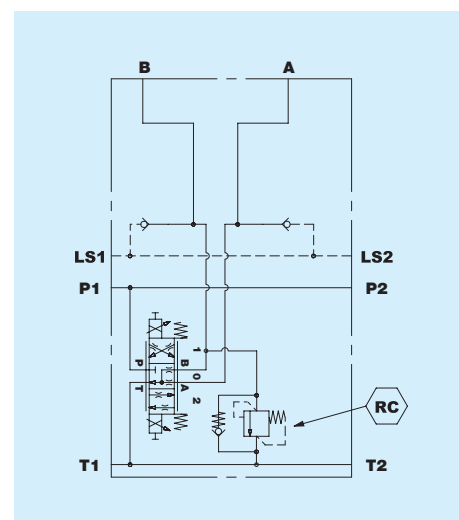
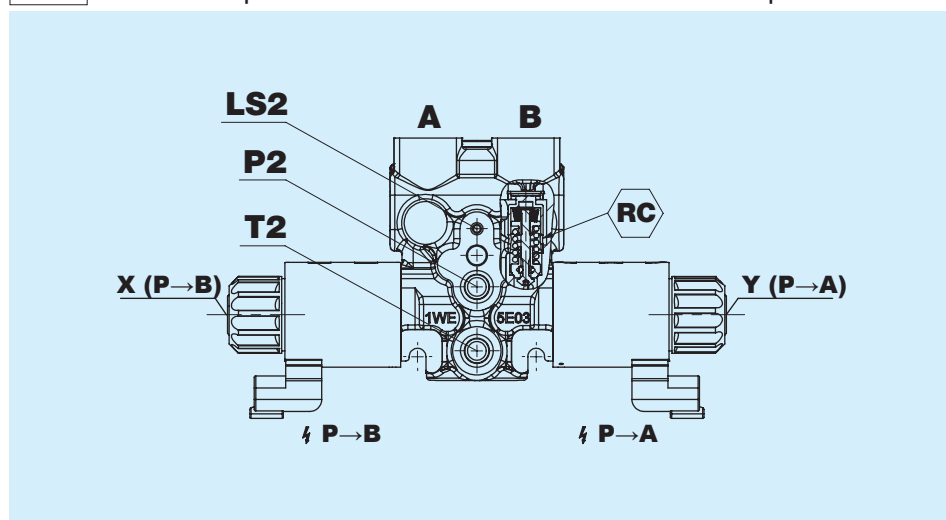
## VB Pilot check valve port B



## RC VL Internal pressure limiter and anticavitation valve port A



**RC** VL Internal pressure limiter and anticavitation valve port B



## Possible valve combinations port A and B

| Port A | Port B |    |    |    |    |
|--------|--------|----|----|----|----|
|        | NN     | VL | NE | VB | RC |
| NN     | •      | •  | •  | •  | •  |
| VL     | •      | •  | •  | •  |    |
| NE     | •      | •  | •  |    | •  |
| VB     | •      | •  |    | •  |    |
| RC     | •      |    | •  |    | •  |

**NN** None

**VL** Relief valve under located

**NE** Solenoid valve 2/2

**VB** Pilot check valve

**RC** Internal pressure limiter and anticavitation valve



|          |  |   |  |   |  |   |  |   |  |   |  |   |  |   |  |   |  |    |  |    |  |    |  |    |  |    |  |    |  |    |  |    |  |
|----------|--|---|--|---|--|---|--|---|--|---|--|---|--|---|--|---|--|----|--|----|--|----|--|----|--|----|--|----|--|----|--|----|--|
| 1        |  | 2 |  | 3 |  | 4 |  | 5 |  | 6 |  | 7 |  | 8 |  | 9 |  | 10 |  | 11 |  | 12 |  | 13 |  | 14 |  | 15 |  | 16 |  | 17 |  |
| BW0511LP |  |   |  |   |  |   |  |   |  |   |  |   |  |   |  |   |  |    |  |    |  |    |  |    |  |    |  |    |  |    |  |    |  |

|   |                                      |  |  |  |                                                          |  |  |  |                                                   |  |  |  |  |  |  |  |
|---|--------------------------------------|--|--|--|----------------------------------------------------------|--|--|--|---------------------------------------------------|--|--|--|--|--|--|--|
| 1 | Configurations                       |  |  |  |                                                          |  |  |  |                                                   |  |  |  |  |  |  |  |
|   | <b>A</b> Two coils port side A and B |  |  |  | <b>F</b> One coil port side B                            |  |  |  | <b>C</b> One coil port side A with lever override |  |  |  |  |  |  |  |
|   | <b>E</b> One coil port side A        |  |  |  | <b>B</b> Two coils A and B port side with lever override |  |  |  | <b>D</b> One coil port side B with lever override |  |  |  |  |  |  |  |

