

Servo-assisted 2/2 way piston valve



Type 6240 can be combined with...



Type 2508

Cable plug



Type 1078

Timer control



Type 2511

Cable plug



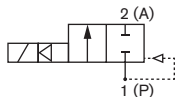
Type 2513

Cable plug
(ATEX Cat. 3 GD)

- Servo-assisted and compact piston valve with diameter of up to DN12
- Vibration-resistant, screwed coil system
- Increased leak-tightness with welded plunger guiding tube
- Safe opening with hard-coupled piston system
- Explosion proof versions

The 6240 valve is a servo-assisted plunger valve. The stopper and plunger guiding tube are welded together to enhance pressure resistance and leak-tightness. Various seal material combinations are available depending on the application. The housing design and surface quality enable maximum flow rates. The coils are moulded with chemically resistant epoxy. An optional sliding ring bearings increases the life cycle with dry gases. 'Kick and Drop' electronics are available for over-excitation (plug 2511) and reduced electrical power consumption in operation. In combination with a plug in accordance with DIN EN 17301-803 Form A, the valves satisfy protection class IP65. Stainless steel valves satisfy NEMA 4X.

Circuit function A



2/2 way valve, NC

| Technical data | |
|------------------------------|--|
| Port connections | G 1/4, G 3/8, G 1/2 |
| Orifice | DN6.0, DN12.0 |
| Body material | Brass, Stainless steel |
| Coil material | Epoxy |
| Coil insulation class | Class H |
| Seal material | FKM, PTFE/FKM and PTFE/PEEK for high temperature and high pressure versions (EPDM on request) |
| Medium | Neutral gases and liquids, such as e.g. compressed air, water, hydraulic oil Steam and hot medium |
| High temperature version | |
| Viscosity | max. 21 mm ² /sec |
| Medium temperature | |
| FKM | -10 °C to +140 °C |
| PTFE/PEEK DN6 | -40 °C to +180 °C |
| PTFE/PEEK DN12 | -40 °C to +140 °C |
| EPDM | -30 °C to +120 °C (on request) |
| Ambient temperature | max. 55 °C |
| Operating voltage | 24 V DC, 24 V/50Hz, 230/50Hz (others on request) |
| Voltage tolerance | ±10% |
| Duty cycle | 100% continuous rating |
| Electrical connection | Tag connector acc. DIN EN 175 301-803 Form A for cable plug Type 2508 (see ordering chart for accessories) ATEX/IECEX version with 3 m moulded cable |
| Protection class | IP65 with cable plug, ATEX/IECEX junction box version and cable connection version NEMA 4x with cable plug 2508 or 2509 only for stainless steel versions (other versions on request) |
| Weight | AC 8W, DC 10W (300g); AC 18W, DC 16W (800g) |
| Installation | As required, preferably with actuator upright |

Technical data, cont.

| Orifice [mm] | Coil size [mm] | Power consumption | | | | Response times | |
|-----------------|-------------------|-------------------|-------------------|-----|----------------------------|-----------------|-----------------|
| | | Inrush AC [VA] | Hold AC [VA/W] | [W] | DC (hot /cold coil) [W] | Opening [ms] | Closing [ms] |
| 6 | 32 | 32 | 18 | 8 | 10/12 | 10-20 | 40-50 |
| 6 | 40 | 40 | 23 | 10 | 12/14 | 10-20 | 40-50 |
| 12 | 42 | 105 | 37 | 18 | 16/21 | 20-40 | 80-100 |

