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**USER MANUAL**  
**VALVE CONTROLLER VC1000-5/2 Series**

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### 13. Declaration of conformity:

**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 EG / EC directives:


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

Product: **Valve Controller**  
Type: **VC 1000**

Manufacturer: **VIEWEG Dosier- und Mischtechnik**  
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**The following european standards are used:**

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



Kranzberg, 27.10.2009

Till Vieweg, managing director

### 2. DESIGNATED USE

The VC1000-5/2 valve controller series can be delivered with different options, which can have a little technical difference. Because of this, in the following user manual is only spoken about the VC1000-5/2 controller.

The digital valve controller VC1000-5/2 is used for precise controlling of pneumatic controlled dispensing valves, like for example the volume dispensing valve VDP-150, which are used with controlled air pressure. The VC1000-5/2 controls, depending on the options the air pressure for the tank, and also the two control airs for the used dispensing valve.

With the integrated precision air pressure regulator, the air pressure on the material can be set 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 VC1000-5/2 is used for other functions as in this manual described, it could come to personal or material damage. Use the VC1000-5/2 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 VC1000-5/2, which are not recommended in this user manual.
- Using of defective or not compatible spare parts.
- Using of not allowed accessories.

#### SAFETY PRECAUTIONS:

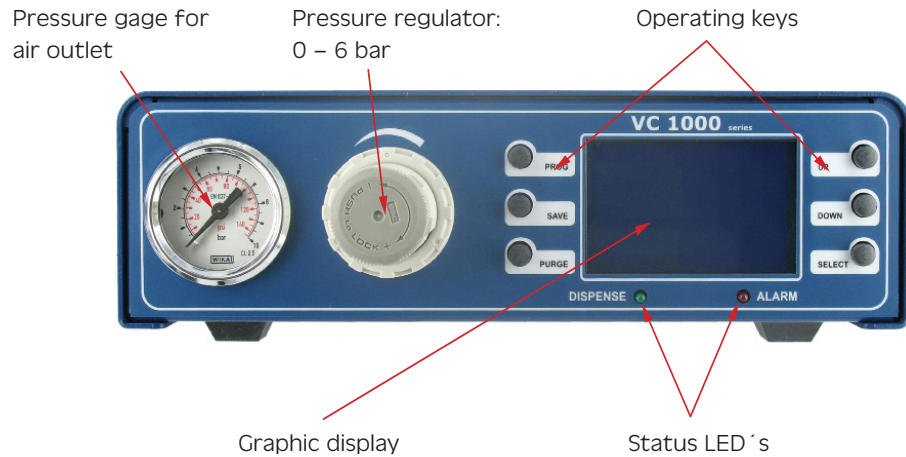
- The VC1000-5/2 works with 100 – 240V AC voltage. By touching the 100 – 240V AC voltage, there exists danger of life !! Because of this, the VC1000-5/2 must be disconnected from the AC input cable, before opening the housing. It is only allowed for authorized electrical experts to open the housing.
- Use the VC1000-5/2 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 VC1000-5/2 is only allowed for using inhouse.

#### 4. TECHNICAL DATA

Measurements	235 x 210 x 70mm
Weight	1,65kg
Power supply	100 – 240V AC 50/60Hz
Internal Voltage	24V DC
Dispense time	0,01 ... 999 sec.
Air Inlet	0 ... 6 bar (Display: digital)
Air Outlet	- tank = material pressure 0 ... 6 bar (precise pressure regulator) - valve = double control air max. 7 bar Air Inlet
Parameter display	128 x 64 Pixel graphical display
Programs	8 programs

#### 4.1 PARTS & DESCRIPTION

[Front side]



#### 11. Maintenance and cleaning

The VC1000-5/2 is maintenance free

Repairs should only be done by the manufacturer.

Clean the VC1000-5/2 controller only with a clean, smooth and dry cloth.

Do not use dissolver material to clean the VC1000-5/2 controller. The foil at the front- or back plate or the housing paintings can be destroyed.

