
User Manual

Jet Valve Controller VC1300 series



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2. DESIGNATED USE

The digital jet valve controller VC1300 is used for precise controlling of jet valves which work with a DC voltage of 0 – 24V, like for example the V-JET valve. The VC1300 controls the air pressure on the material, and also the working air pressure of the jet valve. With the integrated precision air pressure regulators the air pressure on the material and the working air pressure for the valve very exactly. An integrated digital pressure sensor at the inlet air gives an additional point for the process safety.

3. FOR YOUR SAFETY:

WARNING:

- If the VC1300 is used for other functions as in this manual described, it could come to personal or material damage. Use the VC1300 controller only to the functions, which are explained in this user manual. VIEWEG GmbH is not responsible for personal or material damages, which happen because of incorrect using and no designated use.



- No designated uses are:
- Modifications at the VC1300, which are not recommended in this user manual.
- Using of defective or not compatible spare parts.
- Using of not allowed accessories.

SAFETY PRECAUTIONS:

- The VC1300 works with 100 – 240V AC voltage. By touching the 100 – 240V AC voltage, there exists danger of life !! Because of this, the VC1300 must be disconnected from the AC input cable, before opening the housing. It is only allowed for authorized electrical experts to open the housing.



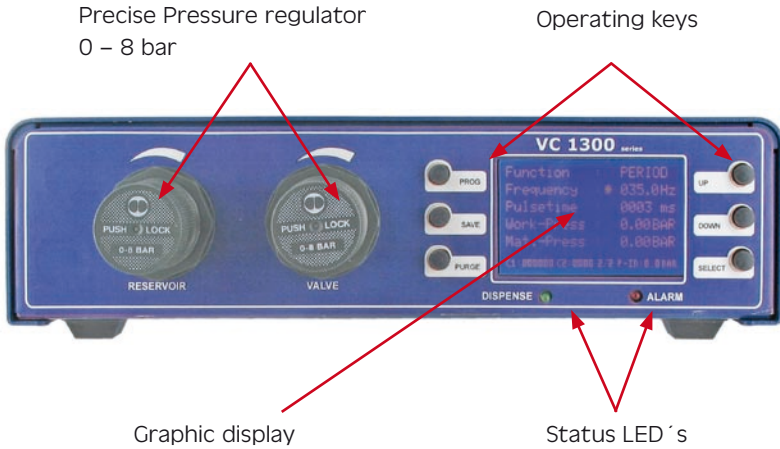
- Use the VC1300 only with the max. described and allowed power / settings.
- Always wear useful protection clothing.
- More details for using the dispensing material, please see the safety data sheets of the dispensing material.
- No smoking or fire by using flammable material.
- The VC1300 is only allowed for using inhouse.

4. TECHNICAL DATA

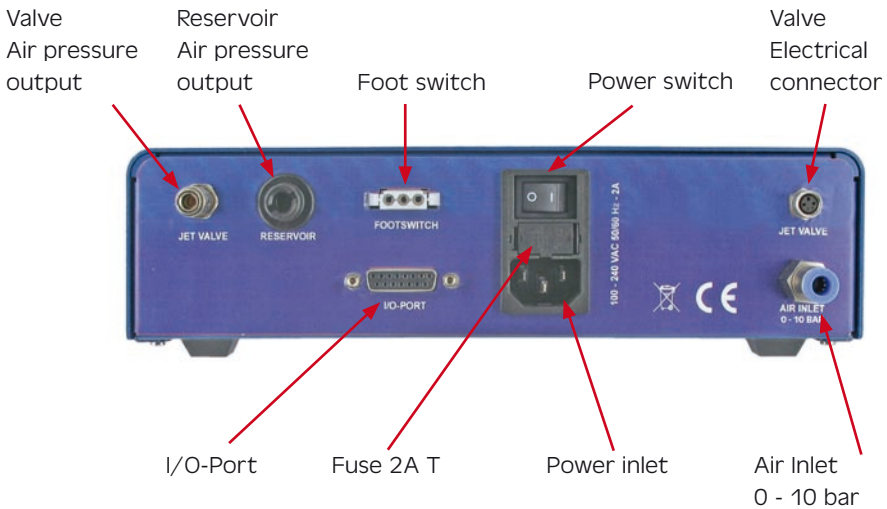
Measurements	260 x 210 x 70mm
Weight	1,80kg
Power supply	85 – 264V AC 50/60Hz
Internal Voltage	24V DC
Voltage Jet Valve	24V DC pulsed
Mode	Continuous / Shot
Teach-In	Yes
Cycle mode	Yes
Counter	Counter 1: total counter Counter 2: shot counter
Frequency Jet Valve	0,1 ... 500.0 Hz
Impulse time	2 9999 ms
Air inlet	0 ... 10 bar (Display: digital) Sensor controlled
Air outlet material	0 ... 8 bar (precise pressure regulator) (Display digital)
Air outlet valve	0 ... 8 bar (precise pressure regulator) (Display digital)
I/O-Port	6 inputs 3 outputs
Parameter display	128 x 64 x pixel graphical display
Programs	8 programs
Option	External pressure tank 400ml stabilization of valve pressure (part-no.: 990119)

