bürkert
FLUID CONTROL SYSTEMS

# Direct-acting 2-way proportional valve

- Proportional valve for use in flow or pressure control loops
- Integrated shut-off function with reliably high tightness
- Excellent sensitivity and turn-down ratio
- Available as subbase or cartridge variant for simple system integration
- Protection class IP65 or IP6K9K with automotive connector

Product variants described in the data sheet may differ from the product presentation and description.

## Can be combined with

**Type 6027** ▸
Direct-acting 2/2-way plunger valve

**Type 6030** ▸
Direct-acting 2/2-way direct-acting plunger valve

**Type 6440** ▸
Servo-assisted 2/2-way piston valve

**Type 8325** ▸
Pressure transmitter for general applications, 0...25 bar

## Type description

The direct-acting proportional valve Type 6020 can be used as a control valve for closed-loop process control, typically for automatic setpoint control of flow or pressure values. Due to an elastomeric seat seal, the valve closes tight in the range of the nominal pressure related to the orifice size (integrated shut-off function). This valve is particularly suitable for use with gases such as hydrogen, oxygen or fuel gases. Compared to conventional proportional valves, the valve can be operated at higher supply pressures. For optimized use in fuel cell systems, cartridge and subbase (manifold) valve bodies as well as solenoids with automotive connector of protection class IP6K9K are available.

DTS 1000588806 EN Version: - Status: RL (released | freigegeben | valide) printed: 28.10.2026


© Christian Bürkert GmbH & Co. KG, Subject to alteration

Visit product website ▸

# Table of contents


**1. General technical data 3**

**2. Circuit functions 4**

**3. Approvals and conformities 4**

3.1. General notes ... 4
3.2. Conformity ... 4
3.3. Standards ... 4
3.4. Explosion protection ... 5
3.5. North America (USA/Canada) ... 6

**4. Materials 6**

4.1. Bürkert resistApp ... 6

**5. Dimensions 7**

5.1. Threaded variant ... 7
Complete valve with coil size 32 mm and 40 mm (AC10) ... 7
Solenoid coil in coil size 32 mm and 40 mm (AC10) ... 8
Complete valve with coil size 42 mm (AC19) ... 9
Solenoid coil in coil size 42 mm (AC19) ... 10
5.2. Cartridge variant ... 11
Complete valve with coil size 32 mm and 40 mm (AC10) ... 11
Solenoid coil in coil size 32 mm and 40 mm (AC10) ... 12
Cartridge connection diagram for coil sizes 32 mm and 40 mm (AC10) ... 12
Complete valve with coil size 42 mm (AC19) ... 13
Solenoid coil in coil size 42 mm (AC19) ... 14
Cartridge connection diagram for coil size 42 mm (AC19) ... 14
5.3. Sub-base variant ... 15
Complete valve with coil size 32 mm and 40 mm (AC10) ... 15
Solenoid coil in coil size 32 mm and 40 mm (AC10) ... 16
Sub-base connection diagram for coil sizes 32 mm and 40 mm (AC10) ... 16
Complete valve with coil size 42 mm (AC19) ... 17
Solenoid coil in coil size 42 mm (AC19) ... 18
Sub-base connection diagram for coil size 42 mm (AC19) ... 18

**6. Performance specifications 19**

6.1. Flow characteristics ... 19
Determination of the $K_V$ value ... 19
6.2. Exemplary characteristic curve of a proportional valve ... 19

**7. Product operation 19**

7.1. Control unit ... 19

**8. Ordering information 20**

8.1. Bürkert eShop ... 20
8.2. Recommendation regarding product selection ... 20
8.3. Bürkert product filter ... 20
8.4. Bürkert Product Enquiry Form ... 20
8.5. Ordering chart ... 21
Stationary applications with plug form A according to DIN EN 175301 - 803 (IP65 coil) ... 21
Mobile applications with automotive plug (IP6K9K coil) ... 23
8.6. Ordering chart accessories ... 24
Cable plug Type 2518, form A according to DIN EN 175301 - 803 ... 24


DTS 1000588806 EN Version: - Status: RL (released | freigegeben | valide) printed: 28.10.2026

DTS 1000588806 EN Version: - Status: RL (released | freigegeben | valide) printed: 28.10.2026

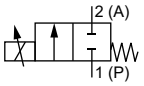
# 1. General technical data

| | | |
|---|---|---|
| **Product properties** | | |
| Dimensions | Further information can be found in chapter "5. Dimensions" on page 7 . | |
| **Material** | | |
| Seal | EPDM, FKM | |
| Body | Stainless steel 1.4404/316L | |
| Coil | Epoxy | |
| Tightness | 1× $10^{-4}$ mbar l/s | |
| Orifice | DN 0.8...DN 8 | |
| Circuit function | A<br>Further information can be found in chapter "2. Circuit functions" on page 4. | |
| Thermal insulation class of solenoid | Epoxy coil class H | |
| **Performance data** | | |
| **Typical values of positioning behaviour** [2.] | | |
| Response sensitivity | < 1 % FS [3.] | |
| Hysteresis | < 15 % | |
| Repeat accuracy | < 1 % FS [3.] | |
| Setting range | 1:100 | |
| Actuating time (10...90 %) | < 25 ms | |
| **Pressure** | | |
| Burst pressure | **Coil size 32 mm and 40 mm (AC10)**<br>250 bar for threaded body<br>150 bar for sub-base body (FK01)<br>150 bar for cartridge body (FC24) | **Coil size 42 mm (AC19)**<br>250 bar for threaded body<br>250 bar for sub-base body (FK15)<br>110 bar for cartridge body (FC17) |
| Differential pressure [1.] | 0...30 bar<br>Further information can be found in chapter "8. Ordering information" on page 20. | |
| Duty cycle | 100 % continuous operation | |
| **Electrical data** | | |
| Operating voltage | 12 V DC, 24 V DC | |
| Power consumption | **Coil size 32 mm and 40 mm (AC10)**<br>7 W (up to + 85 °C $T_{umg}$)<br>7.5 W (up to + 85 °C $T_{umg}$) | **Coil size 42 mm (AC19)**<br>16 W (up to + 85 °C $T_{umg}$)<br>18 W (up to + 70 °C $T_{umg}$) |
| Maximum coil current | **Coil size 32 mm and 40 mm (AC10)**<br>24 V/7 W: 310 mA<br>24 V/7.5 W: 340 mA<br>12 V/7 W: 600 mA<br>12 V/7.5 W: 630 mA | **Coil size 42 mm (AC19)**<br>24 V/16 W: 760 mA<br>24 V/18 W: 810 mA<br>12 V/16 W: 1430 mA<br>12 V/18 W: 1530 mA |
| PWM frequency [4.] | 300...400 Hz | |
| **Medium data** | | |
| Operating medium | Neutral gases, liquids on request<br>Optimized for hydrogen | |
| Medium temperature | - 40 °C...+ 90 °C (with EPDM)<br>- 10 °C...+ 90 °C (with FKM) | |
| Viscosity | Max. 21 $mm^2/s$ (21 cSt) | |
| **Product connections** | | |
| Electrical connection | Plug contacts according to DIN EN 175 301 - 803 form A for cable plug **Type 2518** ▶.<br>Further information can be found in chapter "Cable plug Type 2518, form A according to DIN EN 175301 - 803" on page 24.<br><br>Automotive plugs for IP6K9K coil variants:<br>Plug KOSTAL MLK1.2, 2-pin, coding A (male)<br>Plug TE MCON 1.2, 2-pin, coding A (male)<br>(further plug forms on request) | |
| Port connection | Cartridge, sub-base, G ⅛, G ¼, G ⅜, G ½, NPT ⅛, NPT ¼, NPT ⅜, NPT ½ | |

| Approvals and conformities | |
|---|---|
| **Degree of protection** | |
| Standard | IP65 with cable plug **Type 2518** ▶<br>NEMA 4X with cable plug **Type 2509** ▶ for stainless steel variants<br>(further variants on request) |
| Automotive coil | IP6K acc. to ISO 20653:2013<br>IPX7 acc. to ISO 20653:2013 (submersion test acc. to ISO 16750 - 4:2010)<br>IPX9K acc. to ISO 20653:2013<br>This degree of protection can only be guaranteed as long as the coil is not removed from the valve. |
| Explosion protection | Further information can be found in chapter "3.4. Explosion protection" on page 5. |
| North America (USA/Canada) | Further information can be found in chapter "3.5. North America (USA/Canada)" on page 6. |
| **Environment and installation** | |
| Installation position | As required, preferably with actuator upright |
| Ambient temperature | - 40 °C...+ 85 °C (7..16 W, with EPDM)<br>- 40 °C...+ 70 °C (18 W, with EPDM)<br>- 10 °C...+ 85 °C (7...16 W, with FKM)<br>- 10 °C...+ 70 °C (18 W, with FKM) |
| Storage temperature | - 40 °C...+ 80 °C EPDM<br>- 20 °C...+ 80 °C FKM |

1.) Pressure data: overpressure to atmospheric pressure, depending on nominal diameter, tightness seal or nominal pressure
2.) Characteristic data of control behaviour depends on process conditions.
3.) For flow rate measurement
4.) PWM: pulse-width modulation

## 2. Circuit functions

| Symbol | Description |
|---|---|
|  | **Circuit function A (CF A)**<br>2/2-way solenoid proportional control valve<br>Direct-acting<br>Normally closed |

## 3. Approvals and conformities

### 3.1. General notes

- The approvals and conformities listed below must be stated when making enquiries. This is the only way to ensure that the product complies with all required specifications.
- Not all available variants can be supplied with the below mentioned approvals or conformities.

