



GONANO
DOSIERTECHNIK GMBH

Operating Instructions Diaphragm Valve GV-1625



Dear Customer

Thank you for purchasing the GV-1625.

These operating instructions are intended for simple and safe operation of the valve.

Please read these instructions carefully before commissioning and also observe the safety instructions given.

Your Gonano-Dosiertechnik GmbH

1. Table of contents

2. Intended use	4
3. Specifications	4
4. Valve assembly	5
5. Operating principle	6
6. Wiring diagram	7
7. Commissioning.....	7
8. Maintenance.....	9
8.1 Cleaning.....	9
8.2 Disassemble valve.....	9
8.2 Assemble valve.....	9
9. Detailed drawings and dimensions	10
10. Exploded view	11
11. Parts and spare parts list	11

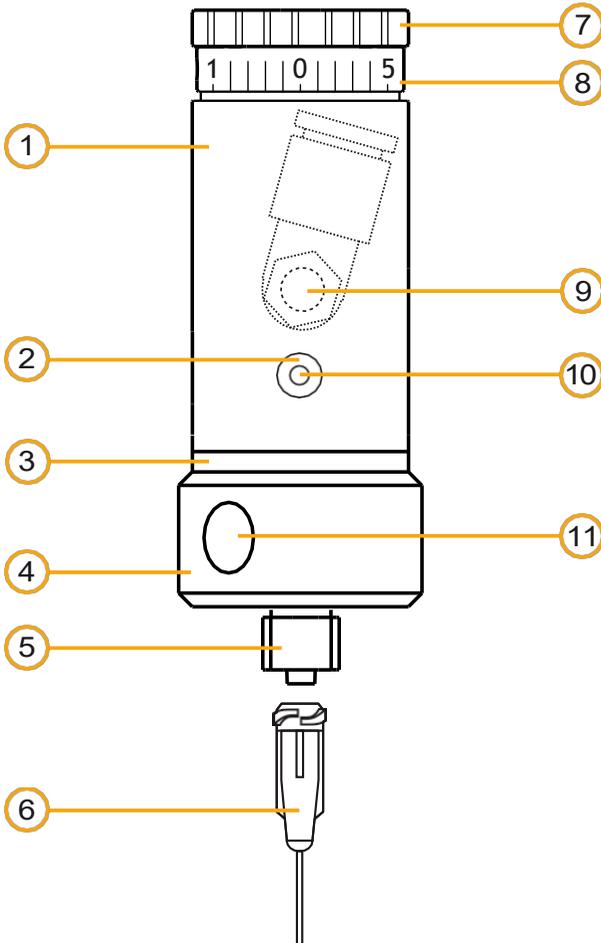
2. Intended use

The GV-1625 diaphragm valve is ideal for dispensing liquids in the lower and medium viscosity range, with the diaphragm separating the wetted parts from the control unit. These are optimal operating conditions for dispensing cyanoacrylates, UV adhesives, inks, electrolytes, glues, alcohols and other low-viscosity substances. The shot size can be finely adjusted via the adjusting screw at the top of the valve.

3. Specifications

GV-1625	
Operating pressure	4.0 - 6.0 bar
Max. Material pressure	5 bar
Switching frequency	500 cycles / min
Flow rate	300 ml / min (water at 2 bar)
Min. dosing quantity	0.001 ml (depending on material)
Principle	Diaphragm valve
Weight	approx. 87 g
Control unit material	Body: AL Piston : SUS303 Piston seal : NBR
Material Parts in contact with medium	Valve head : UHMW-PE (option : PTFE, PEEK, Acetal) Diaphragm : UHMW-PE
Connections	Control air inlet: M5 Material inlet: 1/8" Material outlet: Luer Lock

4. Valve assembly



- 1 Control unit
- 2 Mounting option (rear)
- 3 Diaphragm
- 4 Dosing head
- 5 Material outlet (Luer lock)
- 6 Dispensing needle