4.1 PARTS & DESCRIPTION

[Front side]



[Back side]



5. DELIVERY:

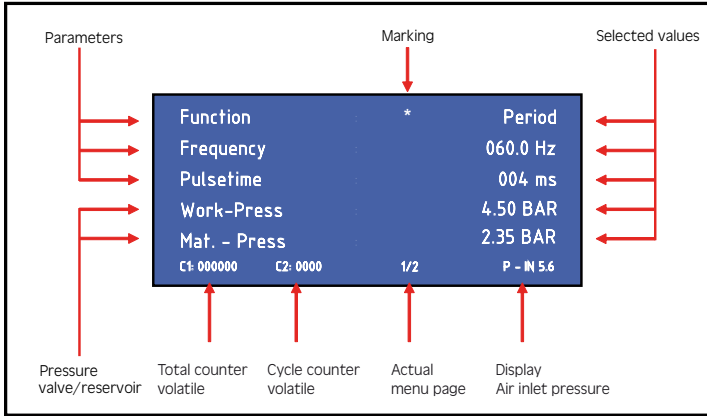
- VC1300 Controller
- Power Inlet cable
- Tube for Air Inlet
- User Manual

6. START OPERATION:

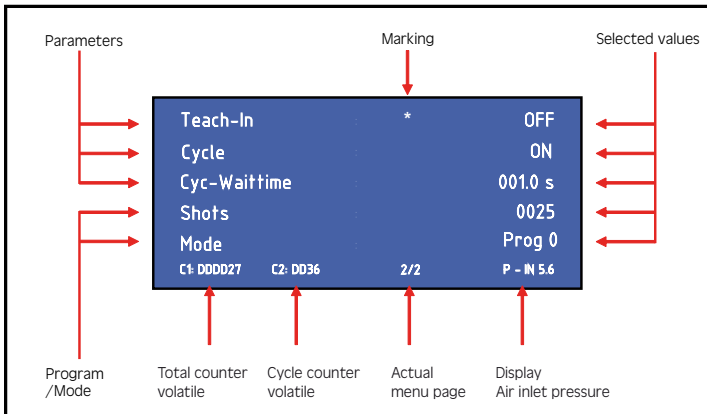
- Connect the power inlet cable to the Power inlet connector on the backside.
- Connect the Air Inlet tube from the compressor to the Air Inlet at the backside of the VC1300.
- Connect the Foot switch (opt.: – P/N 562032) or the dispense cable of the dispense robot to the Foot switch connector on the backside of the VC1300 and connect also the cable of the jet valve to the responsible connector of the VC1300 controller.
- Connect both air outlets (Valve / Reservoir) based on the user manual of the jet valve to the jet valve and material reservoir.
- Switch the VC1300 on. The display shows the initialisation and the installed software version. After 5 sec, the display switches automatically to the standard screen and is ready for operation
- Check the pressure input (e.g. P-IN: 5.6 bar) in the display to be sure, that the air input pressure is connected.

7. Operation:

7.1 Display - Menu page 1 (values can be different)



7.1 Display - Menu page 2 (values can be different)



7.2 Status LED´s

Below the display are the status-LED´s of the VC1300.

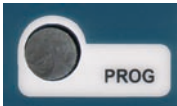
Dispense: The DISPENSE LED lights, during the jet valve is dispensing.