### 3.2. Conformity

In accordance with the Declaration of Conformity, the product is compliant with the EU Directives.

### 3.3. Standards

The applied standards which are used to demonstrate compliance with the EU Directives are listed in the EU-Type Examination Certificate and/or the EU Declaration of Conformity.

DTS 1000588806 EN Version: - Status: RL (released | freigegeben | valide) printed: 28.10.2026

## 3.4. Explosion protection

| Approval | Description |
|---|---|
| | **Optional: Explosion protection according to category 2 (zone 1/21)**<br><br>Ex marking of the components according to the following table: |

| Coil Type AC10 | Coil Type AC19 |
|---|---|
| **Coil with cable outlet** | |
| **ATEX:**<br>EPS 18 ATEX 1232 X<br>II 2G Ex mb IIC T4 Gb<br>II 2D Ex mb IIIC T130 °C Db<br><br>**IECEx:**<br>IECEx EPS 18.0110 X<br>Ex mb IIC T4 Gb<br>Ex mb IIIC T130 °C Db | **ATEX:**<br>EPS 16 ATEX 1072 X<br>II 2G Ex mb IIC T4 Gb<br>II 2D Ex mb IIIC T130 °C Db<br><br>**IECEx:**<br>IECEx EPS 16.0030 X<br>II 2G Ex mb IIC T4 Gb<br>II 2D Ex mb IIIC T130 °C Db |
| **Coil with terminal box** | |
| **ATEX:**<br>EPS 18 ATEX 1232 X<br>II 2G Ex eb mb IIC T4 Gb<br>II 2D Ex mb tb IIIC T130 °C Db<br><br>**IECEx:**<br>IECEx EPS 18.0110 X<br>Ex eb mb IIC T4 Gb<br>Ex mb tb IIIC T130 °C Db | **ATEX:**<br>EPS 16 ATEX 1072 X<br>II 2G Ex eb mb IIC T4 Gb<br>II 2D Ex mb tb IIIC T130 °C Db<br><br>**IECEx:**<br>IECEx EPS 16.0030 X<br>II 2G Ex eb mb IIC T4 Gb<br>II 2D Ex mb tb IIIC T130 °C Db |

**Optional: Explosion protection according to category 3 (zone 2/22)**

Ex marking of the components according to the following table:

| Coil Type AC10 | Coil Type AC19 |
|---|---|
| **Coil with plug contacts form A and cable plug Type 2509** | |
| **ATEX:**<br>EPS 21 ATEX 1234 X<br>II 3G Ex ec IIC T4 Gc<br>II 3D Ex tc IIIC T135 °C Dc<br><br>**IECEx:**<br>IECEx EPS 21.0078X<br>Ex ec IIC T4 Gc<br>Ex tc IIIC T135 °C Dc | **ATEX:**<br>EPS 22 ATEX 1136 X<br>II 3G Ex ec IIC T3 Gc<br>II 3D Ex tc IIIC T200 °C Dc<br><br>**IECEx:**<br>IECEx EPS 22.0018 X<br>Ex ec IIC T3 Gc<br>Ex tc IIIC T200 °C Dc |

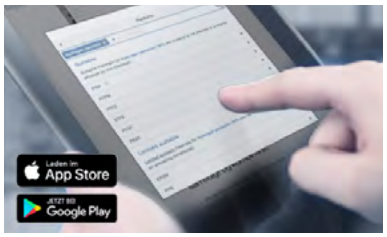
DTS 1000588806 EN Version: - Status: RL (released | freigegeben | valide) printed: 28.10.2026

### 3.5. North America (USA/Canada)

| Approval | Description |
|---|---|
| c UL us LISTED SOLENOID FOR USE IN HAZARDOUS LOCATIONS E504714 | **Optional: UL Hazardous Locations – Explosion Protection (valid for coils)**<br>UL Listed for Hazardous Locations for USA and Canada<br>Class I, Zone 1<br>Class I, Division 2, Group A, B, C and D<br>Class II + III, Division 2, Group F and G |

## 4. Materials

### 4.1. Bürkert resistApp




**Bürkert resistApp – Chemical resistance chart**

You want to ensure the reliability and durability of the materials in your individual application case? Verify your combination of media and materials on our website or in our resistApp.

Start chemical resistance check

DTS 1000588806 EN Version: - Status: RL (released | freigegeben | valide) printed: 28.10.2026

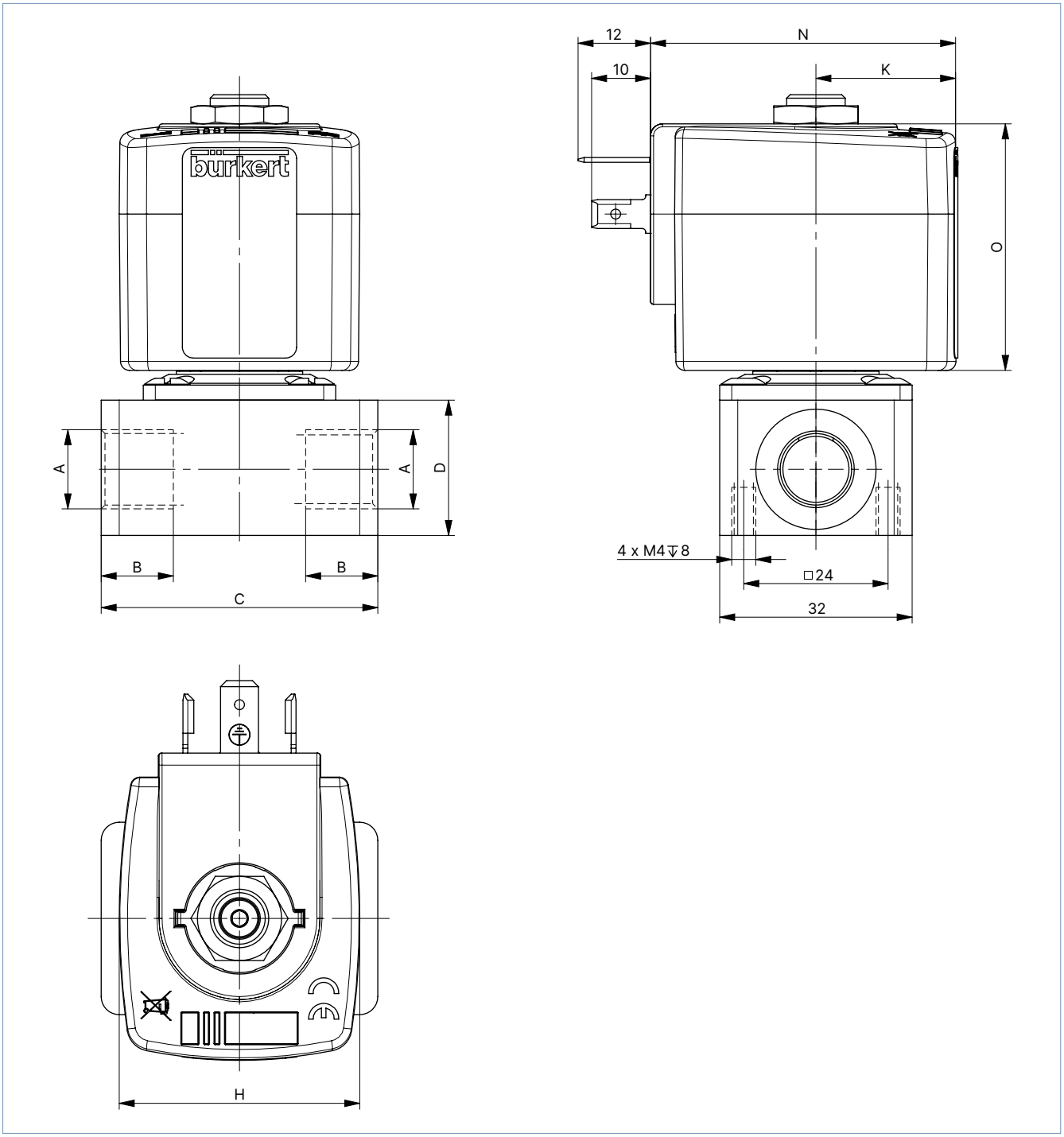
# 5. Dimensions

## 5.1. Threaded variant

**Complete valve with coil size 32 mm and 40 mm (AC10)**

**Note:**

- Dimensions in mm
- The corresponding dimensions to the letters mentioned can be found in chapter **"Solenoid coil in coil size 32 mm and 40 mm (AC10)" on page 8**.




