Partnership. With Guarantee.

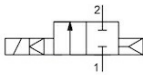
# 2/2-Way solenoid valve pilot-operated
# Series 21WA and 21W



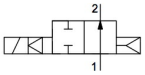
21WA



21W




de-energized closed




de-energized open

| | |
|---|---|
| Design type | 2/2-way solenoid valve with diaphragm seal, pilot-operated, de-energized closed or normally open |
| Connection | 21WA: G3/8"...G1/2" according to ISO228/1<br>21W: G3/4"...G2" according to ISO228/1 |
| Materials | Body Brass, Internal parts Brass and Stainless steel similar 1.4104, Diaphragm material NBR, FKM or EPDM (only 21W) |
| Mounting type | Installation in rigid piping system |
| Mounting position | any |
| Application range | gaseous and liquid media that do not attack the materials used |
| Viscosity | max. 12mm$^2$/s (cst) |
| Switching time | depending on operating pressure and medium |
| Medium temperature | depending on the sealing material and Solenoid coil |
| Ambient temperature | see table "Solenoid coils" |

## Electrical data:

| | |
|---|---|
| Coil type | Type BDA, Connector width 32mm (Standard coil)<br>Type BDV, Connector width 32mm (Coil for humid environment) |
| Electrical connection | connector according to EN175301-803 form A (see separate data sheet) |
| Voltage type | AC and DC voltage |
| Standard voltage | 230V/50-60Hz, 24V/50-60Hz, 24VDC |
| Special voltages | 12...380V/50Hz or 60Hz, 12...220VDC |
| Permissible voltage fluctuation | AC +10%/-15%  DC +10%/-5% |
| Power consumption | see table "Power consumption of the solenoid coils" |
| Duty cycle | 100% Duty cycle (continuous operation) |
| Degree of protection | IP65 according to EN 60529 with properly mounted device connector (protection against dust ingress and water jets) |
| Application note | When ordering, please specify voltage and type of current. We recommend always installing a strainer upstream to prevent malfunctions in the event of contamination of the medium. These valves can also be used for rough vacuum if the minimum differential pressure of 0.2 bar is present..<br>ATEX: The valves may only be used for media that are not explosive. |



+43 512 52076
austria@stasto.eu
© STASTO Automation KG

## Type code 21WA

| | | 21WA | 3 | K0 | B | 130 | - | M | - | BDA | - | 230V/50-60Hz |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | G3/8" | 3 | | | | | | | | | |
| | Connection | G1/2" | 4 | | | | | | | | | |
| | | de-energized closed | | K0 | | | | | | | | |
| | Function | de-energized open | | Z0 | | | | | | | | |
| | | NBR | | | B | | | | | | | |
| | Seal | FKM | | | V | | | | | | | |
| | Nominal size | 13,0mm | | | | 130 | | | | | | |
| | | | | | | | | | | | | |
| | | without manual override (Leave blank) | | | | | | | | | | |
| | Manual emergency override | mechanical manual override (only for normally closed valves de-energized) | | | | | | M | | | | |
| | | | | | | | | | | | | |
| | | BDA Standard coil - Approval CE | | | | | | | | BDA | | |
| | | BDV Coil for humid environment - Approval CE-CSA-UL-VDE | | | | | | | | BDV | | |
| | | Y1 Coil for ATEX Areas with 3 m Cable (only for normally closed valves de-energized) | | | | | | | | Y1 | | |
| | Coil | Y2 Coil for ATEX Areas with 3 m Cable (only for normally closed valves de-energized) | | | | | | | | Y2 | | |
| | | | | | | | | | | | | |
| | | 230V/50-60Hz | | | | | | | | | | 230V/50-60Hz |
| | | 24V/50-60Hz | | | | | | | | | | 24V/50-60Hz |
| | | 24VDC | | | | | | | | | | 24VDC |
| | | 12...380V/50Hz or 60Hz | | | | | | | | | | |
| | Voltage | 12...220VDC | | | | | | | | | | |


