

# Cartridge solenoid valve *Sanitary Market*



## Cartridge Solenoid Valve DN 5 mm

*latching and mono stable*

### Description

The new CEME cartridge Solenoid Valve is a 2/2 way servo controlled valve with DN 5 mm, available in 2 versions: latching (bi stable) and mono stable.

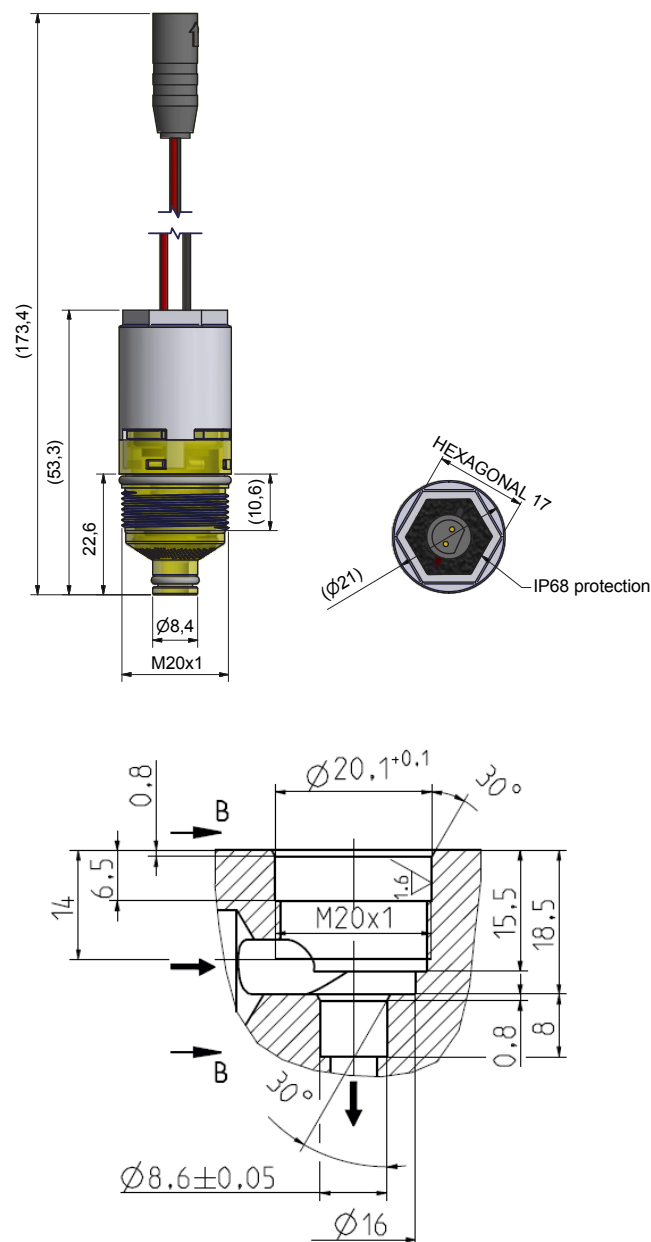
The main application is electronically controlled sanitary fittings.

Thanks to the flow rate optimization, the DN 5.0 mm can meet all the sanitary taps' requirements.

While designing the valve, our efforts and attention were focused on the water hammer: the test results rate this valve at the top level.

The hydraulic and mechanical concept has been developed considering long-term performances, durability and battery life as priority targets.

All the materials are compliant with the main regulations in drinking-water applications.



### Characteristics

- Long life material
- External filter PPSU (removable)
- Very compact design
- Low power consumption
- Servo controlled
- 100% tested with water and air
- IP grade: IP68
- Overall dimensions according with the drawing of the model
- Suitable for chemical disinfection (Chloramine) as well as thermal disinfection