ALARM: The ALARM LED lights, during the following conditions:

- Pressure alarm is active
- External alarm signal on the I/O-Port



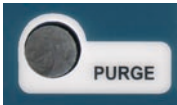
7.3 Operating keys :



PROG => switches to the next program



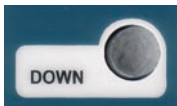
SAVE => saves the actual parameters.
Press the SAVE key for 2 sec. and select the wanted program with the UP / DOWN keys and press SAVE again to store the parameters. If no different program is selected, the parameters get automatically saved in the actual program.



PURGE => starts the dispensing procedure.



UP => increases the selected value.



DOWN => decreases the selected value



SELECT => Moves the marking to the next display line.

8. PARAMETER:

- **Select mode**

Pressing the PROG key switches to the next program

PROG 0-7: depending on which program 0 – 7 is selected, the VC1300 dispenses depending on the saved parameters of each program.

- **Set the function:**

The function of the VC1300 can be selected between SHOT / CONTINUOUS Mode:

- Shot: A selected number of shots get dispensed
- Continuous: The valve dispenses as long as the dispensing signal is ON.

- **Set the frequency:**

The frequency for the jet valve control can be changed with the UP / DOWN keys in the range of 0,1 ... 500 Hz.

If the setting is wrong or not possible in addition with the pulse time setting, a warning signal "!" is shown in the display next to the frequency setting.

Check your settings !

- **Set the Pulse time:**

The Pulse time for the jet valve can be changed with the UP / DOWN keys in the range of 0002 ... 9999 ms. This is time, how long the jet valve opens for one shot.

If the setting is wrong or not possible in addition with the frequency setting, a warning signal "!" is shown in the display next to the frequency setting.

Check your settings !

- **Set the air pressure for the valve:**

The Pressure for the valve can be adjusted with the right pressure regulator at the front plate of the VC1300.

The pressure should be from 2 ... 8 bar, depending on the application.

- **Set the air pressure for the reservoir:**

The Pressure for the reservoir can be adjusted with the left pressure regulator at the front plate of the VC1300.

The needed pressure on the reservoir is depending on the application and the material.

- **Set the Teach In function:**

The Teach In function can be set ON / OFF. If the function is ON, the number of shots get added the the last value and the cycle counter C2 get not set to 0000 with a new dispensing. This function can be used, to find the optimized number of shots for an application.

- **Set the CYCLE mode:**

The Cycle mode can be set ON / OFF.

If the Cycle mode is activated, an automatic dispensing cycle can be started with the external dispensing signal or purge button. In the cycle mode, the selected number of shots get dispensed, and after the Cycle-wait time, the number of shots get dispensed again, as long as the dispensing signal comes again to stop the cycle mode. The cycle mode can only be used in the SHOT-mode !!

- **Set the Cycle Wait time (Cycle-Wait):**

The Cycle-wait time for the CYCLE mode can be changed with the UP / DOWN keys in the range of 000.5 ... 999.9 s. This is time, how long the dispensing in the cycle mode stops during dispensing.

- **Counter:**

There are two different counters in the display:

C1: Total counter:

The total counter counts the number of shots for the jet valve after POWER ON the VC1300 controller.

This counter is volatile and get resetted after POWER OFF


C2: Shot counter:

The shot counter counts the number of shots for the jet valve for every dispensing routine.

This counter is volatile and get reseted with every new dispensing procedure or POWER OFF

- **Key lock:**

By pressing SAVE + PRG the same time, a key lock for the VC1300 can be activated.

An activated key lock is shown in the display (lower right hand corner) with the symbol: 

By pressing SAVE + PRG again, the key lock can be deactivated.