#### 12. Disposal

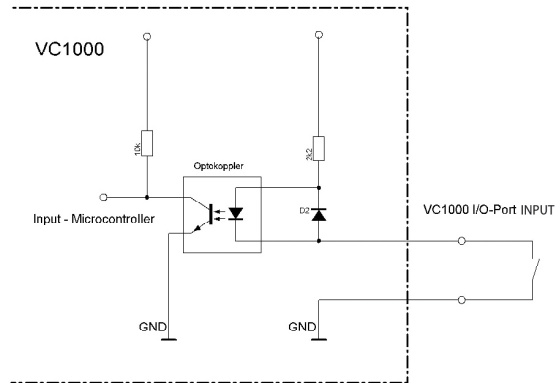


Dispose the product after the economic life-time according to the legal requirements.

### 10.3 Wiring Diagrams:

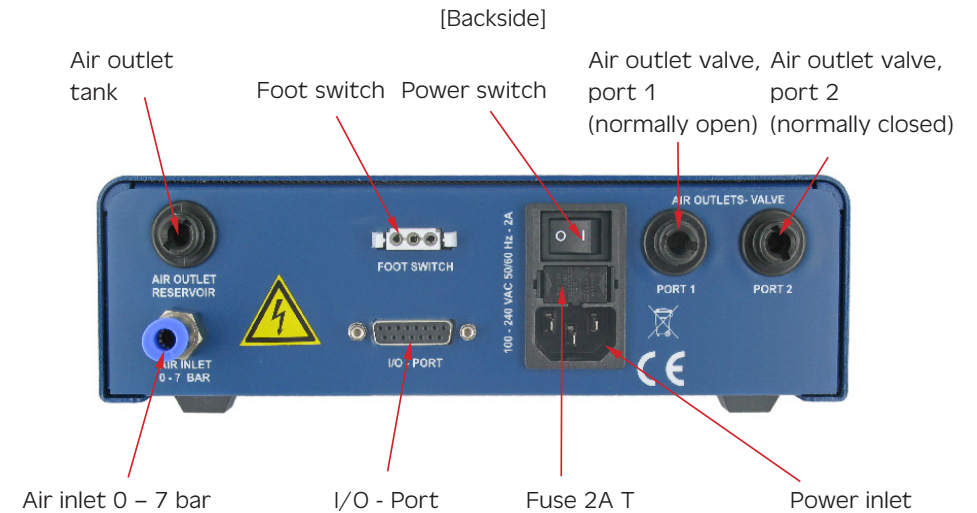
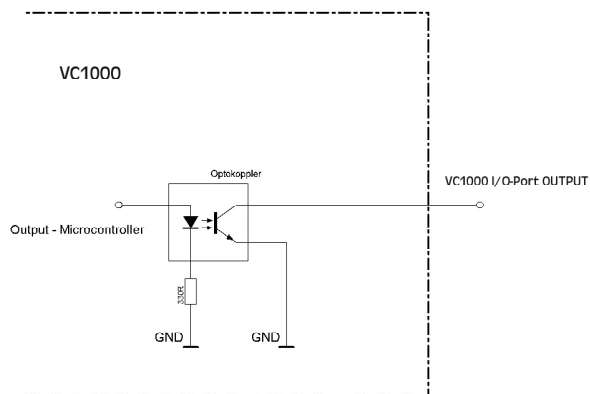
#### Digital Inputs:

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.



