

DISPENSING VALVE

MODEL VDP100

◀INSTRUCTION MANUAL▶



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Read the manual before installation and maintenance

SECTION 1

GENERAL SAFETY WARNINGS

1. Equipment Misuse Hazards



Any misuse of the dispensing equipment or accessories such as over-pressurizing, modifying parts, using incompatible chemicals and fluids, or using worn or damaged parts, can cause item to rupture and result in fluid splashing in the eyes or on to the skin.

Never alter or modify any part of this equipment, doing so could cause it to malfunction.

Check all dispensing equipment regularly and repair, or replace worn or damaged parts immediately.

Always wear protective eyewear, gloves and clothing, as recommended by the material and solvent manufacturers.

Never exceed the maximum air inlet pressure of 7 bar (100 psi).

Never exceed the maximum material inlet pressure of 7 bar (1,100 psi).

Do not exceed the maximum working pressure of any component or accessory used in the system.

Be sure that all materials and solvents used are chemically compatible with the wetted parts. Always read the manufacturer's literature before using material or solvent in this pump.

2. Hose Safety



High pressure fluid in the hoses can be very dangerous. If the hose develops a leak, split or rupture due to any kind of wear, damage or misuse, the high pressure spray emitted from it can cause material to splash in the eyes or on the skin. Tighten all fluid connections securely before each use. High pressure fluid can dislodge a loose coupling or allow high pressure spray to be emitted from the coupling.

Never use a damaged hose. Before each use, check the entire hose for cuts, leaks, abrasion or damage or movement of the hose couplings. If any of these conditions exist, replace the hose immediately.

Do not try to re-couple high pressure hose or mend it with tape or any other device. A repaired hose cannot safely contain the high pressure fluid.

Handle and route hoses carefully, do not pull on hoses to move equipment. Do not use materials which are not chemically compatible with the hose.

SECTION 2

INTRODUCTION

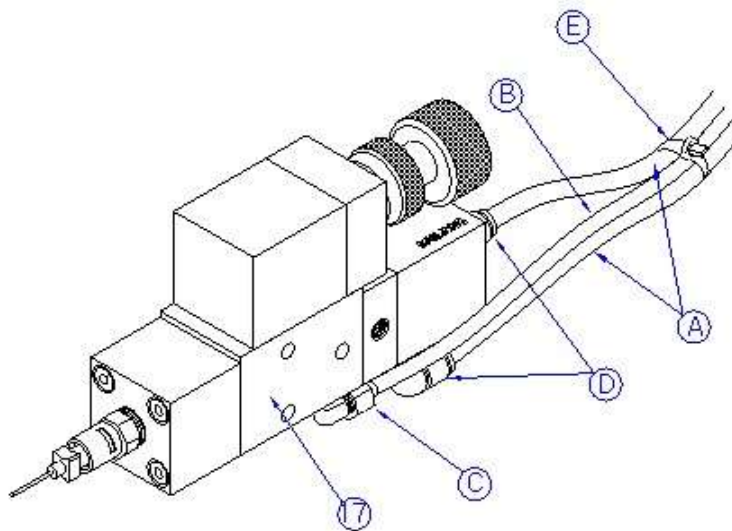
The VDP100 is an adjustable, pneumatically-operated, positive displacement valve designed for dispensing constant volume shots of low to medium viscosity materials within 1%, such as oil and grease. The VDP100 valve has a range up to 0.9cc.

The model VC1195N is a suitable 4-way valve controller for the VDP100 double acting metering valve.

4-Way Valve Operation

The valve is cycled by applying air pressure to the air ports. Low fluid pressure is required for low to medium viscosity materials.

Shot sizes may be fine-tuned by turning an adjustment control knob at the side of the valve.