DTS 1000588806 EN Version: - Status: RL (released | freigegeben | valide) printed: 28.10.2026

| A (port connection) | B | C | D |
|---|---|---|---|
| [inch] | [mm] | [mm] | [mm] |
| G ⅛ | 8 | 32 | 17.5 |
| G ¼ | 12 | 46 | 22.5 |

**Solenoid coil in coil size 32 mm and 40 mm (AC10)**

**Note:**
The corresponding dimensions to the letters mentioned can be found in chapter **"Complete valve with coil size 32 mm and 40 mm (AC10)" on page 7**.

| Electrical connection | Coil size | H | K | N | O |
|---|---|---|---|---|---|
| | | [mm] | [mm] | [mm] | [mm] |
| Plug contacts form A according to DIN EN 175301-803 | 5 | 32 | 20.5 | 45 | 41 |
| | 6 | 40 | 23.5 | 51 | |
| Plug KOSTAL MLK1.2 / TE MCON 1.2, 2-pin, coding A (male) | 5 | 32 | 20.5 | 48.3 | |
| | 6 | 40 | 23.6 | 54.2 | |

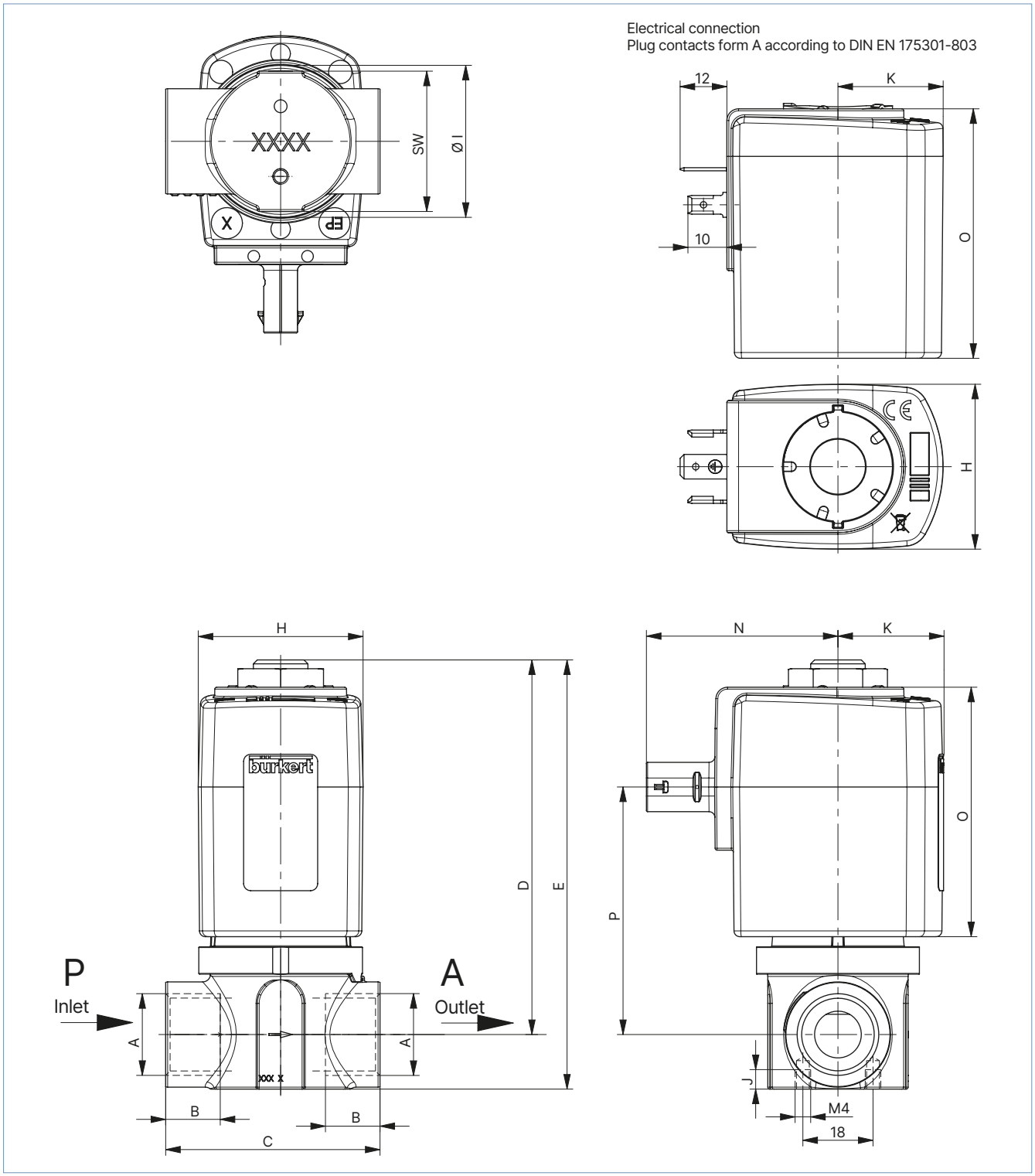
DTS 1000588806 EN Version: - Status: RL (released | freigegeben | valide) printed: 28.10.2026

DTS 1000588806 EN Version: - Status: RL (released | freigegeben | valide) printed: 28.10.2026

### Complete valve with coil size 42 mm (AC19)

**Note:**

- Dimensions in mm
- The corresponding dimensions to the letters mentioned can be found in chapter "Solenoid coil in coil size 42 mm (AC19)" on page 10.



| A (port connection) | B | C | D | E | I | J | P | SW |
|---|---|---|---|---|---|---|---|---|
| [inch] | [mm] | [mm] | [mm] | [mm] | [mm] | [mm] | [mm] | [mm] |
| G ¼ | 12 | 55 | 96 | 105 | 39 | 5 | 63 | 36 |
| NPT ¼ | 10 | | | | | | | |
| G ⅜ | 12 | 55 | 96 | 108 | 39 | 5 | 63 | 36 |
| NPT ⅜ | 10.3 | | | | | | | |
| G ½ | 14 | 55 | 96 | 110 | 39 | 5 | 63 | 36 |
| NPT ½ | 13.7 | | | | | | | |

### Solenoid coil in coil size 42 mm (AC19)

**Note:**
The corresponding dimensions to the letters mentioned can be found in chapter "Complete valve with coil size 42 mm (AC19)" on page 9.

| Electrical connection | Coil size | H | K | N | O |
|---|---|---|---|---|---|
| | | [mm] | [mm] | [mm] | [mm] |
| Plug contacts form A according to DIN EN 175301-803 | K | 42 | 27 | – | 64 |
| Plug KOSTAL MLK1.2 / TE MCON 1.2, 2-pin, coding A (male) | | | | 49 | |

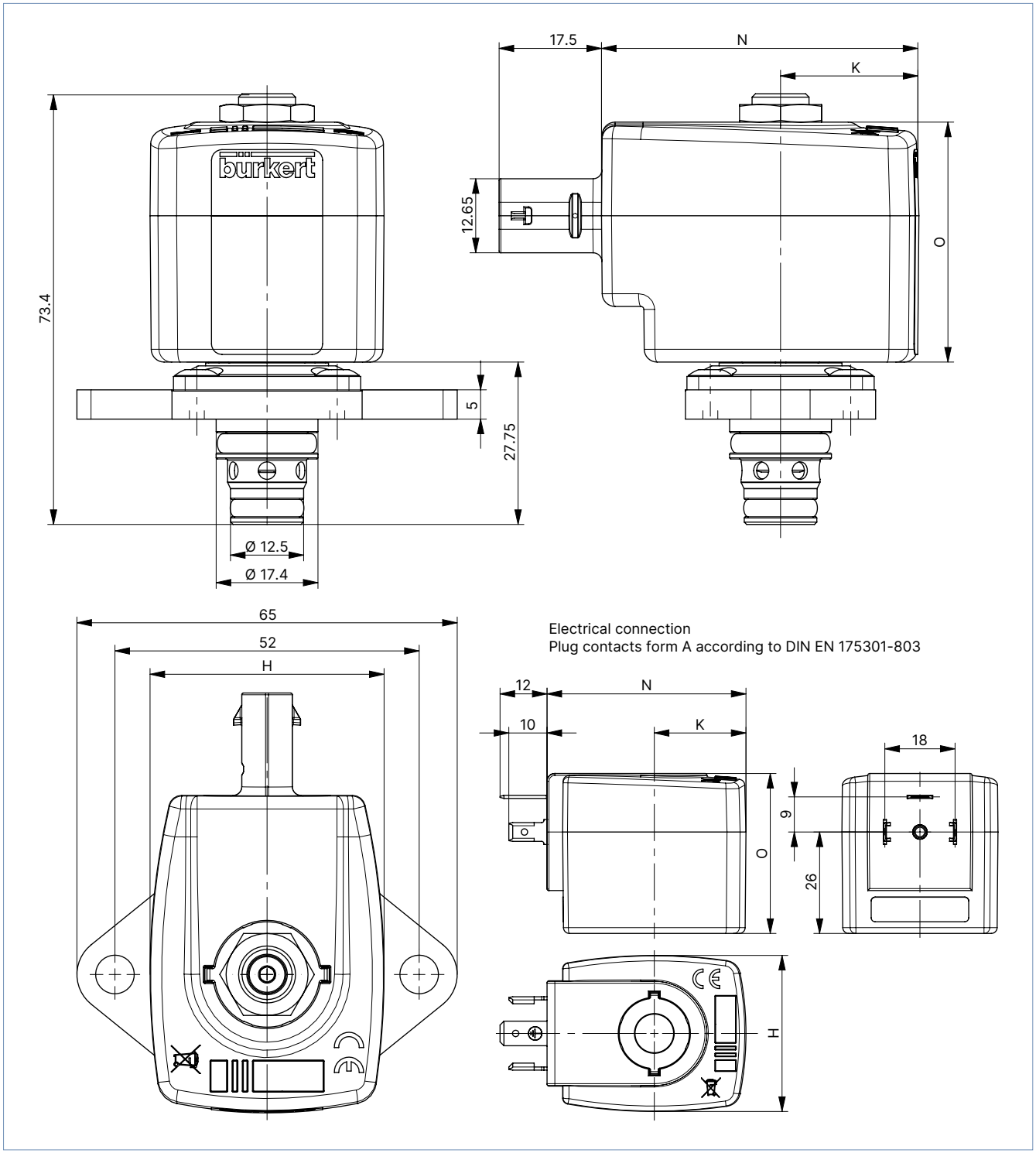
DTS 1000588806 EN Version: - Status: RL (released | freigegeben | valide) printed: 28.10.2026