© STASTO Automation KG

## Type code 21W

| | | 21W | 3 | K | B | 190 | - | MR | - | BDA | - | 230V/50-60Hz |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | G3/4" | 3 | | | | | | | | | |
| | | G1" | 4 | | | | | | | | | |
| | | G11/4" | 5 | | | | | | | | | |
| | | G11/2" | 6 | | | | | | | | | |
| | Connection | G2" | 7 | | | | | | | | | |
| | | de-energized closed | | K | | | | | | | | |
| | Function | de-energized open | | Z | | | | | | | | |
| | | NBR | | | B | | | | | | | |
| | | FKM | | | V | | | | | | | |
| | Seal | EPDM | | | E | | | | | | | |
| | | 19mm | | | | 190 | | | | | | |
| | | 25mm | | | | 250 | | | | | | |
| | | 35mm | | | | 350 | | | | | | |
| | | 40mm | | | | 400 | | | | | | |
| | Nominal size | 50mm | | | | 500 | | | | | | |
| | | | | | | | | | | | | |
| | | without manual override (Leave blank) | | | | | | | | | | |
| | Manual emergency override | mechanical manual override/adjustable closing delay (only for normally closed valves de-energized) | | | | | | MR | | | | |
| | | | | | | | | | | | | |
| | | BDA Standard coil - Approval CE | | | | | | | | BDA | | |
| | | BDV Coil for humid environment - Approval CE-CSA-UL-VDE | | | | | | | | BDV | | |
| | | Y1 Coil for ATEX Areas with 3 m Cable (only for normally closed valves de-energized) | | | | | | | | Y1 | | |
| | Coil | Y2 Coil for ATEX Areas with 3 m Cable (only for normally closed valves de-energized) | | | | | | | | Y2 | | |
| | | | | | | | | | | | | |
| | | 230V/50-60Hz | | | | | | | | | | 230V/50-60Hz |
| | | 24V/50-60Hz | | | | | | | | | | 24V/50-60Hz |
| | | 24VDC | | | | | | | | | | 24VDC |
| | | 12...380V/50Hz or 60Hz | | | | | | | | | | |
| | Voltage | 12...220VDC | | | | | | | | | | |

## Applications of the individual sealing materials

| Material | Medium temperature | Application examples |
|---|---|---|
| NBR | -10...90°C | Air, Water, neutral gases and liquids |
| EPDM | -10...140°C | Hot water, Steam, Oxygen |
| FKM | -10...140°C | Oils, Gasoline, Diesel |

## Solenoid coils

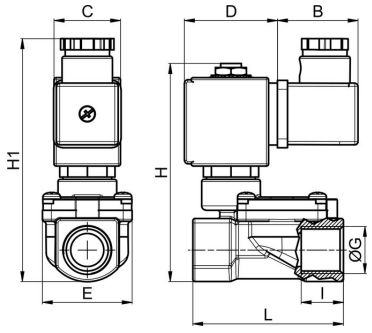
| Type | Degree of protection | Insert | Ambient temperature | Approvals |
|---|---|---|---|---|
| BDA | IP65 | Medium temperature up to max. 120°C | -10...+40°C | CE |
| BDV | IP65 | Medium temperature up to max. 160°C, high humidity | -20...+60°C | CE-CSA-UL-VDE |
| Y1/Y2 | Ex II 2G Ex mb IIC T4 Ex II 2D Ex mb tb IIIC T130°C | in hazardous area, Zones 1/2/21/22, ignition group T4, max. 80°C medium temperature | -20...+50°C | ATEX |


© STASTO Automation KG

## Power consumption of the solenoid coils

| Voltage | Tightening torque (Alternating current) VA | Holding force (Alternating current) VA | Holding force (Direct current) operating temperature W | Type |
|---|---|---|---|---|
| 220-230V/50-60Hz | 25 | 14,5 | - | BDA08223DS |
| 24V/50-60Hz | 25 | 14,5 | - | BDA08024DS |
| 24VDC | - | - | 8 | BDA08024CS |
| 380V/50-60Hz | 25 | 14,5 | - | BDA08380DS |
| 110V/50-60Hz | 25 | 14,5 | - | BDA08110DS |
| 48V/50Hz | 25 | 14,5 | - | BDA08048AS |
| 42V/50Hz | 25 | 14,5 | - | BDA08042AS |
| 110VDC | - | - | 8 | BDA08110CS |
| 12VDC | - | - | 8 | BDA08012CS |
| 230V/50Hz 240V/60Hz | 25 | 16 | - | BDV08230AY |
| 24V/50-60Hz | 25 | 17 | - | BDV08024DY |
| 24VDC | - | - | 11 | BDV08024CY |
| 110V/50Hz 120V/60Hz | 25 | 15 | - | BDV08110AY |
| 220-240V/50-60Hz | - | max. 9,2 | - | Y1220-240V/50-60Hz |
| 24VDC | - | - | 10,1 | Y124VDC |
| 220-240V/50-60Hz | - | max. 9,2 | - | Y2220-240V/50-60Hz |
| 24VDC | - | - | 10,1 | Y224VDC |