### Materials

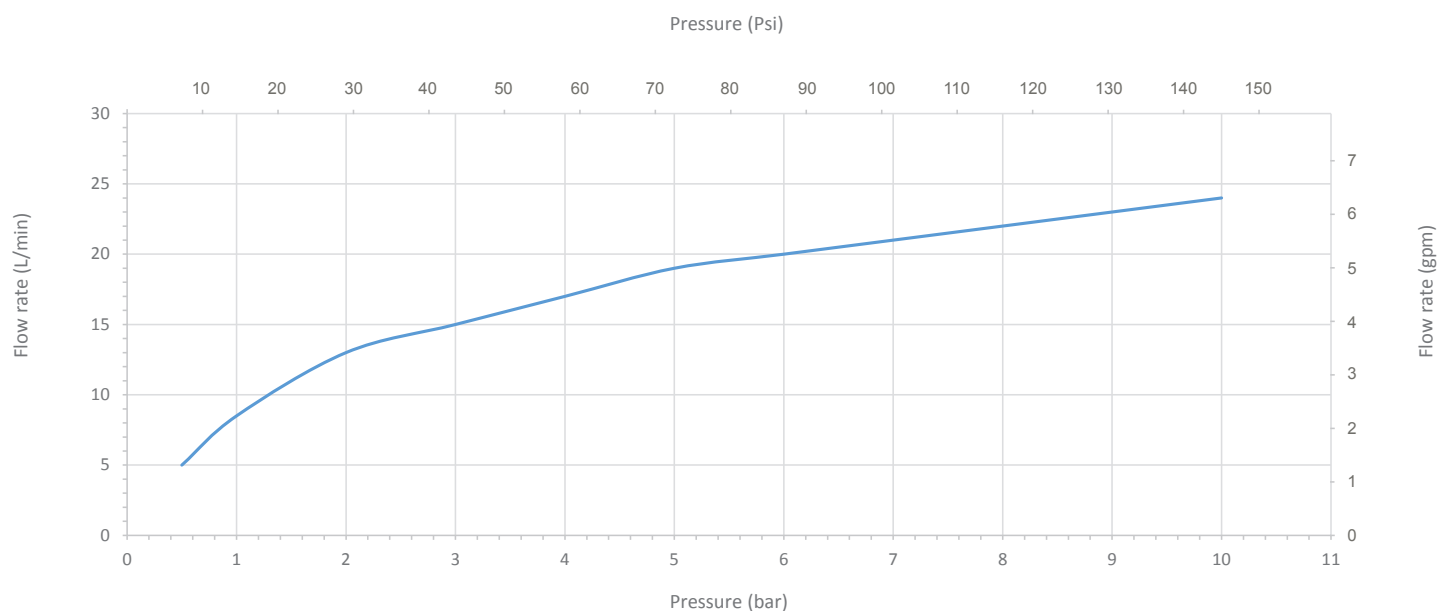
Hydraulic body : PPSU

LSR Seals: all the seals are in Liquid Silicon Rubber  
Other: Stainless steel (spring and filter)

Material approvals: FDA, DM174, ACS, NSF, WRAS, DVGW

## Hydraulic Characteristics

### DN 5 FLOW RATE



## Working characteristics

**Working pressure:** 0.5 ÷ 8.0 bar (7.25 ÷ 116 PSI)  
0.5 ÷ 10.0 bar (7.25 ÷ 145 PSI) upon request

**Burst Pressure :** According to EN60730

**Water Hammer:** According to EN60730

**Flow direction:** Unidirectional

**Valve position:** Any position

**Fluid:** Tap water

**Heating class:** H according with EN 60 335-1

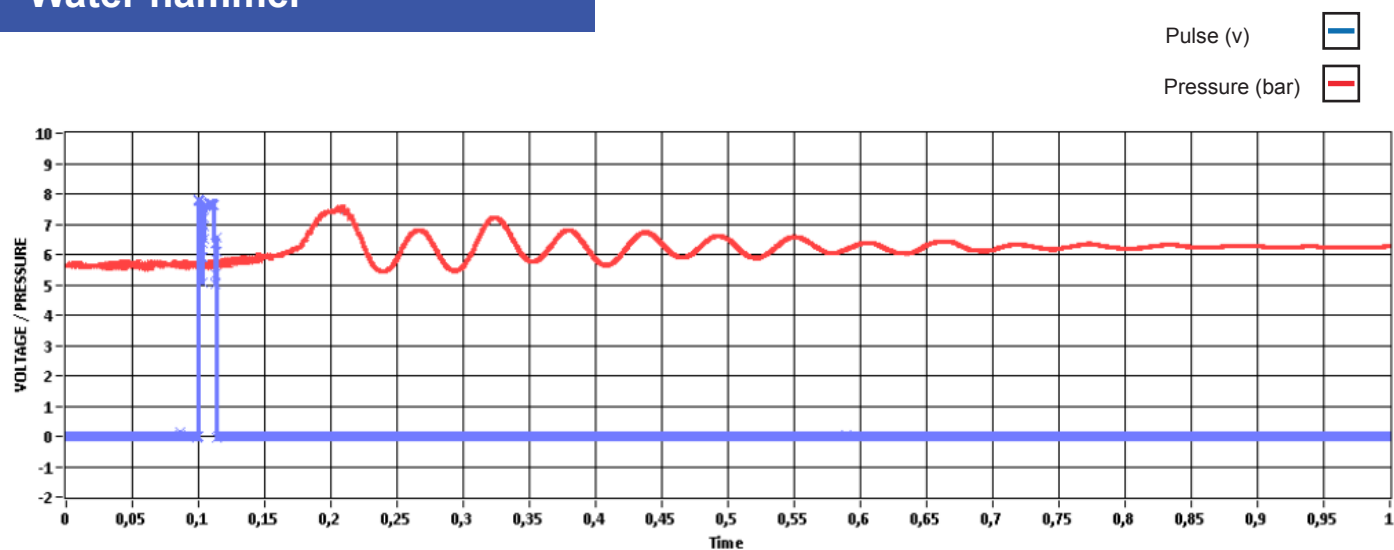
**Fluid Temp:** 6° ÷ 95°C ( 43° ÷ 203° F)