### 5. PARTS OF DELIVERY:

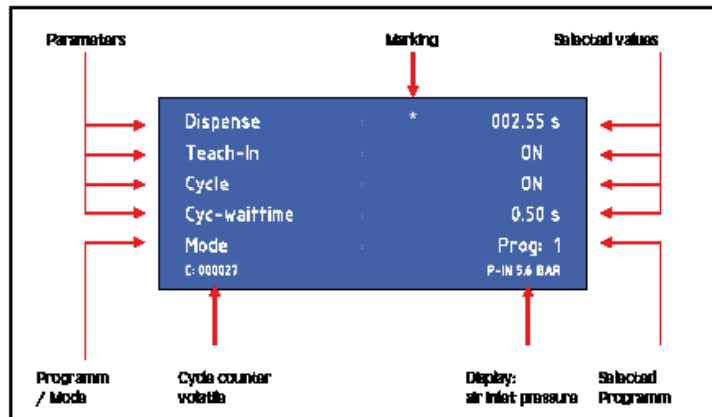
- VC1000-5/2 Controller
- Power Inlet cable
- Tube for Air Inlet
- User Manual

### 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 VC1000-5/2.
- Connect the Foot switch (opt.: – P/N 562032) or the dispense cable of the dispense robot to the Foot switch connector in the backside of the VC1000-5/2.
- Connect the both Air Outlet (port 1+2 for valve) to the control air input of the dispensing valve (see you dispensing valve manual) and adjust the air pressure for the material (tank) with the pressure regulator at the front side of the VC1000-5/2.
- Switch the VC1000-5/2 on. The display shows the initialization 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: (values can be different)



### 7.2 Status LED's

Below the display are the status - LED's of the VC1000-5/2.

**DISPENSE** The DISPENSE LED lights, during the dispensing valve is open.

**ALARM:** The ALARM LED lights, during one of the following conditions:

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



## 10. ELECTRICAL CONNECTIONS

### 10.1 Foot switch:

pins: connection between Pin 1 + 3 starts dispensing

### 10.2 I/O-Port:

type: 15-pol. Sub-D 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	Programmselect Bit#2

External Program select: (assumed by REMOTE input signal)

Programm Nr.	PRG-Selectbit #1	PRG-Selectbit #2	PRG-Selectbit #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

## 9. SERVICE Menu: (UP + DOWN during Initialization)

### 9.1 Display:



### 9.2 Settings:

Pressing the SELECT key switches through the Menu (marked with the asterisk).

- **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 VC1000-5/2 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

## 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 and to manual mode

**Manual:** In this mode, the dispense time get not saved and the rotary valve dispenses as long as the dispense signal is activated on one of the following possibilities: foot switch / purge key / I/O - start. After dispensing, the dispense time starts again at 0.00 sec.

**PROG 1-7:** If one of the programs 1 – 7 is selected, the VC1000-5/2 dispenses as long as the value of the dispense time is saved. It is independent how long the dispense signal is activated on one of the following possibilities: foot switch / purge key / I/O - start. This mode should be selected, if the dispensing valve should always dispense for the same time.

- **Set the dispense time:**

The dispense time can be selected with the UP / DOWN keys. The dispense time can be set from 0,01 ... 999.99 sec.

- **Set the Teach-In function:**

The Teach-In Function can be switched ON / OFF and is only in MANUAL mode useable. By activated function, the dispense time will be added to the actual dispense time with every new dispensing signal. To Reset the dispense time to 0,00 sec. please press SAVE + DOWN key together.

- **Set the CYCLE function:**

The Cycle function can be switched ON / OFF. If the function is activated, it is possible to start the cycle mode with a short dispensing signal. After starting the procedure, the VC1000-5/2 dispenses the selected dispense time, waits the selected cycle wait time and restarts with the dispense time and so on. The CYCLE procedure can be stopped by pressing the PURGE button, FOOT SWITCH or an external START SIGNAL from the I/O-Port.


- **Set the Cycle wait time (cycl. wait time):**

The Cycle wait time can be changed with the UP / DOWN keys and can be set from 0,05 to 999,99 sec. If the Cycle mode is deactivated, the cycle wait time will be blanked in the display.

- **Cycle counter:**

The cycle counter counts dispensings after switching ON the VC1000-5/2. After power reset, the counter will be set to 000000.

- **Key lock:**

By pressing SAVE + PRG the same time, a key lock for the VC1000-5/2 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.