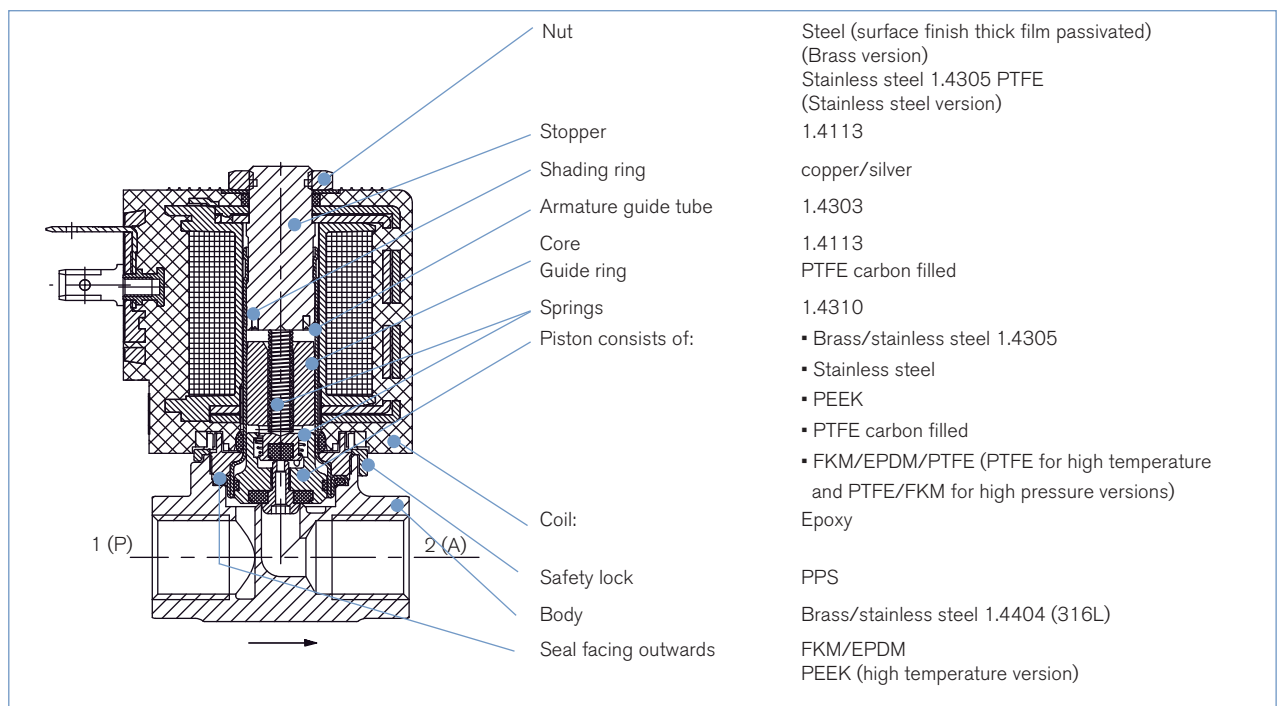
Response times [ms]:

Measured at the outlet with 6 bar inlet pressure at 20 °C

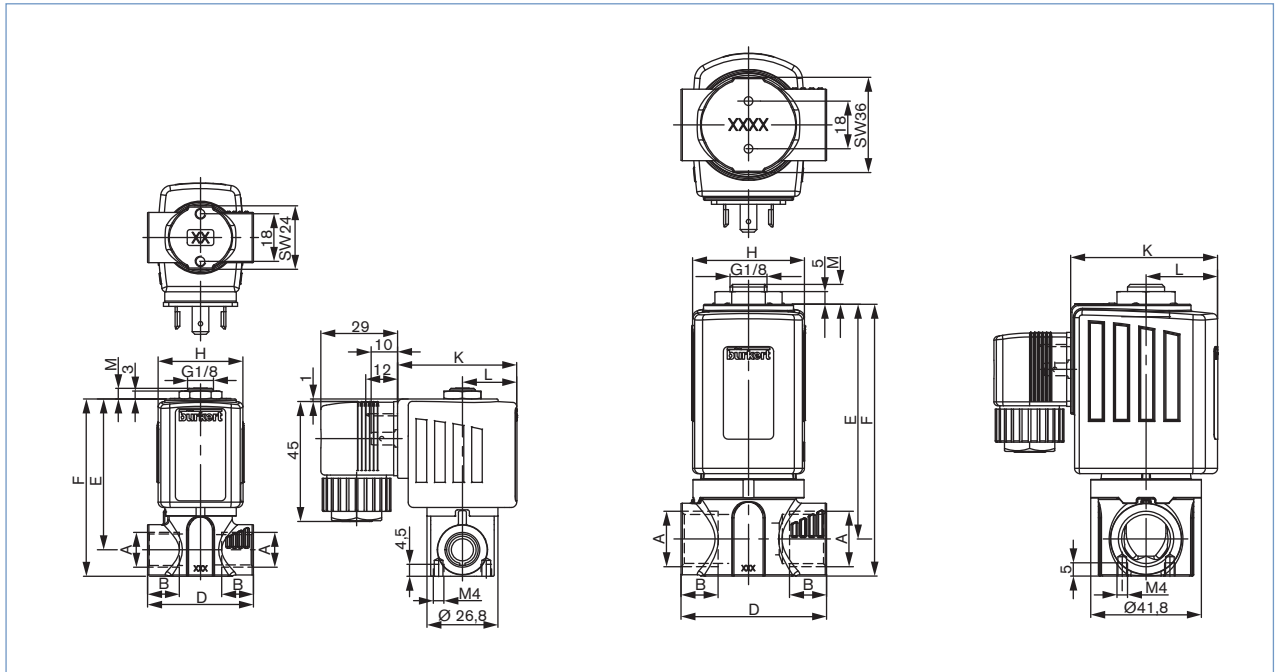
Opening: Pressure build-up 0 to 90%

Closing: Pressure decrease 100 to 10%

Material



Dimensions [mm]



| A | DN | B | D | E | F | M | H | K | L | Weight |
|----------------------|------|------|------|------|-------|------|------|------|------|--------|
| Body connection | [mm] | [mm] | [mm] | [mm] | [mm] | [mm] | [mm] | [mm] | [mm] | [g] |
| Threaded port | | | | | | | | | | |
| G 1/4 | 6 | 12 | 40 | 57.3 | 67.3 | 3.7 | 32 | 45.0 | 20.5 | 304 |
| G 1/4 | 6 | 12 | 40 | 57.3 | 67.3 | 3.7 | 40 | 51.0 | 23.5 | 382 |
| G 3/8 | 6 | 12 | 50 | 58.3 | 70.3 | 3.7 | 32 | 45.0 | 20.5 | 346 |
| G 3/8 | 6 | 12 | 50 | 58.3 | 70.3 | 3.7 | 40 | 51.0 | 23.5 | 424 |
| G 1/2 | 12 | 12 | 55 | 89.0 | 103.0 | 7.5 | 42 | 55.5 | 27.0 | 800 |

Ordering chart for valves (other versions on request)

6240 valve with FKM seal material

| Circuit function | Port connection | Orifice [mm] | Kv value water [m ³ /h] | Pressure range ¹⁾ [bar] | Coil size [mm] | Item no. per voltage/frequency [V/Hz] | | | |
|-------------------------------|-----------------------------|--------------|------------------------------------|------------------------------------|----------------|---------------------------------------|---------|---------|--|
| | | | | | | 024/DC | 024/50 | 230/50 | |
| A 2/2 way valve NC | Brass body | | | | | | | | |
| | G 1/4 | 6.0 | 0.6 | 0-16 | 32 | 177 800 | 177 801 | 177 802 | |
| | G 3/8 | 6.0 | 0.6 | 0-16 | 32 | 177 803 | 177 804 | 177 805 | |
| | Stainless steel body | | | | | | | | |
| | G 1/4 | 6.0 | 0.6 | 0-16 | 32 | 177 806 | 177 807 | 177 808 | |
| | G 1/2 | 12.0 | 2.2 | 0-16 | 42 | 238 632 | 238 633 | 238 634 | |

