

## P20

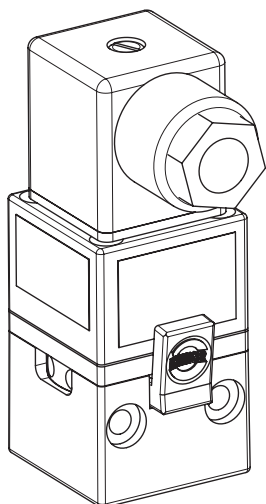
Piezo-controlled pneumatic valve  
for intrinsically safe applications

Technical Data

EN MET



**HOERBIGER**



# GENERAL PROPERTIES

P20

## GENERAL PROPERTIES

|                                    |  |
|------------------------------------|--|
| Type                               | P20  |
| Function                           | Switching 3/2-way NC overlapping                                       |
| Actuation type                     | Piezoelectric pilot  |
| Constructive structure             | Gate valve   |
| Manual override                    | Tactile; snapping  |
| Connection type                    | Flange according to CNOMO <sup>1)</sup>                                |
| Weight                             | 0.100 kg <sup>2)</sup>   |
| Installation position              | Any  |
| Protection type                    | IP 54 (DIN EN 60529 A1: 2000) <sup>3)</sup>                            |
| Storage temperature                | -40 °C to +80 °C   |
| Ambient temperature                | -10 °C to +60 °C   |
| Medium temperature                 | -10 °C to +60 °C   |
| Rel. humidity                      | 10 to 95 % (without condensation)                                      |
| Material                           | Anodized aluminum, brass, spring steel, plastic, elastomer, NBR, ARCAP |
| Behavior in case of energy failure | Port 2 venting   |

<sup>1)</sup> Base plates for threaded connection see accessories

<sup>2)</sup> Optional with adapter plate (+0.06 kg)

<sup>3)</sup> With mounted connector plug and tight pneumatic connections

## GENERAL PNEUMATIC PROPERTIES

|   |  |
|---|--|
| Media <sup>4)</sup>                       | Compressed air and neutral gases                                     |
| Media quality                             | According to ISO 8573-1:2010 (3;3;4)                                 |
| Flow direction on                         | From 1 to 2  |
| Flow direction off                        | From 2 to 3  |
| Approval acc. to EU Type test certificate |  |
| Category, ignition type protection        | Gas: II 2G Ex ia IIC T4/T5/T6 Gb<br>Dust: II 2D Ex ia IIIB T125°C Db |

<sup>4)</sup> Other media only after approval by the manufacturer

## PNEUMATIC PROPERTIES

|  |             |
|--|-------------|
| Nominal pressure ( $p_N$ )                       | 6 bar       |
| Input pressure min ( $p_{1_{min}}$ )             | 1.5 bar     |
| Input pressure max ( $p_{1_{max}}$ )             | 8 bar       |
| Nominal flow rate 1 to 2 ( $Q_N$ ) <sup>5)</sup> | > 110 l/min |

<sup>5)</sup> Measured at  $p_1$  = nominal pressure and pressure drop 1 bar

# ELECTRICAL PROPERTIES

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## ELECTRICAL PROPERTIES

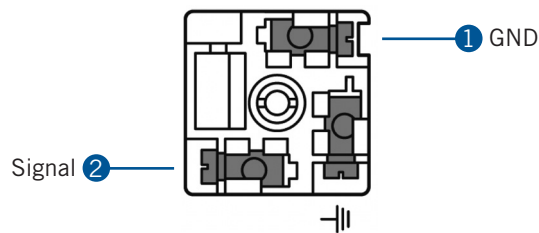
|   | PT63          | PT64         | PT61         |
|---|---------------|--------------|--------------|
| Nominal voltage ( $U_N$ )                         | 9 V DC        | 16 V DC      | 30 V DC      |
| Switching voltage ON ( $U_{on}$ )                 | 5.5 to 9 V DC | 6 to 16 V DC | 7 to 30 V DC |
| Switching voltage OFF ( $U_{off}$ )               |               | 1 V DC       |              |
| Holding current ON ( $I_{on}$ )                   | 1 to 19 mA    | 1.7 to 23 mA | 2 to 19 mA   |
| Holding current OFF ( $I_{off}$ )                 | 0.05 mA       | 0.1 mA       | 0.22 mA      |
| Power consumption min ( $P_{min}$ )               | 5.5 mW        | 10 mW        | 14 mW        |
| Power consumption max ( $P_{max}$ )               | 171 mW        | 368 mW       | 571 mW       |
| Safety data according to EU type test certificate |               |              |              |
| Voltage ( $U_i$ )                                 | 9 mA          | 16 mA        | 30 mA        |
| Current ( $I_i$ )                                 |               | Not relevant |              |
| External capacitance ( $C_i$ )                    |               | 12 nF        |              |
| External inductance ( $L_i$ )                     |               | Negligible   |              |