- 7 Flow rate setting
- 8 Scaling for adjustment
- 9 Control air inlet (M5)
- 10 Inspection hole for diaphragm
- 11 Material inlet G 1/8"

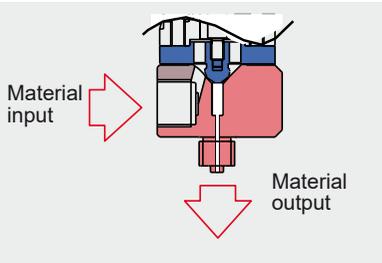
5. Operating principle

No dosing

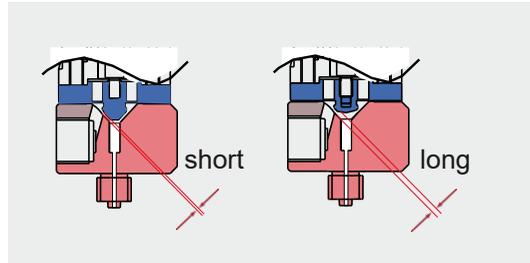


Dosing

Hub	short	lang
Dosing quantity	small	large
Direction of rotation		
		



In the normal state, without control air, the diaphragm is closed and no material is dispensed.



When the control air is applied, the diaphragm opens and material is dispensed.

Since there is no control air, the control parts of the valve are at rest and the diaphragm is closed. Therefore, the material path is closed and no material is dispensed.

As soon as the control air is applied to the valve, the diaphragm opens and opens the material path so that dispensing takes place.

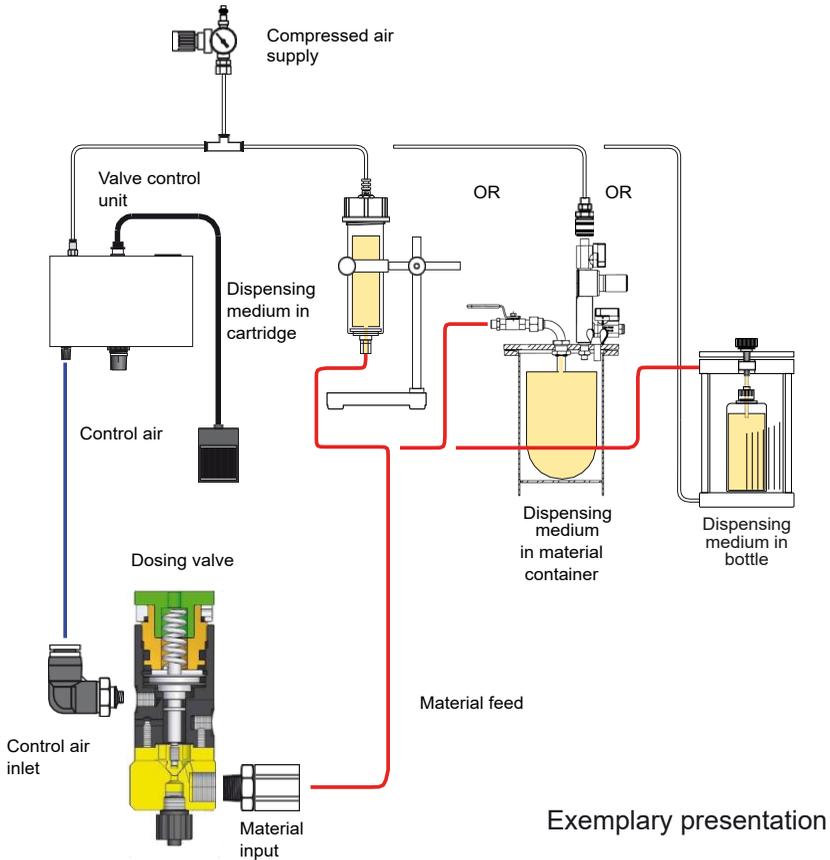
The dispensing quantity can be adjusted via the rear adjusting screw.

Please note:

The maximum stroke length is 0.6 mm (1 rotation).