## 5.2. Cartridge variant

**Complete valve with coil size 32 mm and 40 mm (AC10)**

**Note:**

- Dimensions in mm
- The corresponding dimensions to the letters mentioned can be found in chapter **"Solenoid coil in coil size 32 mm and 40 mm (AC10)" on page 12**.




DTS 1000588806 EN Version: - Status: RL (released | freigegeben | valide) printed: 28.10.2026

### Solenoid coil in coil size 32 mm and 40 mm (AC10)

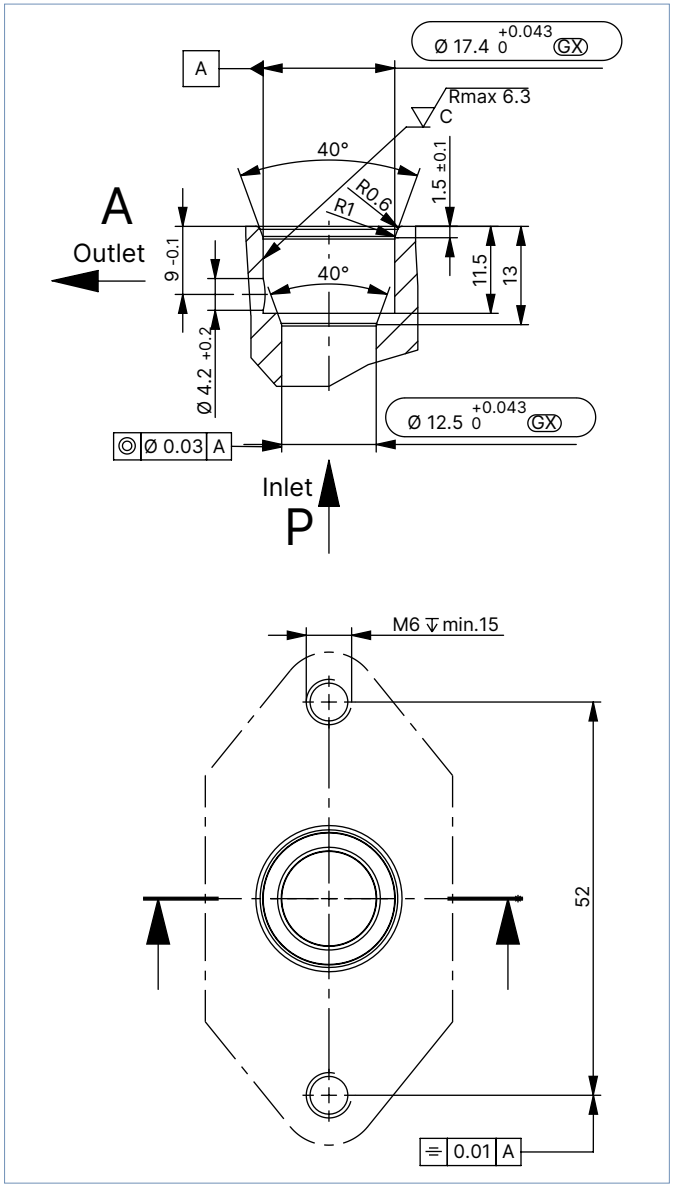
**Note:**
The corresponding dimensions to the letters mentioned can be found in chapter **"Complete valve with coil size 32 mm and 40 mm (AC10)" on page 11**.

| Electrical connection | Coil size | H | K | N | O |
|---|---|---|---|---|---|
| | | [mm] | [mm] | [mm] | [mm] |
| Plug contacts form A according to DIN EN 175301-803 | 5 | 32 | 20.5 | 45 | 41 |
| | 6 | 40 | 23.5 | 51 | |
| Plug KOSTAL MLK1.2 / TE MCON 1.2, 2-pin, coding A (male) | 5 | 32 | 20.5 | 48.3 | |
| | 6 | 40 | 23.6 | 54.2 | |

### Cartridge connection diagram for coil sizes 32 mm and 40 mm (AC10)

**Note:**
Dimensions in mm

### Connection contour FC24, coil size 32 mm and 40 mm (AC10)



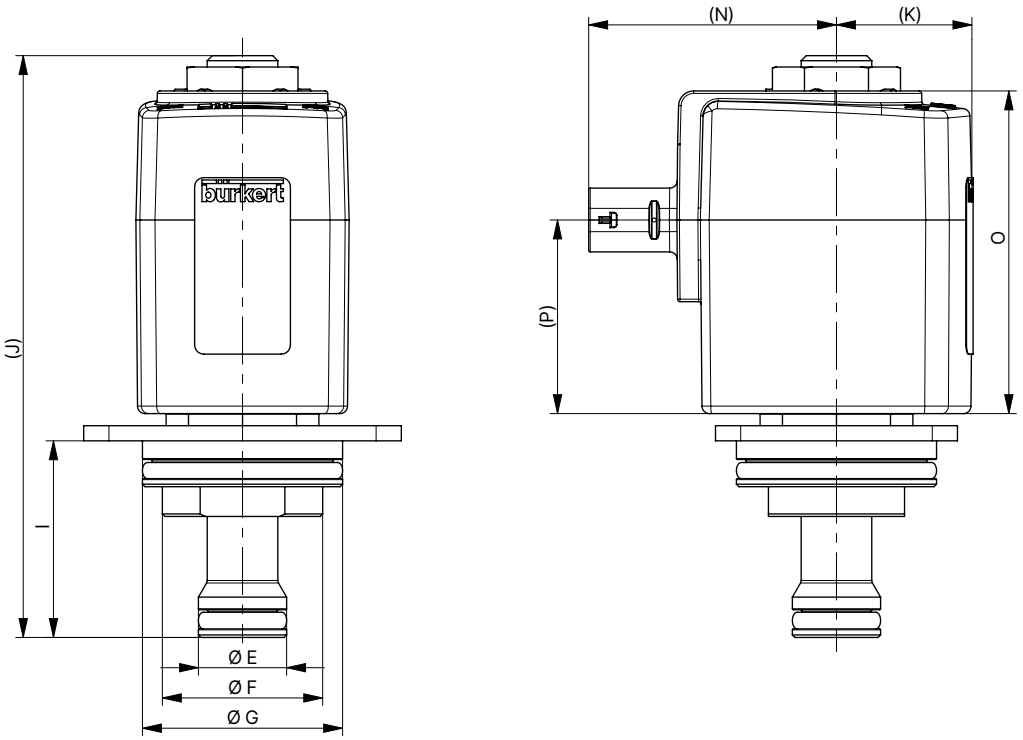

DTS 1000588806 EN Version: - Status: RL (released | freigegeben | valide) printed: 28.10.2026

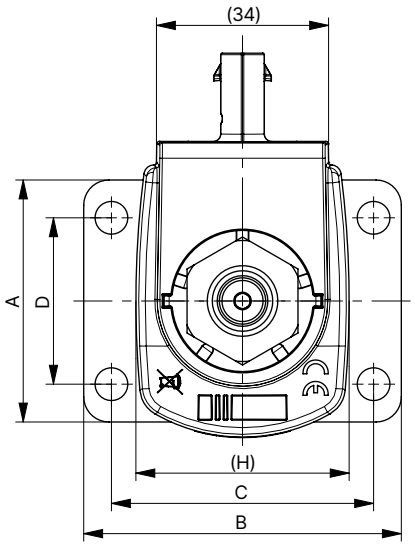
DTS 1000588806 EN Version: - Status: RL (released | freigegeben | valide) printed: 28.10.2026

### Complete valve with coil size 42 mm (AC19)

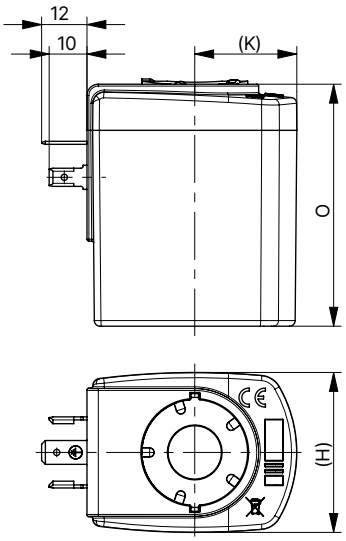
**Note:**

- Dimensions in mm
- The corresponding dimensions to the letters mentioned can be found in chapter "Solenoid coil in coil size 42 mm (AC19)" on page 14.