**Ambient Temp:** 5° ÷ 95°C ( 41° ÷ 203° F)

**Power Supply / Absorption / Pulse:**

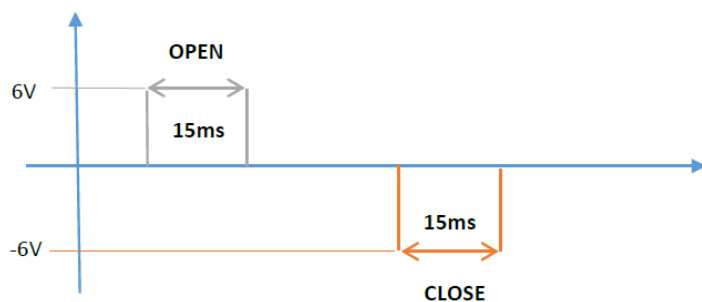
- *Latching* - 6V DC 1W 170mA (pulse 15ms minimum)
- *Mono stable* - 12V DC 1,5W 125 mA

## Water hammer

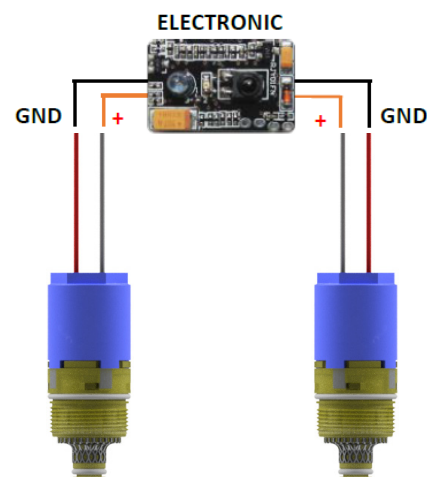


## Electrical specifications

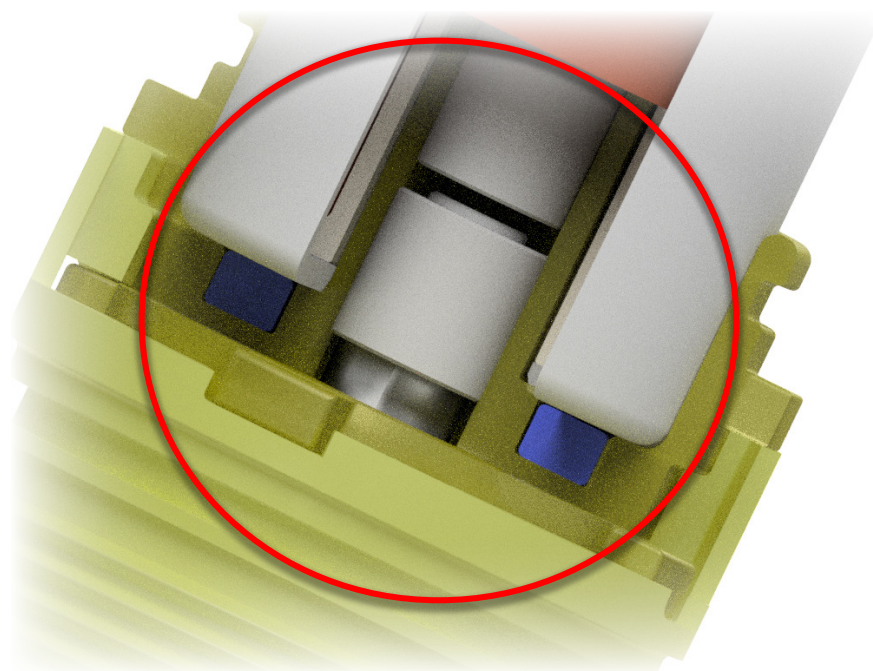
|                        | Latching                               | Mono Stable                    |
|------------------------|----------------------------------------|--------------------------------|
| Electrical Connections | Cable (KCC connector upon request)     |                                |
| Nominal Power          | 1W (6 V DC)                            | 1,5W (12 V DC)                 |
| Operating Voltage      | 6 V DC ( 5 V min) at 20° C             | 12 V DC at 20° C               |
| Nominal Current        | 170 mA (at 6V 25° C)                   | 125 mA (at 12V 25°C)           |
|                        | Pulse time: Close min 15ms / Open 15ms | ED: 100%                       |
|                        |                                        | Voltage tolerance: -15% / +10% |