A. Air Supply Line

B. Fluid Supply Line

C. Fluid Inlet Fitting

D. Air Inlet Fitting

E. Hose Tie

17. Valve Housing

SECTION 3**SPECIFICATION**

Operating Air Pressure	4 - 5 kgf/cm ² (56psi – 71psi)
Material Delivery Pressure	MAX 80kgf/cm (1137psi)
Valve Structure	Metering Type (0.1cc – 0.9cc)
Driving part material	Material Body : AL(hard coating) Drive Body : AL(hard coating) Packing : O-ring(Viton), PS ring
Connecting Ports	Operating Air Inlet : PT 1/8 Exhausting Outlet : PT 1/8 Material Inlet : PT 1/8 Needle Adapter : PT 1/4

SECTION 4

OPERATION

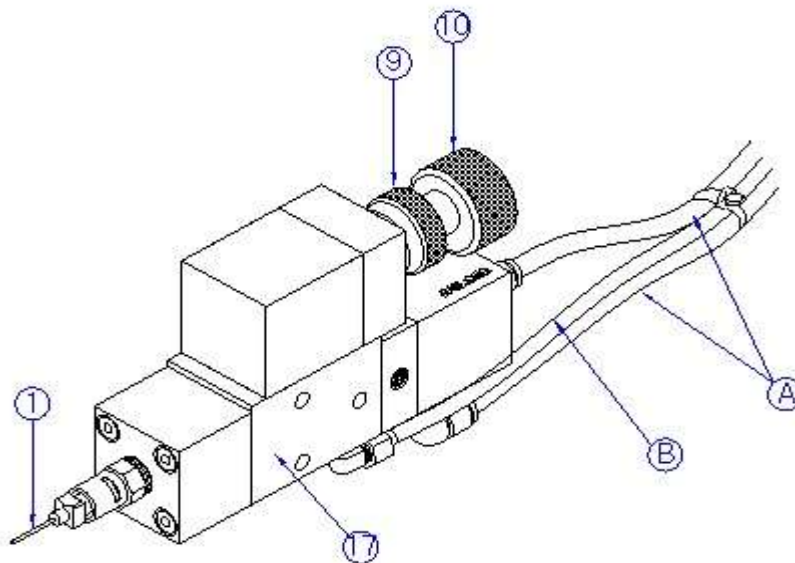
1. Commissioning the Valve

- a. Open the air line (A) and fluid line (B) of the dispensing valve.
- b. Keep cycling the machine until all air in the line is removed.
- c. Purge 2-3 shots to waste.

The valve is now primed and ready for use.

2. Operating the Valve

- a. Activate the controller to actuate the valve
- b. Adjust the Stopper as needed. Secure it in place with the nut afterwards.



1. Needle

9. Stopper nut

10. Stopper

17. Valve Housing

A. Air Line

B. Fluid Line

SECTION 5

DISASSEMBLY / REASSEMBLY



ISOLATE ALL AIR AND MATERIAL FEEDS FROM THE VALVE PRIOR TO SERVICING.