## Dimensions 21WA



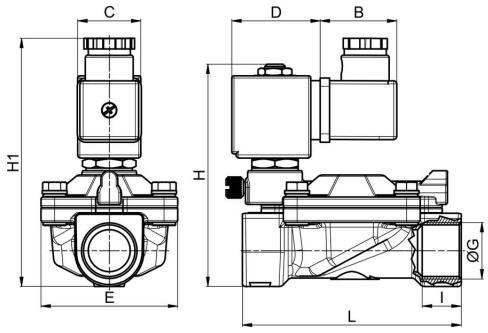

| Connection G | Nominal size DN[mm] | Pressure range [bar] | B | C | D | E | H | H1 | L | I | Kv value [$m^3$/h Water] | Weight [approx. kg] | Coil | Type |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| G3/8" | 13 | 0,2-16 | 36 | 30 | 42 | 40 | 97 | 111 | 60 | 15 | 3,6 | 0,6 | BD. | 21WA3.0.130 |
| G3/8" | 13 | 0,2-16 | 36 | 36 | 43 | 40 | 97 | 133 | 60 | 15 | 3,6 | 0,72 | Y1/Y2 | 21WA3.0.130 |
| G1/2" | 13 | 0,2-16 | 36 | 30 | 42 | 40 | 97 | 111 | 66 | 15 | 4,2 | 0,6 | BD. | 21WA4.0.130 |
| G1/2" | 13 | 0,2-16 | 36 | 36 | 43 | 40 | 97 | 133 | 66 | 15 | 4,2 | 0,72 | Y1/Y2 | 21WA4.0.130 |



+43 512 52076
austria@stasto.eu


© STASTO Automation KG

## Dimensions 21W




| Connection G | Nominal size DN[mm] | Pressure range [bar] | B | C | D | E | H | H1 | I | L | Kv value [m³/h Water] | Weight [approx. kg] | Coil | Type |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| G3/4" | 19 | 0,2-16 | 36 | 30 | 42 | 65 | 105 | 119 | 17 | 104 | 8,4 | 1,2 | BD. | 21W3..190 |
| G3/4" | 19 | 0,2-16 | 36 | 36 | 43 | 65 | 105 | 141 | 17 | 104 | 8,4 | 1,3 | Y1/Y2 | 21W3..190 |
| G1" | 25 | 0,2-16 | 36 | 30 | 42 | 65 | 112 | 126 | 17 | 104 | 11,4 | 1,2 | BD. | 21W4..250 |
| G1" | 25 | 0,2-16 | 36 | 36 | 43 | 65 | 112 | 148 | 17 | 104 | 11,4 | 1,3 | Y1/Y2 | 21W4..250 |
| G11/4" | 35 | 0,2-10 | 36 | 30 | 42 | 98 | 125 | 139 | 21 | 144 | 24,0 | 2,7 | BD. | 21W5..350 |
| G11/4" | 35 | 0,2-10 | 36 | 36 | 43 | 98 | 125 | 161 | 21 | 144 | 24,0 | 2,8 | Y1/Y2 | 21W5..350 |
| G11/2" | 40 | 0,2-10 | 36 | 30 | 42 | 98 | 125 | 139 | 21 | 144 | 31,2 | 2,7 | BD. | 21W6..400 |
| G11/2" | 40 | 0,2-10 | 36 | 36 | 43 | 98 | 125 | 161 | 21 | 144 | 31,2 | 2,8 | Y1/Y2 | 21W6..400 |
| G2" | 50 | 0,2-10 | 36 | 30 | 42 | 118 | 141 | 155 | 25 | 172 | 45,0 | 4,9 | BD. | 21W7..500 |
| G2" | 50 | 0,2-10 | 36 | 36 | 43 | 118 | 141 | 177 | 25 | 172 | 45,0 | 5,0 | Y1/Y2 | 21W7..500 |

Illustrations non-binding
Design, dimensional and material changes reserved




+43 512 52076
austria@stasto.eu
© STASTO Automation KG