|   |   |   |                       |  |  |  |  |  |  |  |  |  |  |  |  |  |
|---|---|---|-----------------------|--|--|--|--|--|--|--|--|--|--|--|--|--|
| 2 | 3 | 4 | Spool types           |  |  |  |  |  |  |  |  |  |  |  |  |  |
|   |   |   | <b>003</b> Spool type |  |  |  |  |  |  |  |  |  |  |  |  |  |

|   |   |                                    |  |  |  |                                  |  |  |  |                                   |  |  |  |  |  |  |
|---|---|------------------------------------|--|--|--|----------------------------------|--|--|--|-----------------------------------|--|--|--|--|--|--|
| 5 | 6 | Flow rate $\Delta P = 18$ bar      |  |  |  |                                  |  |  |  |                                   |  |  |  |  |  |  |
|   |   | <b>0A</b> 8 l/min - 2.11 US gpm    |  |  |  | <b>0C</b> 21 l/min - 5.55 US gpm |  |  |  | <b>0E</b> 34 l/min - 8.98 US gpm  |  |  |  |  |  |  |
|   |   | <b>0B</b> 14.5 l/min - 3.83 US gpm |  |  |  | <b>0D</b> 27 l/min - 7.13 US gpm |  |  |  | <b>0G</b> 45 l/min - 11.89 US gpm |  |  |  |  |  |  |

|   |                            |  |  |  |                           |  |  |  |                           |  |  |  |                                |  |  |  |
|---|----------------------------|--|--|--|---------------------------|--|--|--|---------------------------|--|--|--|--------------------------------|--|--|--|
| 7 | Thread Port A and B        |  |  |  |                           |  |  |  |                           |  |  |  |                                |  |  |  |
|   | <b>A</b> 3/8" GAS ISO 1179 |  |  |  | <b>C</b> M18x1.5 ISO 9974 |  |  |  | <b>W</b> M18x1.5 ISO 6149 |  |  |  | <b>E</b> 3/4" 16 SAE ISO 11926 |  |  |  |

|   |   |                                      |  |  |  |                      |  |  |  |                      |  |  |  |                      |  |  |
|---|---|--------------------------------------|--|--|--|----------------------|--|--|--|----------------------|--|--|--|----------------------|--|--|
| 8 | 9 | VL Relief valve located under port A |  |  |  |                      |  |  |  |                      |  |  |  |                      |  |  |
|   |   | <b>NN</b> None                       |  |  |  | <b>09</b> VL 90 bar  |  |  |  | <b>15</b> VL 150 bar |  |  |  | <b>21</b> VL 210 bar |  |  |
|   |   | <b>04</b> VL 40 bar                  |  |  |  | <b>10</b> VL 100 bar |  |  |  | <b>16</b> VL 160 bar |  |  |  | <b>22</b> VL 220 bar |  |  |
|   |   | <b>05</b> VL 50 bar                  |  |  |  | <b>11</b> VL 110 bar |  |  |  | <b>17</b> VL 170 bar |  |  |  | <b>23</b> VL 230 bar |  |  |
|   |   | <b>06</b> VL 60 bar                  |  |  |  | <b>12</b> VL 120 bar |  |  |  | <b>18</b> VL 180 bar |  |  |  |                      |  |  |
|   |   | <b>07</b> VL 70 bar                  |  |  |  | <b>13</b> VL 130 bar |  |  |  | <b>19</b> VL 190 bar |  |  |  |                      |  |  |
|   |   | <b>08</b> VL 80 bar                  |  |  |  | <b>14</b> VL 140 bar |  |  |  | <b>20</b> VL 200 bar |  |  |  |                      |  |  |

|    |    |                                      |  |  |  |                      |  |  |  |                      |  |  |  |                      |  |  |
|----|----|--------------------------------------|--|--|--|----------------------|--|--|--|----------------------|--|--|--|----------------------|--|--|
| 10 | 11 | VL Relief valve located under port B |  |  |  |                      |  |  |  |                      |  |  |  |                      |  |  |
|    |    | <b>NN</b> None                       |  |  |  | <b>09</b> VL 90 bar  |  |  |  | <b>15</b> VL 150 bar |  |  |  | <b>21</b> VL 210 bar |  |  |
|    |    | <b>04</b> VL 40 bar                  |  |  |  | <b>10</b> VL 100 bar |  |  |  | <b>16</b> VL 160 bar |  |  |  | <b>22</b> VL 220 bar |  |  |
|    |    | <b>05</b> VL 50 bar                  |  |  |  | <b>11</b> VL 110 bar |  |  |  | <b>17</b> VL 170 bar |  |  |  | <b>23</b> VL 230 bar |  |  |
|    |    | <b>06</b> VL 60 bar                  |  |  |  | <b>12</b> VL 120 bar |  |  |  | <b>18</b> VL 180 bar |  |  |  |                      |  |  |
|    |    | <b>07</b> VL 70 bar                  |  |  |  | <b>13</b> VL 130 bar |  |  |  | <b>19</b> VL 190 bar |  |  |  |                      |  |  |
|    |    | <b>08</b> VL 80 bar                  |  |  |  | <b>14</b> VL 140 bar |  |  |  | <b>20</b> VL 200 bar |  |  |  |                      |  |  |