High temperature version, all valves with PTFE/PEEK seal, stainless steel body, without cable plug

| Circuit function | Port connection | Orifice [mm] | Kv value water [m ³ /h] | Pressure range ¹⁾ [bar] | Coil size [mm] | Item no. per voltage/frequency [V/Hz] | | | |
|-------------------------------|--|--------------|------------------------------------|------------------------------------|----------------|---------------------------------------|---------|---------|--|
| | | | | | | 024/DC | 024/50 | 230/50 | |
| A 2/2 way valve NC | Medium temperature -40 to +180 °C | | | | | | | | |
| | G 1/4 | 6.0 | 0.6 | 0-16 | 32 | 184 739 | 184 740 | 184 741 | |
| | Medium temperature -40 to +140 °C | | | | | | | | |
| | G 1/2 | 12.0 | 2.2 | 0-25 | 42 | 238 638 | 238 639 | 238 640 | |

High pressure version, all valves with PTFE/FKM seal, brass body, without cable plug

| Circuit function | Port connection | Orifice [mm] | Kv value water [m ³ /h] | Pressure range ¹⁾ [bar] | | Coil size [mm] | Item no. per voltage/frequency [V/Hz] | | |
|-------------------------------|-----------------|--------------|------------------------------------|------------------------------------|----------------|----------------|---------------------------------------|---------|---------|
| | | | | liquid medium | gaseous medium | | 024/DC | 024/50 | 230/50 |
| A 2/2 way valve NC | G 1/4 | 6.0 | 0.6 | 0-25 | 0-40 | 40 | 184 742 | 184 743 | 184 744 |
| | G 3/8 | 6.0 | 0.6 | 0-25 | 0-40 | 40 | 184 745 | 184 746 | 184 747 |

¹⁾ Overpressure to the atmospheric pressure

Please note: The cable plug must be ordered separately (see page 3 or the datasheet for Type 2508)

Materials for ATEX/IECEX m

Steel (surface finish thick film passivated)
(Brass version)
Stainless steel. 1.4305 PTFE
(Stainless steel version)

1.4113
copper/silver
1.4303
1.4113
PTFE carbon filled
1.4310

- Brass/stainless steel 1.4305
- Stainless steel
- PEEK
- PTFE carbon filled
- FKM/EPDM/PTFE (PTFE for high temps. and PTFE/FKM for high pressure version)

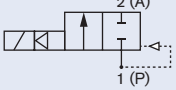
Brass/stainless steel 1.4404 (316L)
FKM/EPDM/
PEEK (high temperature version)

Dimensions for ATEX/IECEX m [mm]

| A | DN | D | E | F |
|-----------------|------|------|------|------|
| Body connection | [mm] | [mm] | [mm] | [mm] |
| Threaded | | | | |
| G 1/4 | 6 | 40 | 57.3 | 67.3 |
| G 1/4 | 6 | 40 | 57.3 | 67.3 |
| G 3/8 | 6 | 50 | 58.3 | 70.3 |
| G 3/8 | 6 | 50 | 58.3 | 70.3 |

Ordering chart for ATEX/IECEX

6240 Ex m T4 with FKM seal and moulded cable (3 m) for single mounting

| Circuit function | Port connection | Orifice [mm] | Kv-value water [m ³ /h] | Pressure range ¹⁾ [bar] | Coil size [mm] | Item no. per voltage/frequency [V/Hz] | |
|--|-----------------------------|--------------|------------------------------------|------------------------------------|----------------|---------------------------------------|------------|
| | | | | | | 024/UC | 230/UC |
| A 2/2-Wege-Ventil NC  | Brass body | | | | | | |
| | G 1/4 | 6.0 | 0.6 | 0-16 | 40 | 278 716 | 278 717 |
| | G 3/8 | 6.0 | 0.6 | 0-16 | 40 | on request | 278 720 |
| | Stainless steel body | | | | | | |
| | G 1/4 | 6.0 | 0.6 | 0-16 | 40 | 278 718 | 278 719 |
| | G 3/8 | 6.0 | 0.6 | 0-16 | 40 | 278 721 | on request |

The maximum fluid temperature must not in any case exceed the permissible temperature class (T4 135 °C, 100 °C T5, T6 85 °C), minus 5 K.