## FORMULA TO CALCULATE THE ELECTRIC CURRENT

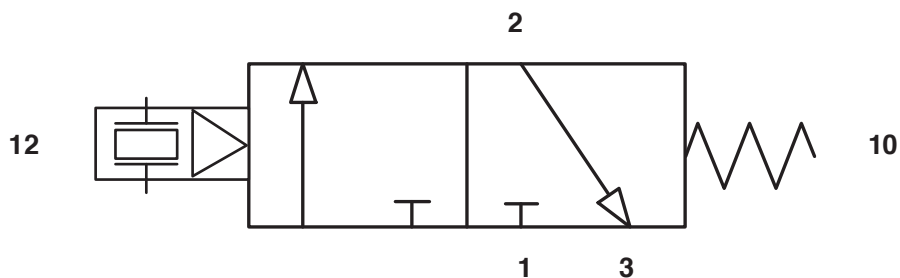
| PT63                          | PM64                          | PN61                         |
|-------------------------------|-------------------------------|------------------------------|
| $I = (U \times 5.14) - 27.27$ | $I = (U \times 2.13) - 11.08$ | $I = (U \times 0.74) - 3.17$ |

## CLAMPS/CONNECTION BLOCK

|           |   |
|-----------|---|
| Connector | Plug connector acc. to DIN EN175301-803A; electrical connections<br>1=GND; 2=Signal |
|-----------|---|