9. SERVICE MENU: (press UP + DOWN keys during initialisation)

9.1 Display:



9.2 Settings:

- Language:**
 Pressing UP / DOWN keys switches between english and german language.
- P-Unit:**
 Pressing UP / DOWN keys switches between PSI and BAR as unit for the digital displayed pressure.
- P-Alarm:**
 By pressing the UP / DOWN keys, the value for the low pressure alarm-limit can be selected. If the input pressure is lower than the selected limit, the VC1300 controller switches to ALARM mode and no new dispensing procedure is possible, as long as the input pressure is less than the selected limit.
- Service:**
 Service counter – not resetable

10. Electrical Connections

10.1 Jet Valve:

type: LUMBERG M8 female 3-pol.
 pins: Pin 4 24V pulsed Jet Valve
 Pin 3 0V (GND) Jet Valve

10.2 Foot switch:

pins: connections between Pin 1 + 3 starts dispensing

10.3 I/O-Port:

type: 15-pol. SubD female 2-doublerow
 pins: see following chart

Pin no.	Input / Output	Description	Comment:
1	--	Reserved	Reserved
2	--	GND	GND
3	--	24V DC	24V DC
4	Output	BUSY	Dispensing procedure active
5	--	GND	GND
6	Input	START	Starts dispensing
7	Input	PRG1	Program select Bit #1
8	Input	PRG3	Program select Bit #3
9	--	Reserved	Reserved
10	--	Reserved	Reserved
11	Output	READY	Ready Signal
12	Output	ERROR	Error Signal
13	Input	REMOTE	Remote active
14	Input	ERROR-IN	External Error input
15	Input	PRG2	Program select Bit#2

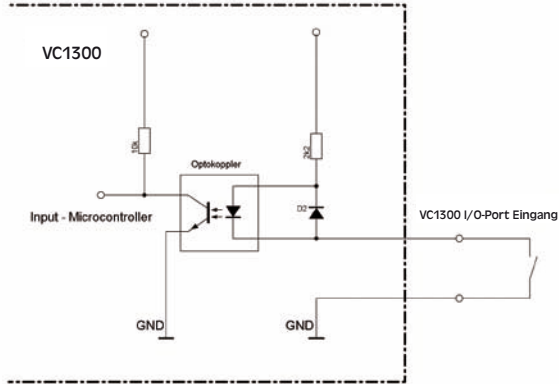
External selection of programs:

Programm no.	PRG-Select bit #1	PRG-Select bit #2	PRG-Select bit #3
Manuell	0	0	0
Programm 1	1	0	0
Programm 2	0	1	0
Programm 3	1	1	0
Programm 4	0	0	1
Programm 5	1	0	1
Programm 6	0	1	1
Programm 7	1	1	1

10.4 Wiring Diagrams:

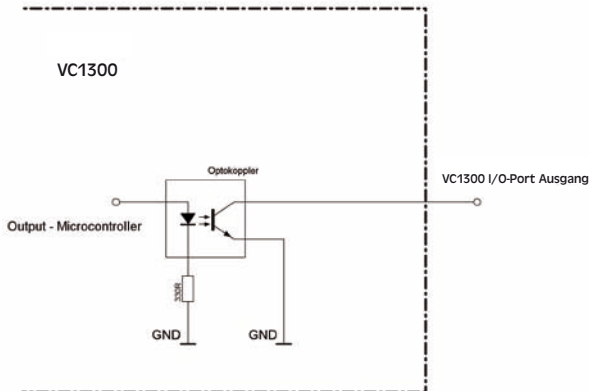
Digital Inputs:

A digital input is active, if the opto coupler is ON. If the opto coupler is connected to GND, the input is activated:



Digital Outputs:

If the digital output is active, the opto coupler is electro conductive.



11. Maintenance and cleaning

The VC1300 is maintenance free

Repairs should only be done by the manufacturer.

Clean the VC1300 controller only with a clean, smooth and dry cloth.

Do not use disolvent material to clean the VC1300 controller. The foil at the front- or back plate or the housing paintings can be destroyed.

12. Disposal



Dispose the product after the economic life-time according to the legal requirements.

CE DECLARATION OF CONFORMITY

We, as manufacturer declare under our sole responsibility that the following product to which this declaration relates is in conformity with the following EC / EC directives:

- EG-Low Voltage directive 2006/95/EG
- EG-EMC directive 89/336/EWG and 2004/108/EG

Product: Jet Valve Controller
Type: VC 1300

Manufacturer: VIEWEG Dosier- und Mischtechnik
Gewerbepark 13
D - 85402 Kranzberg
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The following european standards are used:

- DIN EN ISO 61000-6-3
- DIN EN ISO 61000-6-2



Kranzberg, 27.01.2012

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