Product Information

# Dialysis valve, direct acting, NC
# Medium separation by PTFE bellow


**A. u. K. Müller**

Solenoid valves
Control valves
Special valves and systems

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## Series 92.609.xxx




## Characteristics

- Special valve for haemodialysis machines
- Use of biocompatible high-performance materials
- Medium separated by PTFE bellow
- Function and leak tightness in both flow directions
- Plunger guided by PTFE
- High flow rate
- Various fixing options
- Suitable for pressure and vacuum operation
- Short cycle times
- High number of ON-OFF cycles
- Minimal dead areas in valve body
- Easy chemical disinfection
- Materials with worldwide approvals
- High operating safety by use of high quality materials
- Low power consumption
- CE - Marking
- UL and CSA certification on request

## Description

This valve series has been specially developed for use in haemodialysis machines and other medical devices.

The design considers the specific requirements of this market.

Used as an inlet or outlet valve for the balance chamber of a dialysis machine, the valve will work in both flow directions across the complete pressure range.

An exact adaptation with suitable sealing and fastening of the valve bodies to the customer's specifications of the balance chambers is usually carried out individually for each customer.

Thanks to the biocompatible and physiologically suitable high-performance plastics used, with sealing elements made of EPDM, a long service life is guaranteed when using dialysate, cleaning and disinfecting solutions.

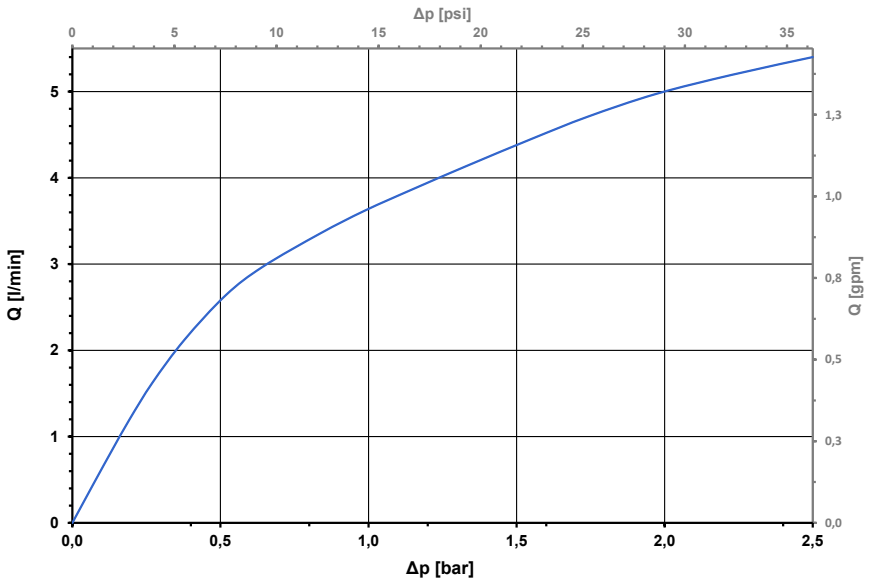
The bellow made of PTFE also guarantees a maximum lifetime compared to a separating diaphragm made of an elastomer, as there are no service interventions due to embrittlement and diffusion.

All materials meet EU, RoHS and REACH regulations (no toxic substances).

## Applications

- Haemodialysis machines
- Medical engineering
- Water treatment
- Disinfection equipment

Typical Performance Curve
(measured under laboratory conditions)



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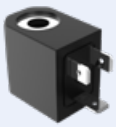
I 

II 

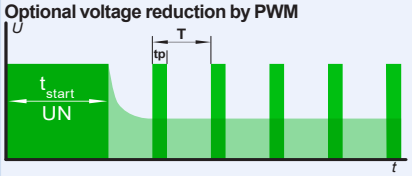
III 

IV 

## Coils

| Designation | Protection Type | Protection class | Nominal voltages | | |
|---|---|---|---|---|---|
| MS 39  | IP00 | III | 12<br>24<br>24 | V DC<br>V DC<br>V AC | <br><br>50 Hz |
| MS 40  | IP65 | I | 12<br>24<br>24<br>120<br>230 | V DC<br>V DC<br>V AC<br>V AC<br>V AC | <br><br>50 Hz<br>60 Hz<br>50 Hz |