|    |    |                   |  |  |  |                             |  |  |  |                              |  |  |  |                                                              |  |  |
|----|----|-------------------|--|--|--|-----------------------------|--|--|--|------------------------------|--|--|--|--------------------------------------------------------------|--|--|
| 12 | 13 | Valve type port A |  |  |  |                             |  |  |  |                              |  |  |  |                                                              |  |  |
|    |    | <b>NN</b> None    |  |  |  | <b>VB</b> Pilot check valve |  |  |  | <b>NE</b> Solenoid valve 2/2 |  |  |  | <b>RC</b> Internal pressure limiter and anticavitation valve |  |  |

|    |    |                               |  |  |  |                   |  |  |  |                   |  |  |  |                   |  |  |
|----|----|-------------------------------|--|--|--|-------------------|--|--|--|-------------------|--|--|--|-------------------|--|--|
| 14 | 15 | Pressure setting RC on port A |  |  |  |                   |  |  |  |                   |  |  |  |                   |  |  |
|    |    | <b>NN</b> None                |  |  |  | <b>09</b> 90 bar  |  |  |  | <b>16</b> 160 bar |  |  |  | <b>23</b> 230 bar |  |  |
|    |    | <b>03</b> 30 bar              |  |  |  | <b>10</b> 100 bar |  |  |  | <b>17</b> 170 bar |  |  |  | <b>24</b> 240 bar |  |  |
|    |    | <b>04</b> 40 bar              |  |  |  | <b>11</b> 110 bar |  |  |  | <b>18</b> 180 bar |  |  |  | <b>25</b> 250 bar |  |  |
|    |    | <b>05</b> 50 bar              |  |  |  | <b>12</b> 120 bar |  |  |  | <b>19</b> 190 bar |  |  |  | <b>26</b> 260 bar |  |  |
|    |    | <b>06</b> 60 bar              |  |  |  | <b>13</b> 130 bar |  |  |  | <b>20</b> 200 bar |  |  |  | <b>27</b> 270 bar |  |  |
|    |    | <b>07</b> 70 bar              |  |  |  | <b>14</b> 140 bar |  |  |  | <b>21</b> 210 bar |  |  |  |                   |  |  |
|    |    | <b>08</b> 80 bar              |  |  |  | <b>15</b> 150 bar |  |  |  | <b>22</b> 220 bar |  |  |  |                   |  |  |

|    |    |                   |  |  |  |                             |  |  |  |                              |  |  |  |                                                              |  |  |
|----|----|-------------------|--|--|--|-----------------------------|--|--|--|------------------------------|--|--|--|--------------------------------------------------------------|--|--|
| 16 | 17 | Valve type port B |  |  |  |                             |  |  |  |                              |  |  |  |                                                              |  |  |
|    |    | <b>NN</b> None    |  |  |  | <b>VB</b> Pilot check valve |  |  |  | <b>NE</b> Solenoid valve 2/2 |  |  |  | <b>RC</b> Internal pressure limiter and anticavitation valve |  |  |

|    |    |    |    |
|----|----|----|----|
| 18 | 19 | 20 | 21 |
|    |    |    |    |

|    |    |
|----|----|
| 18 | 19 |
|    |    |

## Pressure setting RC on port A

|                  |                   |                   |                   |
|------------------|-------------------|-------------------|-------------------|
| <b>NN</b> None   | <b>09</b> 90 bar  | <b>16</b> 160 bar | <b>23</b> 230 bar |
| <b>03</b> 30 bar | <b>10</b> 100 bar | <b>17</b> 170 bar | <b>24</b> 240 bar |
| <b>04</b> 40 bar | <b>11</b> 110 bar | <b>18</b> 180 bar | <b>25</b> 250 bar |
| <b>05</b> 50 bar | <b>12</b> 120 bar | <b>19</b> 190 bar | <b>26</b> 260 bar |
| <b>06</b> 60 bar | <b>13</b> 130 bar | <b>20</b> 200 bar | <b>27</b> 270 bar |
| <b>07</b> 70 bar | <b>14</b> 140 bar | <b>21</b> 210 bar |                   |
| <b>08</b> 80 bar | <b>15</b> 150 bar | <b>22</b> 220 bar |                   |

|    |
|----|
| 20 |
|    |

## Voltage and connector

|                        |                        |                              |                              |
|------------------------|------------------------|------------------------------|------------------------------|
| <b>A</b> 12V DIN 43650 | <b>B</b> 24V DIN 43650 | <b>G</b> 12V DEUTSCH DT04-2P | <b>H</b> 24V DEUTSCH DT04-2P |
|------------------------|------------------------|------------------------------|------------------------------|

|    |
|----|
| 21 |
|    |

## External treatment

|               |                       |
|---------------|-----------------------|
| <b>N</b> None | <b>Z</b> Zinc plating |
|---------------|-----------------------|