

INLINE MICRO-JET VALVES – FAST-SWITCHING

Controllers

Micro-Jet Valve Controller

The valve controllers are available in three different versions

- MVC-1
- VC Mini
- ZC1



The ZC1 electronics has one channel and is intended as an OEM board for integration into a manufacturer's own device. The valve electronics ZC1 can be parameterised and controlled by using an RS-232 interface.

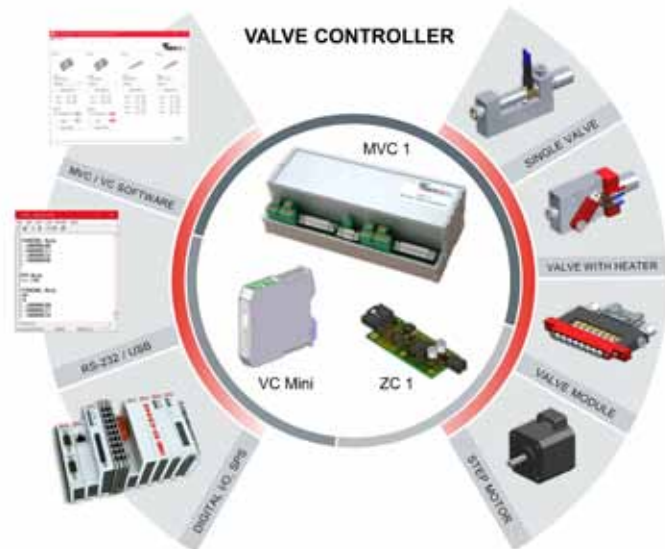
MVC-1 and VC Mini differ in the number of connections. Both controllers are configurable using an interface (RS232 or USB) via Java software or directly with command sets. The software allows easy operation of the valves and heating using a graphical user interface for programming and setting doses. The additional mode for external I/O signals allows the control of preconfigured settings.

The possible functions are:

- Single shot
- Open the valve
- Shot series
- Endless shot series
- Valve stop

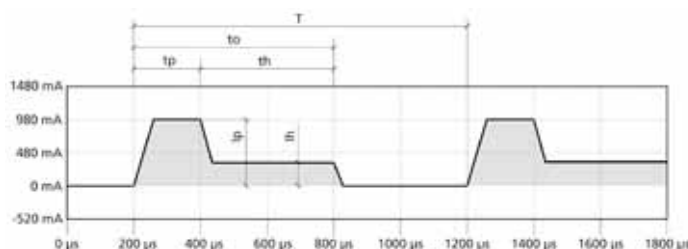
The following parameters can also be configured:

- Peak time t_p
- Valve opening time t_o
- Cycle time T
- Peak current I_p
- Holding current I_h
- Number of shots



Electronic control

The best high-speed operation of the micro-jet valves is achieved by means of dual stage current triggering (Peak and Hold), i.e. a short actuation pulse at elevated current ($I_p = 1A$) effectuates an instantaneous response and a defined opening stroke of the valve. Once the valve is opened, reducing heat generation, a lower holding current ($I_h = 200mA$) is sufficient for proper operation during the residual cycle time.



This is a control example for continuously repeated dosing with a frequency of 1 kHz and a valve opening time of 600 µs. Electronic control example generated with the MVC-1 controller. Peak current 1A, holding current 200mA (t_h holding time).