Electrical connection
Plug contacts form A according to DIN EN 175301 - 803




| DN | Port connection | A | B | C | D | E | F | G | I | (J) |
|---|---|---|---|---|---|---|---|---|---|---|
| | | [mm] | [mm] | [mm] | [mm] | [mm] | [mm] | [mm] | [mm] | [mm] |
| 2.5...8.0 | FC17 | 48 | 63 | 52 | 33 | 17.5 | 31.8 | 39.7 | 39 | 115 |

### Solenoid coil in coil size 42 mm (AC19)

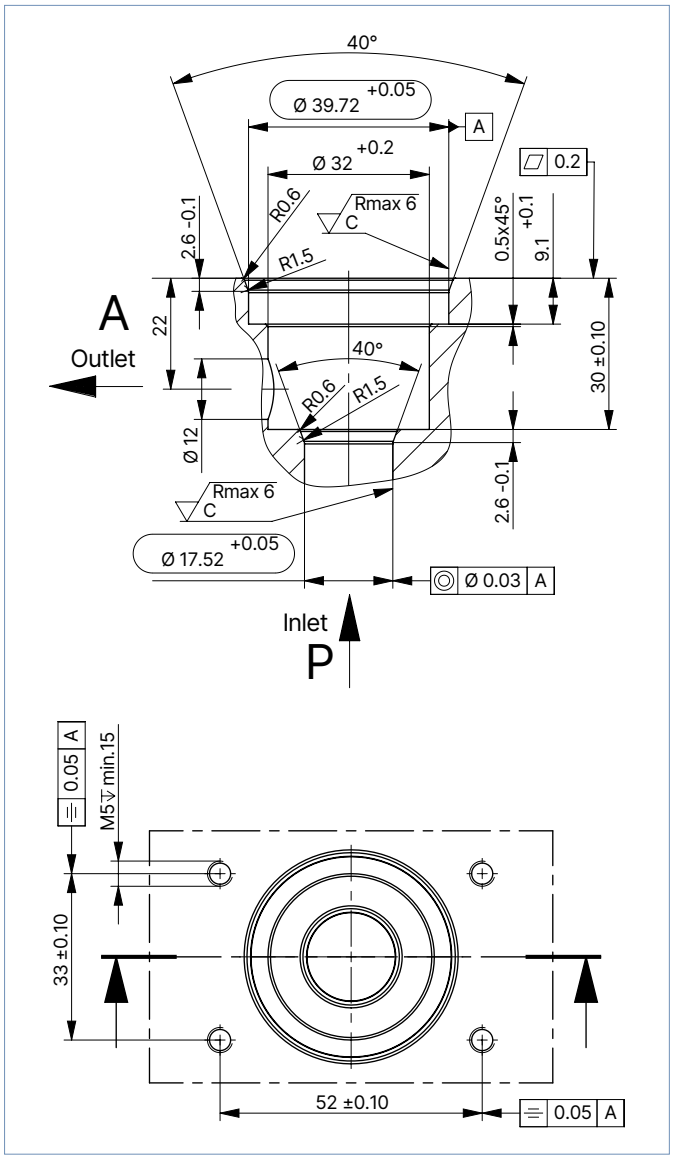
**Note:**
The corresponding dimensions to the letters mentioned can be found in chapter "Complete valve with coil size 42 mm (AC19)" on page 13.

| DN | Electrical connection | Coil size | (H) [mm] | (K) [mm] | (N) [mm] | O [mm] | (P) [mm] |
|---|---|---|---|---|---|---|---|
| 2.5...8.0 | Plug contacts form A according to DIN EN 175301-803 | K | 42 | 27 | – | 64 | 38 |
| | Plug KOSTAL MLK1.2 / TE MCON 1.2, 2-pin, coding A (male) | | | | 49 | | |

### Cartridge connection diagram for coil size 42 mm (AC19)

**Note:**
Dimensions in mm

### Connection contour FC17, coil size 42 mm (AC19)



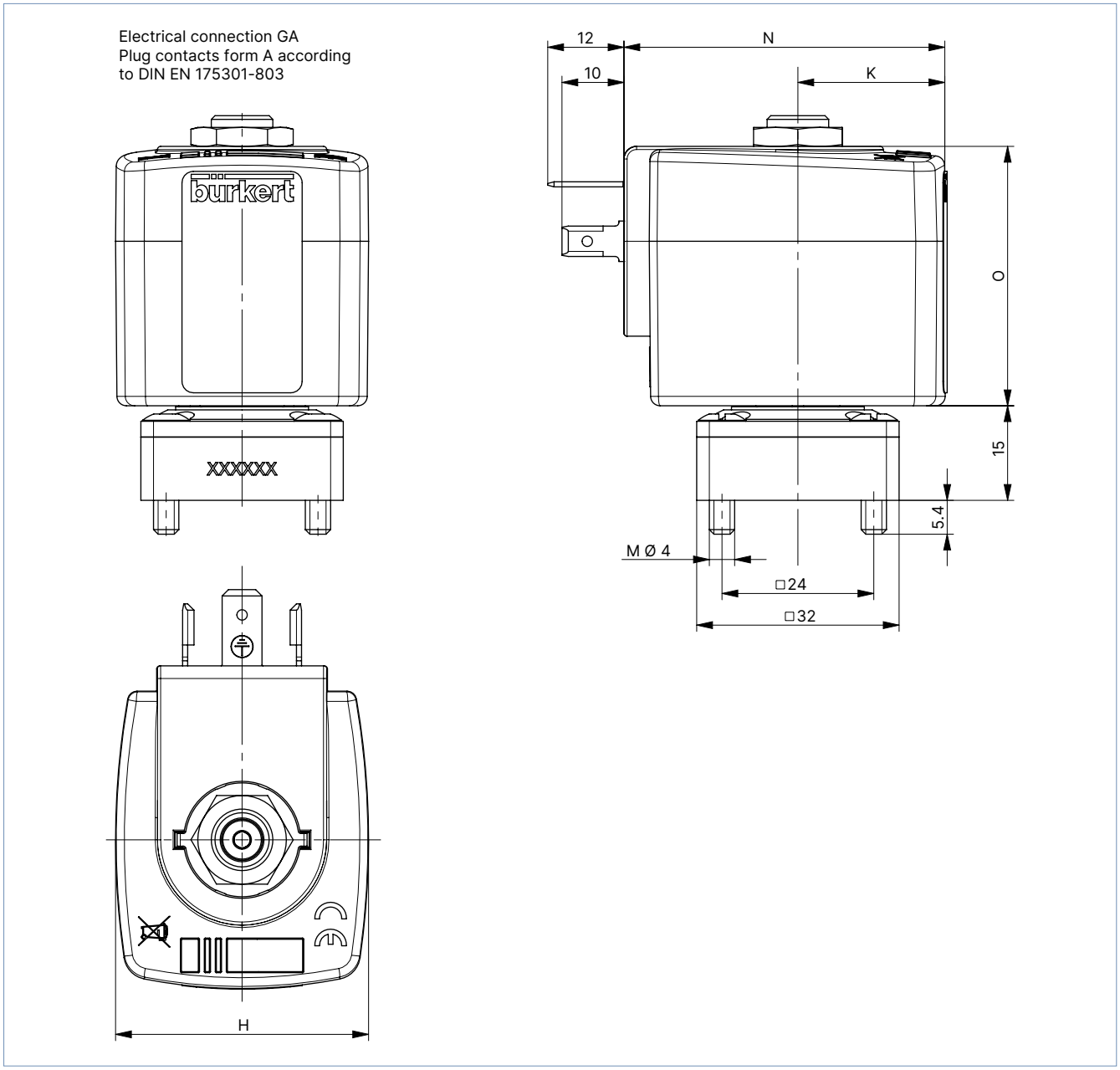

DTS 1000588806 EN Version: - Status: RL (released | freigegeben | valide) printed: 28.10.2026

## 5.3. Sub-base variant

**Complete valve with coil size 32 mm and 40 mm (AC10)**

**Note:**

- Dimensions in mm
- The corresponding dimensions to the letters mentioned can be found in chapter **"Solenoid coil in coil size 32 mm and 40 mm (AC10)" on page 16**.