No further change occurs if the adjusting screw is turned more than one turn.

6. Wiring diagram



7. Commissioning

1. Attach the valve to the mounting thread provided (M5*P0.8*D98) or use a valve clamping ring.
2. Connect the control pressure air hose to the controller and to the control air inlet of the metering valve. The control pressure for the valve must be min. 4.0 bar.
3. Connect the fitting for the material supply to the material inlet 1/8" NPT thread.



Attention:

Do not turn the fitting too deep into the valve.

4. Screw a suitable dispensing needle into the Luer Lock connection on the material outlet.
5. Set the material pressure as follows (but max. 5.0 bar). Set the material pressure to max. 0.5 bar if you want to dispense very thin material (such as water or solvent). Set the material pressure for highly viscous material to approx. 2.0 bar and adjust it according to the required dosage.
6. On delivery, the adjusting screw is set to position 3 (middle of full stroke). Increase or decrease the setting as needed. The max. stroke is 0.6mm. This corresponds to one complete turn of the adjusting screw.

Attention:



If you turn the adjusting screw counterclockwise 2 turns or more, the return spring loses its effect and the valve opens continuously. This means that material is constantly metered, even if there is no control pressure.

7. Adjust the settings of the valve, the material pressure and the controller so that the material comes out of the valve slowly.
(This prevents bubbles from forming in the dosing material during dosing).
8. Select the operating mode "Timer" or "Manual" on the controller depending on the desired dosage.
9. You can influence the dosing result via the following 4 possibilities:

Increase or decrease the material pressure	Pressure increase leads to an increase in the dispensing quantity Pressure reduction leads to a reduction in the dosing quantity
Dispensing needle diameter	Thin dispensing needle reduces the dosing quantity. Thick dispensing needle increases the dispensing quantity
Adjusting screw for stroke adjustment	High stroke setting increases the dosing quantity. Low stroke setting reduces the dosing quantity
Dispensing time	Long dispensing time increases the dosing quantity Short dosing time reduces the dispensing quantity

8. Maintenance

8.1 Cleaning

Clean the valve regularly, especially if you are dispensing material that tends to harden or can lead to possible damage to parts in contact with the material.

First empty the material container so that the material path in the valve is largely empty and air is still escaping.

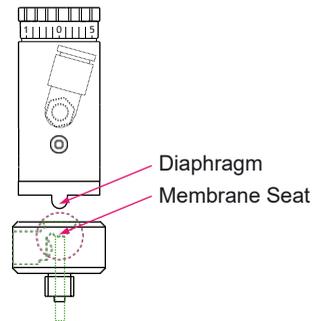
Clean the accessible parts in contact with the material with a suitable cleaning agent or rinse the valve with a suitable cleaning agent.

Then rinse the valve a few times alternately with air and a liquid cleaning agent.

8.2 Disassemble valve

If it is necessary to disassemble the valve for cleaning, use the "Exploded View & Parts List" according to chapter 10.

When cleaning the valve, be very careful especially when cleaning the valve piston and the valve seat. If the piston or the valve seat is damaged, the valve will leak and the parts will have to be replaced.



8.3 Assemble valve

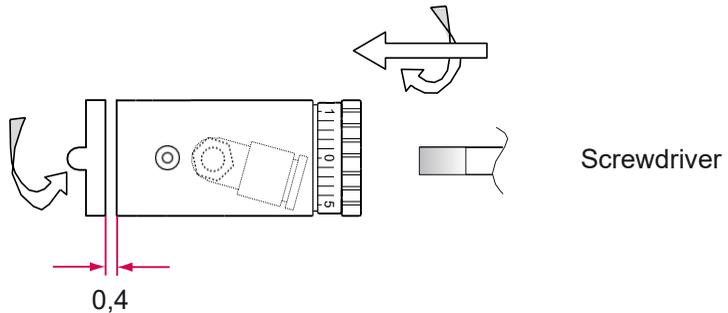
- Install diaphragm
- Turn the adjusting screw counterclockwise out of the valve
- Remove the valve head
- Remove the old membrane by turning it anticlockwise
- Carefully screw in the new membrane



Attention:

If the diaphragm is not screwed in properly, the valve is leaking.