Latching electrical driving



## Highlights



The floating core system represents a unique and innovative solution in this range of valves. CEME R&D has concentrated his efforts to design the “*springless floating system*”.

This solution offers several advantages:

- Reduction of power consumption
- Faster response
- No core sticking (a very common issue with standard sanitary valves)
- Removal of a critical component. Commonly when the core spring is damaged, the valve can remain open, wasting water from the faucet.

The diaphragm of this valve is a concentrate of innovation, an ambitious project that today brings many improvements if compared to standard products:

- **Labyrinth Calibrated System:** The water flows through a sophisticated system of micro channels, designed to minimize the water hammer and to allow a quick and progressive closing.
- **Self-cleaning:** The diaphragm has holes for the water load. This system prevents any type of blockage due to dirt. The regular up-and-down movement of the membrane causes also a stretch deformation of the holes, keeping the passage constantly clean. This simple and smart system does not need any needle to clean the holes, unlike many other standard valves in this market.



## Highlights



CEME has selected one single material for all the valve seals, LSR (Liquid Silicon Rubber), instead of other common elastomers, such as EPDM.

LSR can grant far better performances:

- Fully food grade approved. LSR is also in compliance with the incoming restrictions concerning rubbers, which will involve and forbid many of the common rubbers
- Fully compatible with chloramine even in high concentration
- Fully compatible with the most common chemical agents used for disinfection
- No ageing/degradation effects - LSR assures a very long life

The body of the valve and all the internal mechanical parts are made of PPSU, one of the top high resistance plastic materials (generally common valves are made of PA66 or POM). Also in this case, Ceme has selected this high quality material to grant the best performances:

- The high mechanical resistance rates this valve at the top level for burst pressure
- Thermal disinfection: PPSU allows the fluid compatibility at 95°C (203°F) in compliance with the most severe disinfection cycle, while the plastic materials of the common valves mentioned above, allow a max fluid temperature of 65°C (150°F), or a higher temperature just for a limited time
- Best compatibility with food grade approvals
- Best compatibility with chemical agents
- Longer life time resistance



## Latching Solenoid Pilot

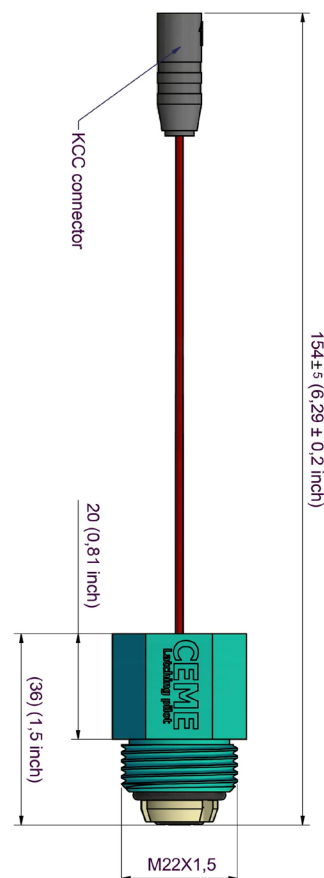
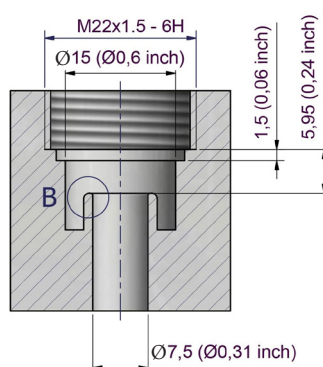
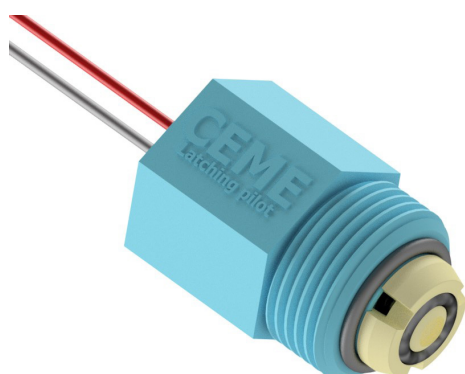
### Description