## Technical Data

| | | |
|---|---|---|
| **Type** | Solenoid valve for dialysis machines | |
| **Construction** | 2/2-way single chamber straight valve, direct acting | |
| **Function** | NC (normally closed)<br>NO (normally open) on request | |
| **Fitting position** | any | |
| **Media** | Water<br>Dialysis fluid<br>Disinfection solutions in the concentration for each application | |
| **T-Medium** | 5 - 90 | °C |
| **T-Ambient** | 5 - 70 | °C |
| **DN** | 3,5 | mm |
| **p-Operating** | 10 - 400 | ΔkPa (abs)<br>both flow directions |
| **Flow factor Kv** | 3,6 | l/min |
| **Coil type** | MS 39, MS 40 | |
| **Nominal voltages** | see coils | |
| | other voltages on request | |
| **Voltage tolerance** | +10% -15% | |
| **Optional voltage reduction by PWM**   $t_{start}$: 100 ms tp: 60 µs T:100 µs [10kHz] PWM | | |
| **Duty cycle** | 100% | |
| **Nominal power** | 9,5 | W |
| | by PWM power reduction to approx. 3,7 W | |
| **Protection Type** | see coils | |
| **Coil connections** | flat tabs 6,3 x 0,8 mm (IP00)<br>plug socket according to EN 175301-803, several cable connections (IP65) | |
| **Insulation class** | H | according to EN 60730 |
| **Protection class** | see coils | according to EN 60730 (for incorporation in class I) |

## Materials

| | |
|---|---|
| **Valve body** | PEI<br>PPSU on request<br>PEEK on request |
| **Plunger guide** | PTFE |
| **Plunger and spring** | stainless steel |
| **Bellow** | PTFE |
| **Seal** | EPDM<br>FKM on request |
| **Coil coating** | PBT, PET or epoxy resin |

## Options

| Variant | | | | | | | | Length | Height | ID |
|---|---|---|---|---|---|---|---|---|---|---|
| | DN | øA | A1 | øB | B1 | øC | C1 | L | H | |
| I | 3,5 | 7,1 Nozzle | 14,0 | 7,1Nozzle | 14,0 | - | - | 59,5 | 71 | 081210 |
| II | 3,5 | 7,1 Nozzle | 14,0 | 6,1 | 1,8 | - | - | 45,5 | 71 | 081211 |
| III | 3,5 | 7,1 Nozzle | 14,0 | 6,1 | 1,8 | - | - | 45,5 | 71 | 081212 |
| IV | 3,5 | 7,1 Nozzle | 14,0 | 7,1 Nozzle | 14,0 | - | - | 59,5 | 71 | 081213 |



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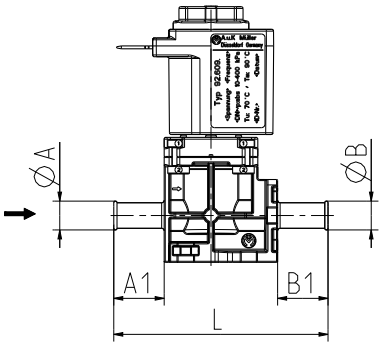
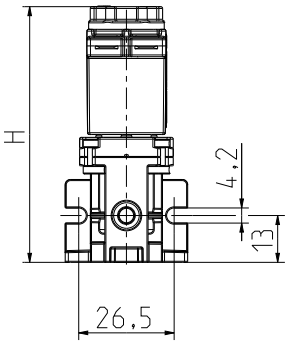
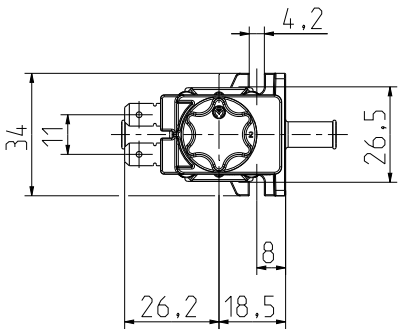
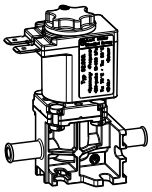
I

