

# Dispense valve, proportional DN 8

# Product Information



## A. u. K. Müller

Solenoid valves  
Control valves  
Special valves and systems

A. u. K. Müller GmbH & Co. KG  
Dresdener Str. 162  
D-40595 Düsseldorf/Germany

Tel.: +49(0)211-7391-0  
Fax: +49(0)211-7391-281

e-mail: info@akmueller.de  
Internet: www.akmueller.de

### Series 46.008.111 prop



### Characteristics

- Proportional valve, direct acting
- Plunger separated by diaphragm from medium
- PTFE valve seat to inhibit scale build up
- Long term performance capability
- Suitable for food and hot water appliances
- Works from zero pressure
- Complete drainage of valve outlet after shut off
- Other hydraulic connections on request
- Easy to assemble and service
- Coil change without opening of medium circuit, coil can be mounted 4 x 90°
- High operating safety by the use of high quality and 100% final testing of the products
- Approved variants according to NSF/ANSI standard 169

### Applications

- Hot/cold drink dispensers
- Dosing systems
- Water treatment devices

### Description

2/2-way solenoid proportional valve of nominal diameter DN 8 for controlled liquid dispense. This valve is direct acting and normally closed (NC). This control valve is particularly suitable for demanding dosing tasks due to its good response characteristics.

Valves of this design are medium separated seat valves, where the plunger is separated by a diaphragm from the medium. The valve seat is made of scale build up inhibiting PTFE.

The valve is controlled by a PWM signal (pulse width modulation). The pulse duty factor of the PWM signal determines the coil current and therefore the opening behaviour of the valve. Thus, it can be continuously adjusted to a value between 0 and 100% of the maximum flow rate by altering the coil current.

Also, control by an adjustable current source is possible.

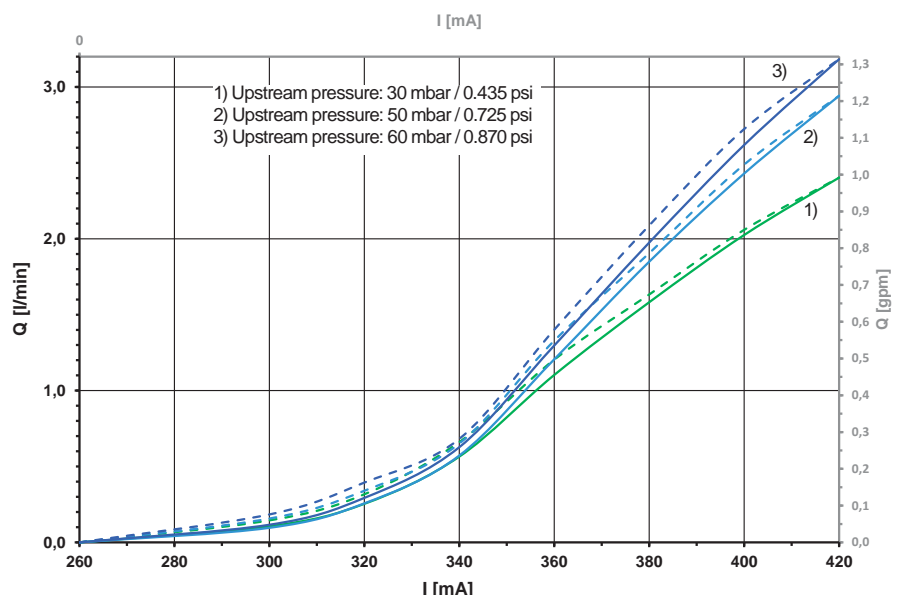
The valve is also available in other PSU housing variants on request and is distinguished primarily by its food grade and hot water capability.

### Possible approvals

Approved versions available on request:

- KTW/W270
- NSF 169
- Others on request

typical performance curve



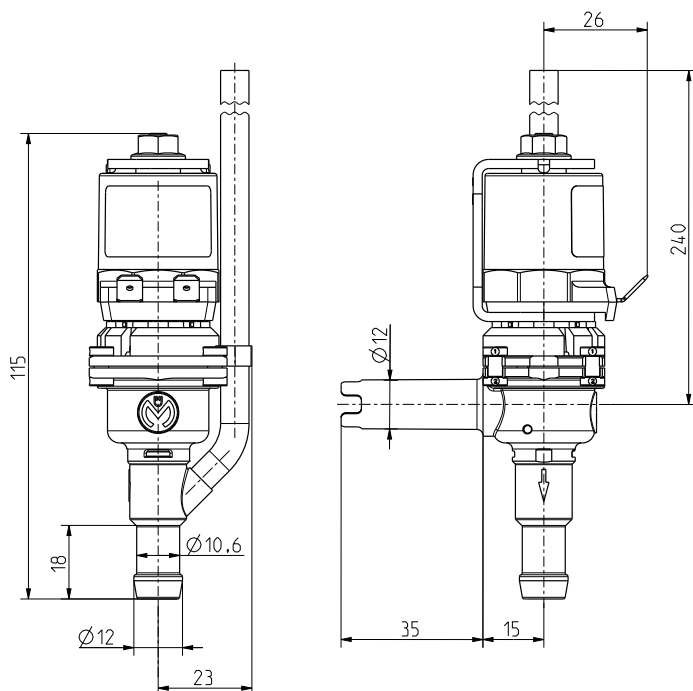
# Dispense valve, proportional DN 8

# Product Information



A. u. K. Müller

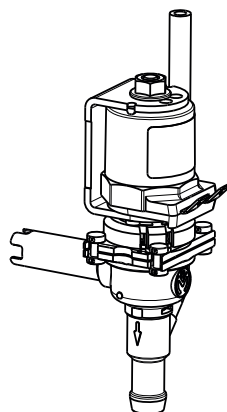
## Series 46.008.III prop



Other housing options with other fluidic connectors on request.

## Materials

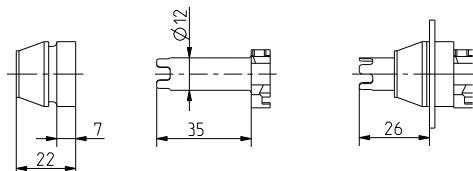
Valve body	PSU
Valve seat	PTFE
Plunger guide	stainless steel
Plunger and spring	stainless steel
Membrane	VMQ FMQ on request
Sealings	VMQ
Coil coating	PBT, PET or epoxy resin



## Options

Seal for mounting valves to boiler tank wall

Ident: 006722



## Technical Data

Type	proportional valve		
Construction	2/2-way single chamber angle valve, direct acting		
Function	NC (normally closed)		
Fitting position	coil upwards		
Media	cold and heated potable water and physically and chemically similar media		
T-Medium	98	°C max.	
T-Ambient	70	°C max.	
DN	8	mm	
p-Operating	0 - 60	mbar	
Flow max.	4,0	l/min	
Coil type	MS.006 MS.024, MS.025 on request		
Nominal voltages*	24	V DC	
	other on request		
Min. coil current	100	mA	rms
Max. coil current	420	mA	rms
Typical values of adjustment characteristics PWM control**			
Nominal frequency PWM	200	Hz	
Hysteresis	< 5 %		
Repeatability	1,5 % of end value (420 mA)		
Sensitivity	1,2 % of end value (420 mA)		
Duty cycle	100 %		
Nominal power	20	W	
Protection Type	IP 00, higher on request		
Coil connections	flat tabs 6,3 x 0,8 mm others on request		
Insulation class	F	according to EN 60730	
Protection class	I	according to EN 60730 (for incorporation in class I)	

\* The compensation of the magnetic coil heating by current regulation is recommended.

\*\* The characteristics of the control behaviour also depend on the conditions of use.

MS.006 (IP00)	
MS.024 (IP65)	
MS.025 (IP67, IP68)	



**Series 46.008.III prop**

**PWM - Pulse Width Modulation**

The control can be realized by a PWM signal with a supply voltage of 24 VDC and a pulse duty factor  $\leq 70\%$  (not included).

During operation, a minimum current is required to open the valve. At a pulse duty factor below 15 % the valve will remain closed.

The pulse duty ratio  $t_p / T$  of the PWM signal determines the coil current and therefore the opening behaviour of the valve. By changing the coil current the flow of the fluid is continuously adjusted to a value between 0 and 100 % of the maximum flow rate.

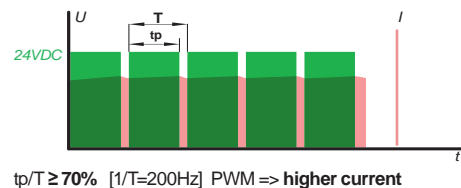
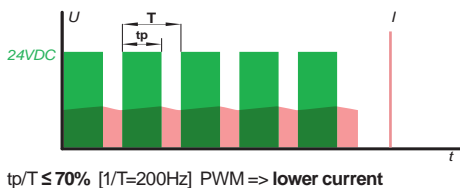
Also, control by an adjustable current source is possible.

As the coil heats during its operation, there is a corresponding increase in coil resistance. With a set duty cycle for the PWM, this effect reduces the current and the resulting flow rate. A controllable current source will maintain the set flow rate independently of the coil temperature

The same result can also be achieved by readjustment of the duty cycle of the PWM actuation, whereby the coil heating will be compensated and an improved flow control is achieved.

The valve can be operated continuously (ED 100%) to a maximum coil current of 420 mA.

Please contact us to determine the appropriate parameters for your application.



Dispense valve, proportional  
DN 8

# Product Information



**A. u. K. Müller**

**Series 46.008.III prop**