DTS 1000588806 EN Version: - Status: RL (released | freigegeben | valide) printed: 28.10.2026

### Solenoid coil in coil size 32 mm and 40 mm (AC10)

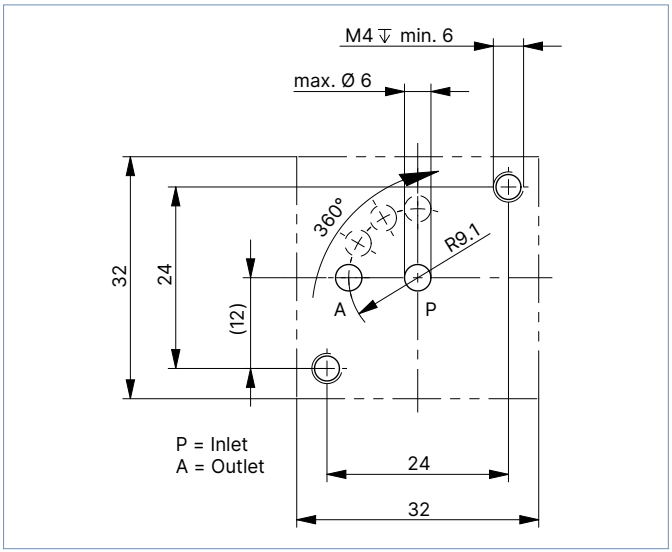
**Note:**
The corresponding dimensions to the letters mentioned can be found in chapter "Complete valve with coil size 32 mm and 40 mm (AC10)" on page 15.

| Electrical connection | Coil size | H | K | N | O |
|---|---|---|---|---|---|
| | | [mm] | [mm] | [mm] | [mm] |
| Plug contacts form A according to DIN EN 175301-803 | 5 | 32 | 20.5 | 45 | 41 |
| | 6 | 40 | 23.5 | 51 | |
| Plug KOSTAL MLK1.2 / TE MCON 1.2, 2-pin, coding A (male) | 5 | 32 | 20.5 | 48.3 | |
| | 6 | 40 | 23.6 | 54.2 | |

### Sub-base connection diagram for coil sizes 32 mm and 40 mm (AC10)

**Note:**
- Dimensions in mm
- P = Inlet, A = Outlet

### Connection contour FK01, DN 0.8...DN 3.0, coil size 32 mm and 40 mm (AC10)



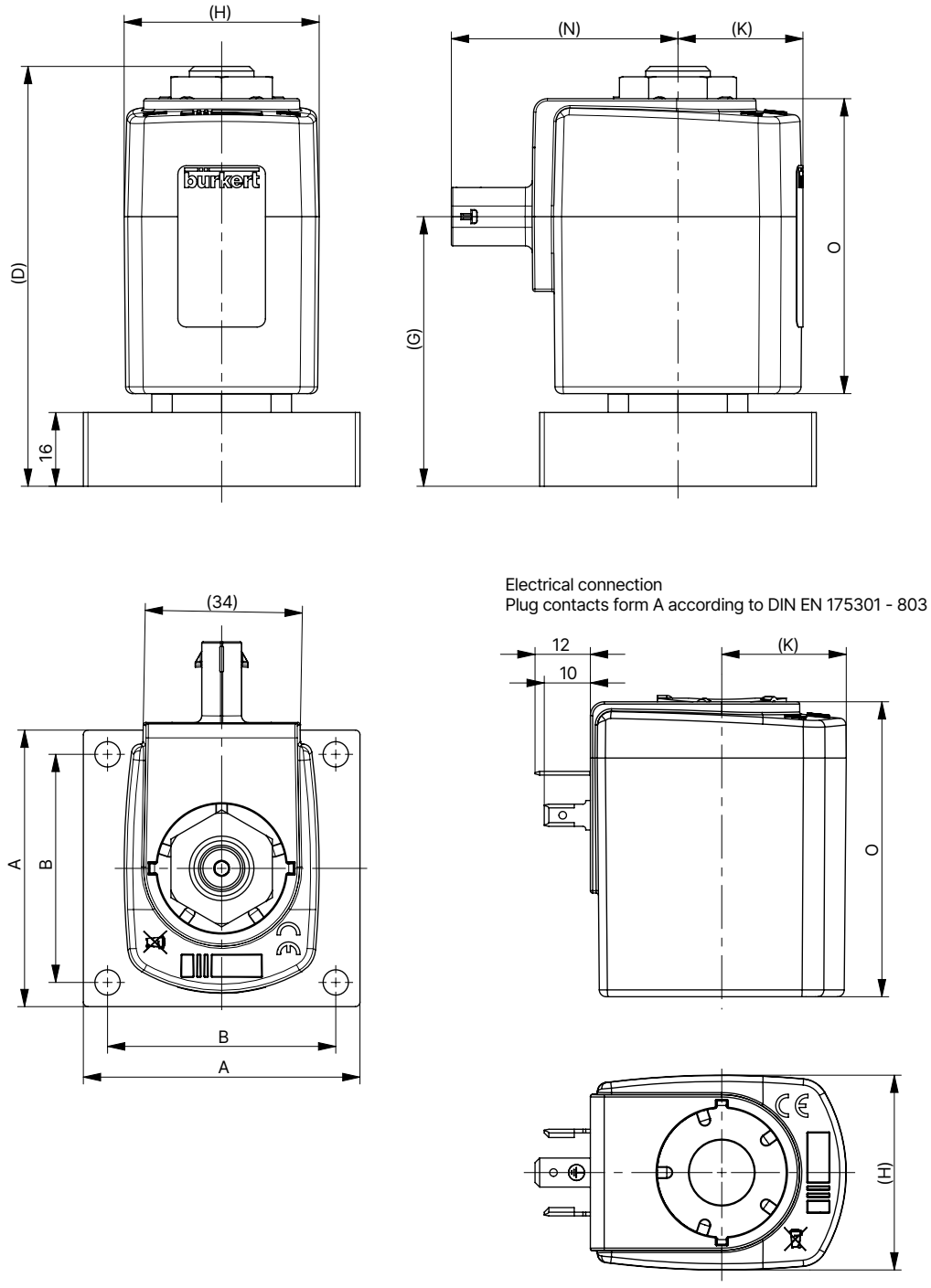

DTS 1000588806 EN Version: - Status: RL (released | freigegeben | valide) printed: 28.10.2026

DTS 1000588806 EN Version: - Status: RL (released | freigegeben | valide) printed: 28.10.2026

### Complete valve with coil size 42 mm (AC19)

**Note:**

- Dimensions in mm
- The corresponding dimensions to the letters mentioned can be found in chapter "Solenoid coil in coil size 42 mm (AC19)" on page 18.




| DN | Port connection | A | B | C | (D) | (G) |
|---|---|---|---|---|---|---|
| | | [mm] | [mm] | [mm] | [mm] | [mm] |
| 2.5 / 3.0 / 4.0 | FK15 | 60 | 49.5 | 16 | 91 | 58 |

### Solenoid coil in coil size 42 mm (AC19)

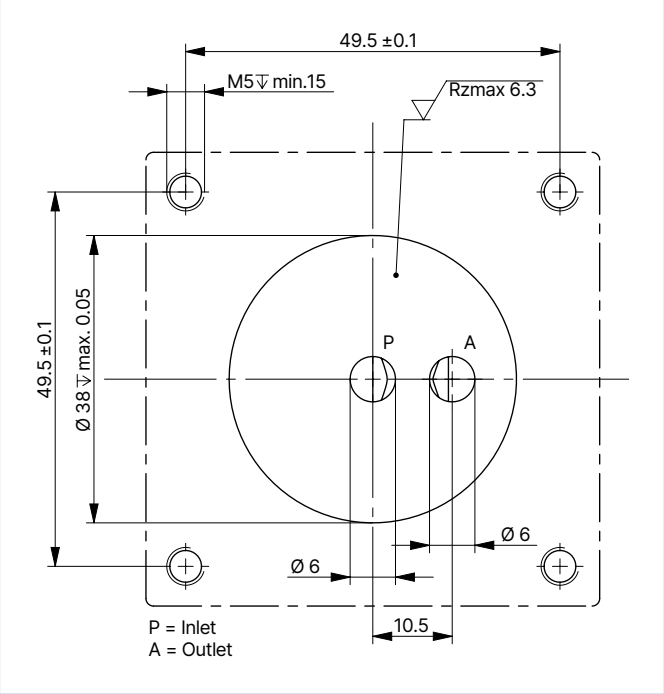
**Note:**
The corresponding dimensions to the letters mentioned can be found in chapter **"Complete valve with coil size 42 mm (AC19)" on page 17**.