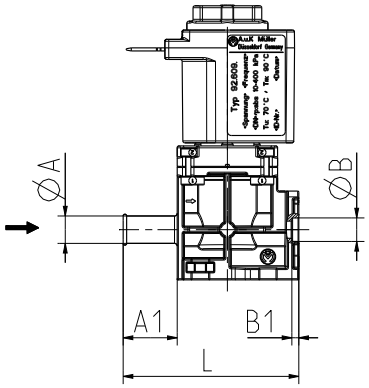


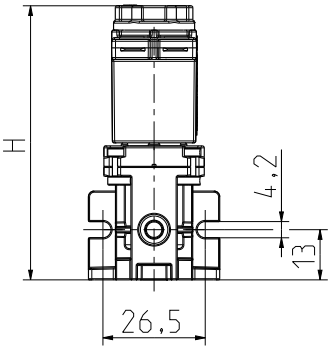



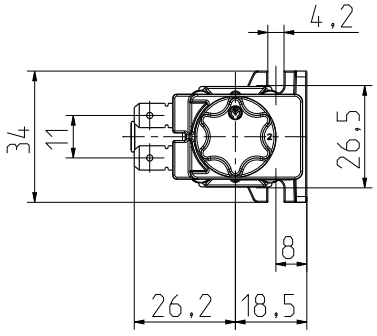



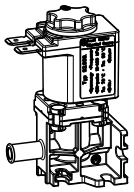



II



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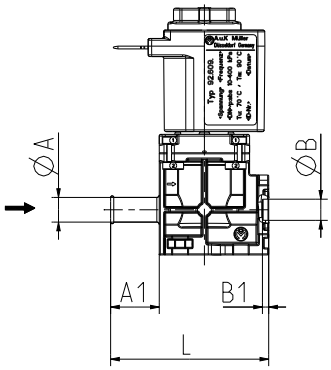
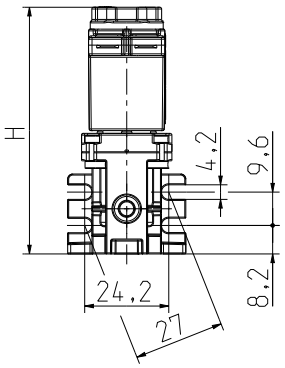
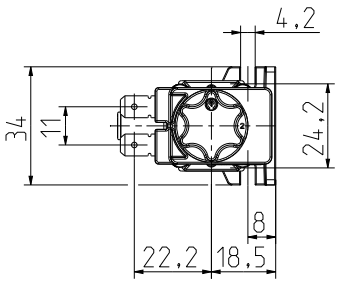
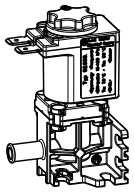
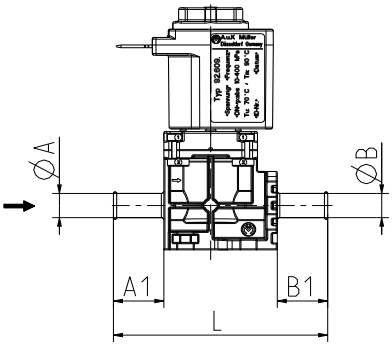


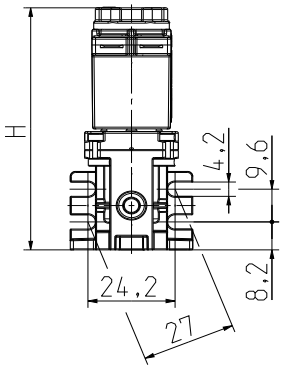




III






IV