ATEX and IECEx approval for coils with fixed cable outlet

ATEX: PTB 14 ATEX 2023 X

IECEX: IECEx PTB 14.0049 X

II 2G Ex mb IIC T4 Gb

Ex mb IIC T4 Gb

II 2D Ex mb IIIC T135 °C Db

Ex mb IIIC T135 °C Db

Materials for ATEX/IECEX m junction box version

Nut
Steel (surface finished thick film passivated)
(Brass version)
Stainless steel 1.4305 PTFE
(Stainless steel version)

Stopper
1.4113

Shading ring
Copper/Silver

Armature guide tube
1.4303

Core
1.4113

Guiding ring
PTFE kohlegefüllt

Spring 1.4310

Safety lock:
PPS

Complete piston includes:

- Brass/stainless steel 1.4305
- Stainless steel
- PEEK
- PTFE oil-filled
- FKM/EPDM/PTFE (PTFE for high temperatures and PTFE/FKM for high pressure versions)

Body
Brass/stainless steel 1.4404 (316L)

External seal
FKM/EPDM/
PEEK (high temperature version)

Junction box: Aluminium
Coil: Epoxy

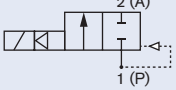
1 (P) 2 (A)

Dimensions for ATEX/IECEX m junction box version

| Version | A | D | B | E [mm] | F [mm] |
|----------|---------|----|----|--------|--------|
| Threaded | G 1/4 | 40 | 12 | 57.3 | 67.3 |
| | NPT 1/4 | | 10 | 57.3 | 67.3 |
| | RC 1/4 | | 10 | 57.3 | 67.3 |
| | G 3/8 | 50 | 12 | 58.3 | 70.3 |
| | NPT 3/8 | | 10 | 58.3 | 70.3 |
| | RC 3/8 | | 10 | 58.3 | 70.3 |

Ordering chart for ATEX/IECEEx junction box version

6240 Ex m T4 with FKM seal and junction box for single mounting

| Circuit function | Port connection | Orifice [mm] | Kv-value water [m ³ /h] | Pressure range ¹⁾ [bar] | Coil size [mm] | Item no. Voltage/Frequency [V/Hz] | | |
|--|-----------------------------|--------------|------------------------------------|------------------------------------|----------------|--------------------------------------|------------|--|
| | | | | | | 024/UC | 230/UC | |
| A 2/2 way valve NC  | Brass body | | | | | | | |
| | G 1/4 | 6.0 | 0.6 | 0-16 | 40 | 288 608 | 288 610 | |
| | G 3/8 | 6.0 | 0.6 | 0-16 | 40 | on request | 288 610 | |
| | Stainless steel body | | | | | | | |
| | G 1/4 | 6.0 | 0.6 | 0-16 | 40 | on request | on request | |
| | G 3/8 | 6.0 | 0.6 | 0-16 | 40 | 288 612 | 288 611 | |

The maximum fluid temperature must not in any case exceed the permissible temperature class (T4 135 °C, 100 °C T5, T6 85 °C), minus 5 K.

ATEX and IECEEx approval for the assembly of the coil and the junction box

ATEX: EPS 16 ATEX 1046 X

IECEEx: IECEEx EPS 16.0021 X

II 2G Ex eb mb IIC T4 Gb


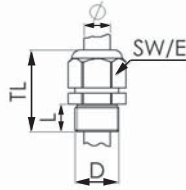

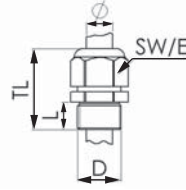
Ex eb mb IIC T4 Gb

II 2D Ex mb tb IIIC T130 °C Db


Ex mb tb IIIC T130 °C Db

Ex-Cable glands

(polyamide version included in delivery / surcharge applied for brass nickel plated version)