| DN | Electrical connection | Coil size | (H) [mm] | (K) [mm] | (N) [mm] | O [mm] |
|---|---|---|---|---|---|---|
| 2.5 / 3.0 / 4.0 | Plug contacts form A according to DIN EN 175301 - 803 | K | 42 | 27 | – | 64 |
| | Plug KOSTAL MLK1.2 / TE MCON 1.2, 2-pin, coding A (male) | | | | 49 | |

### Sub-base connection diagram for coil size 42 mm (AC19)

**Note:**
- Dimensions in mm
- P = Inlet, A = Outlet

### Connection contour FK15, DN 2.5...DN 4.0, coil size 42 mm (AC19)




DTS 1000588806 EN Version: - Status: RL (released | freigegeben | valide) printed: 28.10.2026

# 6. Performance specifications

## 6.1. Flow characteristics

**Determination of the $K_V$ value**

| Pressure drop | $K_V$ value for liquids [$m^3/h$] | $K_V$ value for gases [$m^3/h$] |
|---|---|---|
| **Sub-critical** $p_2 > \frac{p_1}{2}$ | $= Q \sqrt{\frac{\rho}{1000\,\Delta p}}$ | $= \frac{Q_N}{514} \sqrt{\frac{T_1\,\rho_N}{p_2\,\Delta p}}$ |
| **Supercritical** $p_2 < \frac{p_1}{2}$ | $= Q \sqrt{\frac{\rho}{1000\,\Delta p}}$ | $= \frac{Q_N}{257\,p_1} \sqrt{T_1\,\rho_N}$ |

| Value | Description | Unit |
|---|---|---|
| $K_V$ | Flow coefficient | [$m^3/h$] 1.) |
| $Q_N$ | Standard flow rate | [$m_N^3/h$] 2.) |
| $p_1$ | Inlet pressure | [bar] 3.) |
| $p_2$ | Outlet pressure | [bar] 3.) |
| $\Delta p$ | Differential pressure $p_1$...$p_2$ | [bar] |
| $\rho$ | Density | [$kg/m^3$] |
| $\rho_N$ | Standard density | [$kg/m^3$] |
| $T_1$ | Medium temperature | [(273+t)K] |

1.) Measured for water, Δp = 1 bar, over the value
2.) At reference conditions 1.013 bar and 0 °C (273 K)
3.) Absolute pressure

## 6.2. Exemplary characteristic curve of a proportional valve

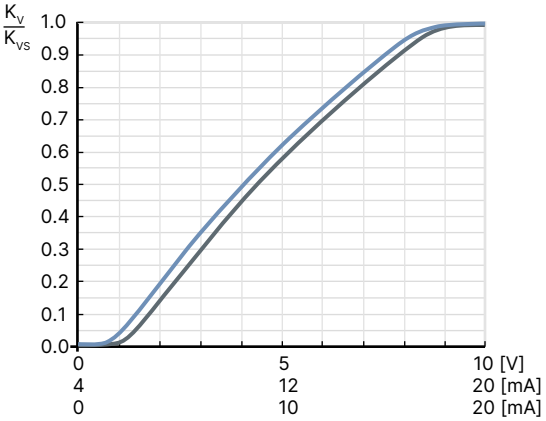
**Note:**
The dimensioning of the nominal diameter is very important for proportional valves to function properly within the application. The nominal diameter must be selected so that, on the one hand, the desired flow range is achieved and, on the other hand, when the valve is fully open, a sufficient portion of the total pressure drop occurs across the valve.

Reference value: $\Delta p_{valve} > 25\,\%$ of the total pressure drop

Otherwise, an ideal, linear valve characteristic is deformed into a curved system characteristic.

If the differential pressure (difference between inlet and outlet pressure) exceeds half the value of the nominal pressure discontinuities may occur.

For that reason take advantage of Bürkert competent engineering services during the planning phase.




The diagram shows the $K_V$ value of the proportional valve as a function of an analog signal as an input variable for a PWM control unit. The analog signal represents as the PWM duty cycle or a resulting coil current.

# 7. Product operation

## 7.1. Control unit

The control takes place via a PWM signal (pulse-width modulation). The pulse duty factor of the PWM signal determines the coil current and thus the position of the actuating armature.

DTS 1000588806 EN Version: - Status: RL (released | freigegeben | valide) printed: 28.10.2026

# 8. Ordering information

## 8.1. Bürkert eShop

**Bürkert eShop – Easy ordering and quick delivery**

You want to find your desired Bürkert product or spare part quickly and order directly? Our online shop is available for you 24/7. Sign up and enjoy all the benefits.

Order online now

## 8.2. Recommendation regarding product selection

**Note:**

- Use the product enquiry form (see "8.4. Bürkert Product Enquiry Form" on page 20) for information about the device layout and send it to us after completion.
- Please note the chapter "6.2. Exemplary characteristic curve of a proportional valve" on page 19 on product selection.

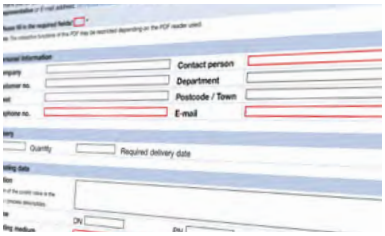
## 8.3. Bürkert product filter

**Bürkert product filter – Get quickly to the right product**

You want to select products comfortably based on your technical requirements?
Use the Bürkert product filter and find suitable articles for your application quickly and easily.

Try out our product filter

## 8.4. Bürkert Product Enquiry Form




**Bürkert Product Enquiry Form – Your enquiry quickly and compactly**

Would you like to make a specific product enquiry based on your technical requirements? Use our Product Enquiry Form for this purpose. There you will find all the relevant information for your Bürkert contact. This will enable us to provide you with the best possible advice.

Fill out the form now

DTS 1000588806 EN Version: - Status: RL (released | freigegeben | valide) printed: 28.10.2026

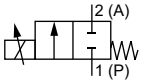
## 8.5. Ordering chart

**Stationary applications with plug form A according to DIN EN 175301-803 (IP65 coil)**

**Note:**

- Please note that the cable plug has to be ordered separately, see "Cable plug Type 2518, form A according to DIN EN 175301-803" on page 24 or separate data sheet **Type 2518** ▶.
- Further variants with alternative voltages, threaded connections with G, NPT or RC internal threads are possible on request.
- Please note: If a specific orifice size is required for a significantly lower pressure range (MAWP) than in the tables below, a specific valve setting is recommended for more efficient operation after consultation with your Bürkert contact.

**Coil size 32 mm and 40 mm (AC10)**

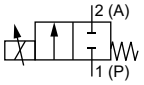
| Circuit function | Port connection | Orifice | $K_{VS}$ value water | Pressure range (MAWP[1.]) at ambient temperature + 85 °C | | Article no. |
|---|---|---|---|---|---|---|
| | | | | Coil size 32 mm (7 W) | Coil size 40 mm (7.5 W) | 024/DC |
| | | [mm] | [m³/h] | [bar] | [bar] | [V/Hz] |
| **Stainless steel body, seal material EPDM/EPDM** | | | | | | |
| **CF A**<br>2/2-way solenoid proportional control valve<br>Direct-acting<br>Normally closed<br>  <br> | **Cartridge body** | | | | | |
| | FC24 | 0.8 | 0.019 | 30 | – | o. r. |
| | | 1.0 | 0.030 | 25 | – | 20127477 |
| | | 1.5 | 0.065 | – | 20 | o. r. |
| | | 2.0 | 0.100 | – | 14 | 20127478 |
| | | 2.5 | 0.150 | – | 8 | o. r. |
| | | 3.0 | 0.200 | – | 6 | o. r. |
| | **Sub-base body** | | | | | |
| | FK01 | 0.8 | 0.019 | 30 | – | o. r. |
| | | 1.0 | 0.030 | 25 | – | o. r. |
| | | 1.5 | 0.065 | – | 20 | o. r. |
| | | 2.0 | 0.100 | – | 14 | o. r. |
| | | 2.5 | 0.150 | – | 8 | o. r. |
| | | 3.0 | 0.200 | – | 6 | o. r. |

o. r. = on request

1.) Maximum allowable working pressure

DTS 1000588806 EN Version: - Status: RL (released | freigegeben | valide) printed: 28.10.2026