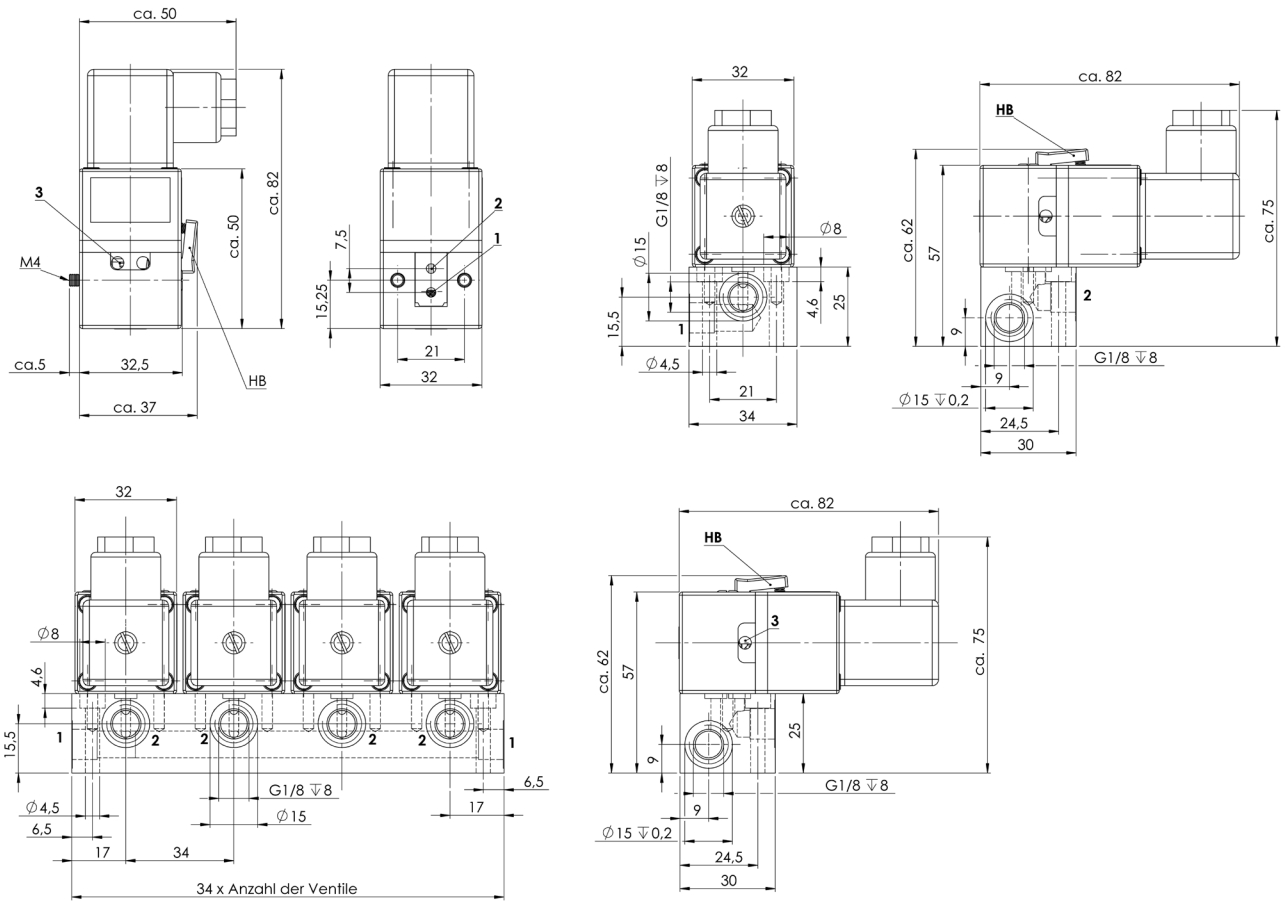
## CIRCUIT SYMBOL



# DIMENSIONS

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## DIMENSIONS

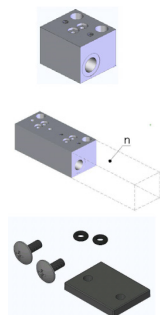


# ACCESSORIES

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## ACCESSORIES

ORDER NO.



|                                     |              |
|-------------------------------------|--------------|
| Base plate, G1/8", 1-fold, aluminum | PS10531-A-01 |
| Base plate, G1/8", 2-fold, aluminum | PS10531-A-02 |
| Blind plate complete, aluminum      | PS10559-A    |
| Replacement connector               | KY5637       |

# ORDER KEY

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## ID NUMBER KEY

|           |          | 1   |   | 2   |     | 3 |     |
|-----------|----------|-----|---|-----|-----|---|-----|
| ID NUMBER | PS 1 0 0 | x x | - | x x | 1 A | - | x x |
| Example   | PS 1 0 0 | 2 1 | - | 6 4 | 1 A | - | x x |
| Example   | PS 1 0 0 | 2 3 | - | 6 4 | 1 A | - | 0 1 |

### 1 Valve type

|    |                    |
|----|--------------------|
| 21 | NC                 |
| 23 | NC with base plate |

### 2 Type of electronic

|    |      |
|----|------|
| 61 | PN61 |
| 63 | PT63 |
| 64 | PM64 |

### 3 Number of valves\*

|    |                  |
|----|------------------|
| 01 | With base plate  |
| 02 | Manifold version |

\*See accessories

# CONVERSION FACTORS

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## CONVERSION FACTORS

| VALUE              | UNIT   | CONVERSION UNIT | FACTOR                                |
|--------------------|--------|-----------------|---------------------------------------|
| <b>Length</b>      | mm     | in              | 0.03934                               |
|                    | in     | mm              | 25.4                                  |
|                    | m      | ft              | 3.28084                               |
|                    | ft     | m               | 0.3048                                |
| <b>Weight</b>      | kg     | lb              | 2.204622                              |
|                    | lb     | kg              | 0.453592                              |
| <b>Pressure</b>    | bar    | psi             | 14.5035                               |
|                    | psi    | bar             | 0.06895                               |
|                    | MPa    | psi             | 145.035                               |
|                    | psi    | MPa             | 0.006895                              |
|                    | bar    | MPa             | 0.1                                   |
|                    | MPa    | bar             | 10                                    |
| <b>Temperature</b> | °C     | °F              | $1.8 \text{ } ^\circ\text{C} + 32$    |
|                    | °F     | °C              | $0.5556 \text{ } ^\circ\text{F} - 32$ |
| <b>Torque</b>      | Nm     | ft/lbs          | 0.7375                                |
|                    | ft/lbs | Nm              | 1.3558                                |

## ADDITIONAL DOCUMENTATION

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[WWW.HOERBIGER.COM](http://WWW.HOERBIGER.COM)

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This data sheet and additional documentation is available in the download area of the company's website.



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[www.hoerbiger.com](http://www.hoerbiger.com)



# NOTES

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