| Photo | Description | Ex Approvals | | Item no | Drawing | | | | | | | | | | |
|---|-------------------------------|---|--|---------|---|----|----------|---|-------|---|----|----|-------|---|-------|
| | | Certification | Identifica-tion | | | | | | | | | | | | |
|  | Brass, nickel-plated, 6-13 mm | PTB 04 ATEX 1112 X, IECEEx PTB 13.0027X | II 2 G Ex e IIC Gb, II 2 D Ex tb IIIC Db IP68, | 773 278 |  <table border="1"> <tr><td>TL</td><td>29-37 mm</td></tr> <tr><td>L</td><td>6 mm</td></tr> <tr><td>D</td><td>20</td></tr> <tr><td>SW</td><td>24 mm</td></tr> <tr><td>E</td><td>27 mm</td></tr> </table> | TL | 29-37 mm | L | 6 mm | D | 20 | SW | 24 mm | E | 27 mm |
| TL | 29-37 mm | | | | | | | | | | | | | | |
| L | 6 mm | | | | | | | | | | | | | | |
| D | 20 | | | | | | | | | | | | | | |
| SW | 24 mm | | | | | | | | | | | | | | |
| E | 27 mm | | | | | | | | | | | | | | |
|  | Polyamide, 7-13 mm | PTB 13 ATEX 1015 X, IECEEx PTB 13.0034X | II 2 G Ex e IIC Gb, II 2 D Ex tb IIIC Db IP68 | 773 277 |  <table border="1"> <tr><td>TL</td><td>36-45 mm</td></tr> <tr><td>L</td><td>10 mm</td></tr> <tr><td>D</td><td>20</td></tr> <tr><td>SW</td><td>24 mm</td></tr> <tr><td>E</td><td>28 mm</td></tr> </table> | TL | 36-45 mm | L | 10 mm | D | 20 | SW | 24 mm | E | 28 mm |
| TL | 36-45 mm | | | | | | | | | | | | | | |
| L | 10 mm | | | | | | | | | | | | | | |
| D | 20 | | | | | | | | | | | | | | |
| SW | 24 mm | | | | | | | | | | | | | | |
| E | 28 mm | | | | | | | | | | | | | | |

Special tool to turn the junction box (not included in delivery)

| Photo | Description | Item no. |
|---|---|----------|
|  | Set SC02-AC10 Special wrench Service Manual | 293 488 |

i Further versions on request



Materials
Seal: EPDM



Port Connection
NPT, Stainless steel version with G 3/8 connection



Voltage
Other operating voltages




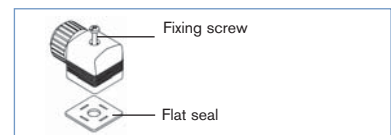
Approvals
Gas transportation DIN EN 3394-1

Ordering chart for accessories

Cable plug Type 2508 according to DIN EN 175301-803 Form A


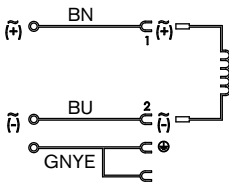
The delivery of a cable plug includes the flat seal and the fixing screw. For other versions of cable plugs see data sheet Type 2508

|  | Circuitry | Voltage / frequency | Item no. |
|---|--|---------------------|----------|
| | None (standard) | 0 - 250 V AC/DC | 008 376 |
| | with LED | 12 - 24 V AC/DC | 008 360 |
| | with LED and varistor | 12 - 24 V AC/DC | 008 367 |
| | with rectifier, LED and varistor | 12 - 24 V AC/DC | 008 363 |
| | with LED | 200 - 240 V | 008 362 |
| | with LED and varistor | 200 - 240 V | 008 369 |
| | further versions see datasheet Type 2508 | | |



Cable plug Type 2513 acc. to DIN EN 175301-803, Form A

Meets the requirements of ATEX category 3 GD

|  |  | Cable length [mm] | Item no. [in mm] |
|---|---|-------------------|------------------|
| | | 12000 | 260 893 |
| 5000 | 260 892 | | |
| 3000 | 260 891 | | |
| 300 | 260 890 | | |

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