The new CEME latching Solenoid Pilot is a direct operated 2/2 way valve.

It can be easily used as a pilot valve for servo controlled main valves, such as electronic flush systems.

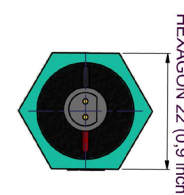
The pilot latching valve, in combination with servo components, controls high volume flows.

Compact design, low power consumption and standard connections are some of the features that make this pilot a versatile component for many different applications.



### Characteristics

- Long life material
- Very compact design
- Low power consumption
- Direct action
- 100% tested with water and air
- IP grade: IP68
- Overall dimensions according with the drawing of the model



### Materials

Hydraulic body : PA 12 FV 30%

LSR Seals: all the seals are in Liquid Silicon Rubber

Material approvals: FDA, DM174, ACS, NSF, WRAS, DVGW

## Hydraulic characteristics

- **Connection:** M22 x 1,5

## Working characteristics

**Working pressure:** 0.5 ÷ 10.0 bar (7.25 ÷ 145 PSI)

**Orifice:** Ø 0.8mm (Ø 0.031 inches)

**Burst Pressure :** According to EN60730

**Flow direction:** Unidirectional

**Valve position:** Any position

**Fluid:** Tap water

**Power Supply / Absorption / Pulse:** 6V 2,8W 465mA Latching solenoid (impulse 15ms minimum)

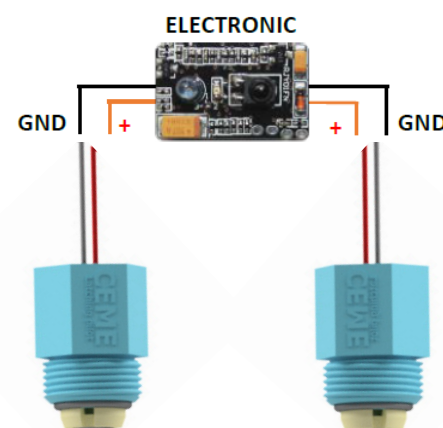
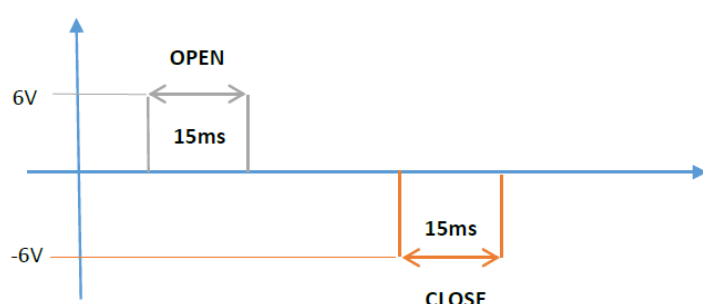
**Heating class:** H according with EN 60 335-1

**Fluid Temp:** 6° ÷ 65°C ( 43° ÷ 150° F)

**Ambient Temp:** 5° ÷ 60°C ( 41° ÷ 140° F)

## Electrical specifications

- **Electrical Connections:** cable (KCC connector upon request)
- **Nominal power:** 2,8W (6V)
- **Operating Voltage:** 6V (5,6Vmin) at 20° C
- **Max Voltage supply:** 9V
- **Nominal Current:** 465 mA (at 6V 25°C)
- **Pulse time:** Close min 15ms  
Open min 15ms



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