### Coil size 42 mm (AC19)

| Circuit function | Port connection | Orifice | $K_{VS}$ value water | Pressure range (MAWP [1.]) | | Article no. |
|---|---|---|---|---|---|---|
| | | | | Ambient temperature +70 °C (18 W) | Ambient temperature +85 °C (16 W) | 024/DC |
| | | [mm] | [m³/h] | [bar] | [bar] | [V/Hz] |
| **Stainless steel body, seal material EPDM/EPDM [2.]** | | | | | | |
| **CF A**<br>2/2-way solenoid proportional control valve<br>Direct-acting<br>Normally closed<br>  <br> | **Threaded body with G internal thread** | | | | | |
| | G ¼ | 3.0 | 0.26 | 18 | – | o. r. |
| | | | | – | 16 | o. r. |
| | | 4.0 | 0.40 | 8 | – | o. r. |
| | | | | – | 7 | o. r. |
| | | 5.0 | 0.65 | 5 | – | o. r. |
| | | | | – | 4 | o. r. |
| | G ½ | 6.0 | 0.85 | 3.5 | – | 20053331 |
| | | | | – | 3 | o. r. |
| | | 8.0 | 1.25 | 2 | – | o. r. |
| | | | | – | 1.75 | 20054816 |
| | **Cartridge body** | | | | | |
| | FC17 | 2.5 | 0.19 | – | 25 [3.] | o. r. |
| | | | | – | 20 [3.] | 20073362 |
| | | | | – | 16 [3.] | o. r. |
| | | 3.0 | 0.26 | – | 22 [3.] | o. r. |
| | | | | – | 18 [3.] | 20058840 |
| | | | | – | 14 [3.] | o. r. |
| | | 4.0 | 0.50 | 12 | – | 20096222 |
| | | | | – | 10 [3.] | 20092343 |
| | | | | – | 7 [3.] | 20078802 |
| | | 5.0 | 0.65 | 8 | – | 20109540 |
| | | | | – | 7 | 20052178 |
| | | 6.0 | 0.85 | 5 | – | o. r. |
| | | | | – | 4.5 | o. r. |
| | | 6.5 | 1.05 | 4 | – | 20098339 |
| | | | | – | 3.5 | o. r. |
| | | 8.0 | 1.25 | 2.25 | – | 20107680 |
| | | | | – | 2 | o. r. |
| | **Sub-base body** | | | | | |
| | FK15 | 2.5 | 0.19 | – | 25 [3.] | o. r. |
| | | | | – | 20 [3.] | o. r. |
| | | | | – | 16 [3.] | o. r. |
| | | 3.0 | 0.26 | – | 22 [3.] | 20080119 |
| | | | | – | 18 [3.] | 20078619 |
| | | | | – | 14 [3.] | o. r. |
| | | 3.5 | 0.32 | 16 | – | o. r. |
| | | | | – | 14 [3.] | 20059610 |
| | | | | – | 10 [3.] | o. r. |

o. r. = on request

1.) Maximum allowable working pressure

2.) An O-ring made of low-temperature FKM (down to - 40 °C) is used to seal the adjusting screw.

3.) Different pressure ranges require individual settings to optimise control characteristic. It is recommended to select the article with the next higher maximum pressure. For a significantly lower pressure range (MAWP), we recommend consulting your Bürkert contact.

DTS 1000588806 EN Version: - Status: RL (released | freigegeben | valide) printed: 28.10.2026

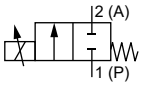
DTS 1000588806 EN Version: - Status: RL (released | freigegeben | valide) printed: 28.10.2026

### Mobile applications with automotive plug (IP6K9K coil)

**Note:**

- Further variants with alternative voltages, threaded connections with G, NPT or RC internal threads are possible on request.
- Please note: If a specific orifice size is required for a significantly lower pressure range (MAWP) than in the tables below, a specific valve setting is recommended for more efficient operation after consultation with your Bürkert contact.

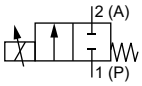
#### Coil size 32 mm and 40 mm (AC10)

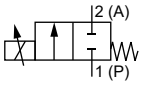
| Circuit function | Port connection | Orifice | $K_{VS}$ value water | Pressure range (MAWP [1.]) at ambient temperature + 85 °C | | Article no. | |
|---|---|---|---|---|---|---|---|
| | | | | Coil size 32 mm (7 W) | Coil size 40 mm (7.5 W) | 012/DC | 024/DC |
| | | [mm] | [m³/h] | [bar] | [bar] | [V/Hz] | [V/Hz] |
| **Stainless steel body, seal material EPDM/EPDM** | | | | | | | |
| **CF A**<br>2/2-way solenoid proportional control valve<br>Direct-acting<br>Normally closed<br>  <br> | **Cartridge body** | | | | | | |
| | FC24 | 0.8 | 0.019 | 30 | – | o. r. | o. r. |
| | | 1.0 | 0.030 | 25 | – | o. r. | o. r. |
| | | 1.5 | 0.065 | – | 20 | o. r. | o. r. |
| | | 2.0 | 0.100 | – | 14 | o. r. | o. r. |
| | | 2.5 | 0.150 | – | 8 | o. r. | o. r. |
| | | 3.0 | 0.200 | – | 6 | o. r. | o. r. |

o. r. = on request

1.) Maximum allowable working pressure

#### Coil size 42 mm (AC19)

| Circuit function | Port connection | Orifice | $K_{VS}$ value water | Pressure range (MAWP [1.]) | Article no. | |
|---|---|---|---|---|---|---|
| | | | | Ambient temperature + 85 °C (16 W) | 012/DC | 024/DC |
| | | [mm] | [m³/h] | [bar] | [V/Hz] | [V/Hz] |
| **Stainless steel body, seal material EPDM/EPDM [2.]** | | | | | | |
| **CF A**<br>2/2-way solenoid proportional control valve<br>Direct-acting<br>Normally closed<br>  <br> | **Threaded body with G internal thread** | | | | | |
| | G ¼ | 3.0 | 0.26 | 16 | 20091227 | o. r. |
| | | 4.0 | 0.40 | 7 | o. r. | o. r. |
| | | 5.0 | 0.65 | 4 | o. r. | o. r. |
| | G ½ | 6.0 | 0.85 | 3 | o. r. | 20082554 |
| | | 8.0 | 1.25 | 1.75 | o. r. | o. r. |
| | **Cartridge body** | | | | | |
| | FC17 | 2.5 | 0.19 | 25 [3.] | o. r. | o. r. |
| | | | | 20 [3.] | o. r. | o. r. |
| | | | | 16 [3.] | 20058843 | 20057565 |
| | | 3.0 | 0.26 | 22 [3.] | o. r. | 20078140 |
| | | | | 18 [3.] | 20060413 | 20058844 |
| | | | | 14 [3.] | o. r. | o. r. |
| | | 4.0 | 0.50 | 10 | o. r. | 20071765 |
| | | | | 7 | o. r. | o. r. |
| | | 5.0 | 0.65 | 7 | o. r. | 20080956 |
| | | 6.0 | 0.85 | 4.5 | 20104074 | o. r. |
| | | 6.5 | 1.05 | 3.5 | o. r. | o. r. |
| | | 8.0 | 1.25 | 2 | o. r. | o. r. |

| Circuit function | Port connection | Orifice | $K_{VS}$ value water | Pressure range (MAWP [1.]) | Article no. | |
|---|---|---|---|---|---|---|
| | | | | Ambient temperature +85 °C (16 W) | 012/DC | 024/DC |
| | | [mm] | [m³/h] | [bar] | [V/Hz] | [V/Hz] |
| **CF A**<br>2/2-way solenoid proportional control valve<br>Direct-acting<br>Normally closed<br>  | **Sub-base body** | | | | | |
| | FK15 | 2.5 | 0.19 | 25 [3.] | o. r. | o. r. |
| | | | | 20 [3.] | o. r. | 20104474 |
| | | | | 16 [3.] | o. r. | 20101959 |
| | | 3.0 | 0.26 | 22 [3.] | o. r. | o. r. |
| | | | | 18 [3.] | 20091377 | 20057587 |
| | | | | 14 [3.] | o. r. | 20077260 |
| | | 3.5 | 0.32 | 14 [3.] | 20076401 | 20099240 |
| | | | | 10 [3.] | o. r. | o. r. |

o. r. = on request

1.) Maximum allowable working pressure

2.) An O-ring made of low-temperature FKM (down to - 40 °C) is used to seal the adjusting screw.

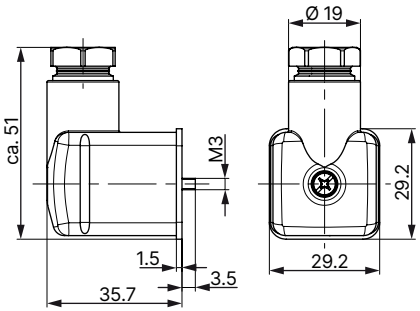
3.) Different pressure ranges require individual settings to optimise control characteristic. It is recommended to select the article with the next higher maximum pressure. For a significantly lower pressure range (MAWP), we recommend consulting your Bürkert contact.

## 8.6. Ordering chart accessories

**Cable plug Type 2518, form A according to DIN EN 175301 - 803**

**Note:**

- Dimensions in mm
- For further variants see data sheet **Type 2518** ▶.

| Cable plug | Dimensions | Variant | Voltage | Article no. |
|---|---|---|---|---|
| |  | Without wiring (AC/DC) | 0...250 V AC/DC | 314802 |