After you have brought the new diaphragm to the correct distance (0.4 mm - see picture) to tighten the air cylinder, turn the diaphragm with a screwdriver to the necessary position according to the following picture.



To refit the valve head, fix it carefully with the Allen screw.

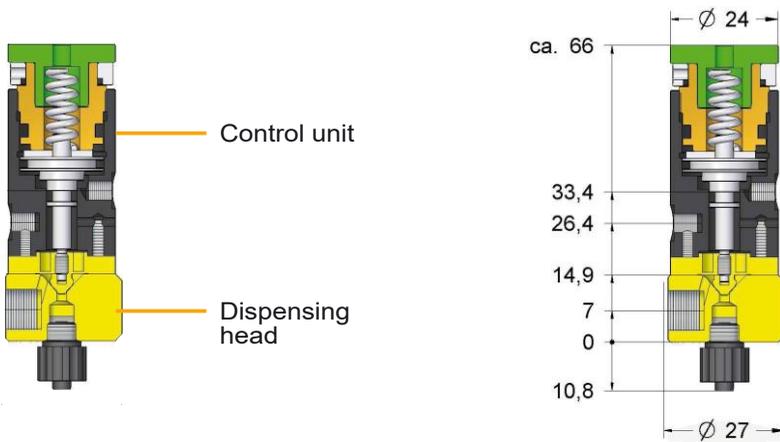
Screw the set screw back in when the valve is assembled. Then operate the valve again after it is completely assembled.



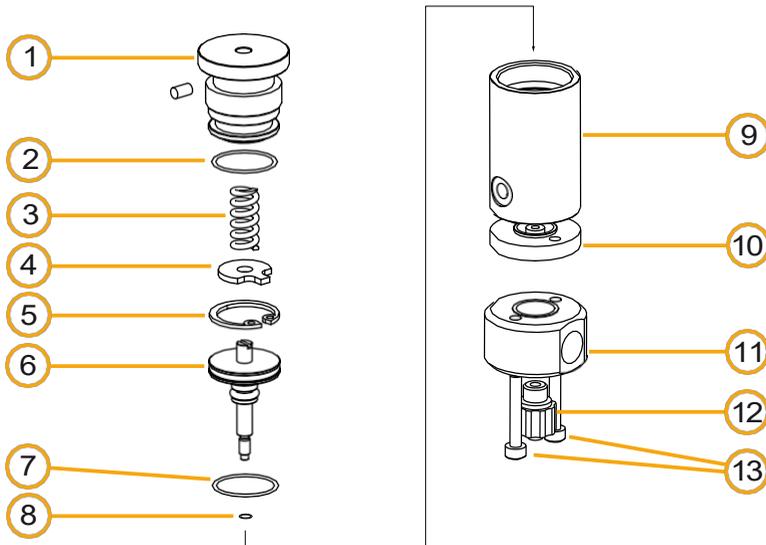
Attention:

The scale may now no longer show "0" exactly. In this case, calculate the setting relative to the closed position. This does not affect the operation.

10. Detailed drawings & dimensions



10. Exploded view



11. Parts and spare parts list

No. in fig.	GV-1625	Description	Pcs.
1	V-0003	Cylinder cap	1
2	V-0011	O-ring	1
3	V-0010	Spring	1
4	V-0007	Washer	1
5	V-0004	Seegerring	1
6	V-0006	Piston	1
7	V-0009	O-ring	1
8	V-0008	O-ring	1
9	V-0002	Cylinder	1
10	V-0005	Membrane	1
11	V-0001	Valve chamber Polystone®M	1
11	-	Valve chamber stainless steel	1
12	Luer-Lock-91	Luer lock adapter	1
13	V-0012	Screws (M3x20)	2
o. A.	V-0036	Compressed air fitting 90° M5	1



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