1. Disassembly

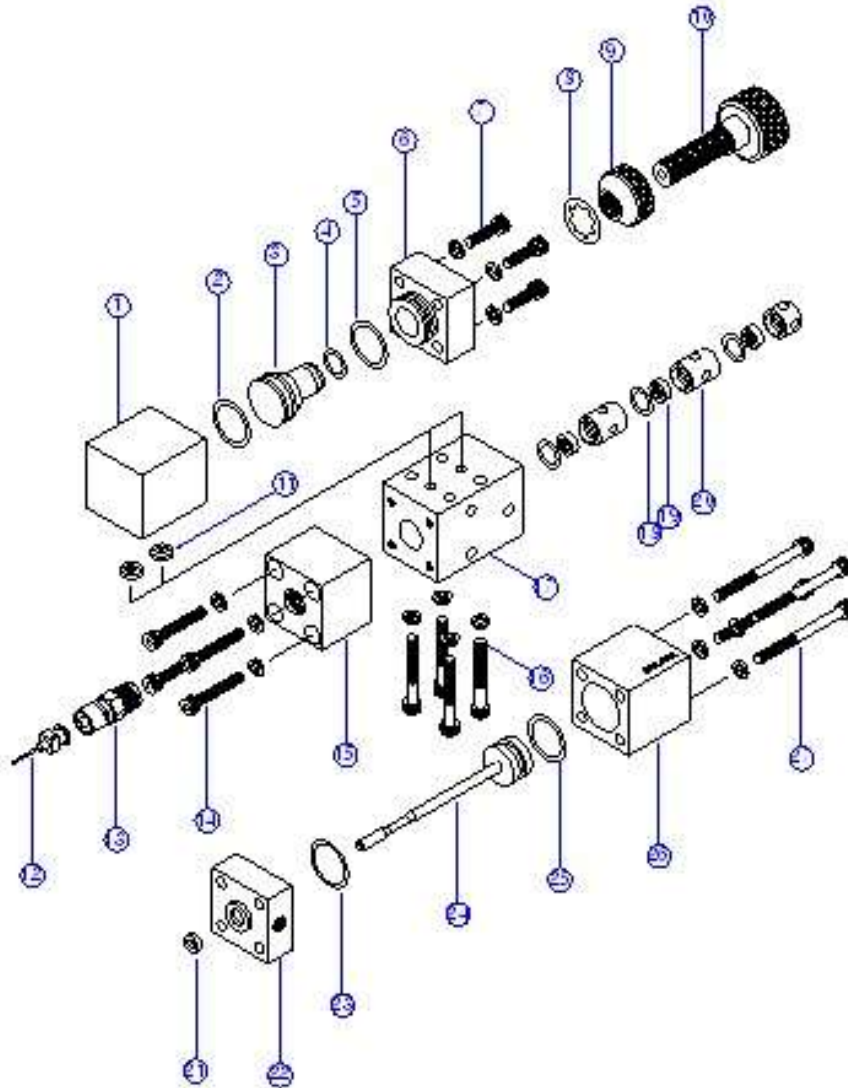
- a. Remove the four Bolts (16) from the Change Body (17).
- b. Remove the bolts (7), disassembling the Metering Body (1) and Metering Cap (6).
- c. Disassemble the Stopper (10), Stopper Lock Nut (9) and Piston (3) in this order.
- d. Disassemble the Needle (12), Needle Adapter(13) and Bolts(14).
- e. Disassemble the Low Base (15) and Change Body (17), then remove the Bushing (20).
- f. Unfasten the Bolts (27) from the Cylinder (26).
- g. Disassemble the Cylinder Cap (22) then remove the Shaft (24) from Cylinder (26).

2. Reassembly

- a. Lubricate the inside of the Change Body (17), install the Bushing (20).
- b. Lubricate the Shaft (24) and install into the Change Body (17).
- c. After placing the Shaft (24), install the bolt (14) of the Low Base (15) and the Bolt (27) of the Cylinder (26).
- d. Place the Piston (3) on the Metering Body (1), connecting with Metering Cap (6).
- e. Install the Stop Washer (8), Stopper Lock Nut (9) and Stopper (10) in this order.
- f. Connect the Change Body (17) and the Metering Body (1) with the Bolt (16).

SECTION 6

EXPLODED VIEW AND PARTS LIST



1. Metering Body (Aluminum)	2. O-ring	3. Piston(Bronze)
4. O-ring	5. O-ring	6. Metering Cap(Aluminum)
7. Bolt	8. Stopper Washer	9. Stopper Lock Nut(Stainless Steel)
10. Stopper (Stainless Steel)	11. O-ring(P5)	12. Needle
13. Needle Adapter	14. Bolt	15. Low Base(Aluminum)
16. Bolt	17. Change Body(Aluminum)	18. O-ring
19. Quid Ring	20. Busing(Bronze)	21. O-ring
22. Cylinder Cap(Aluminum)	23. O-ring(AN017)	24. Shaft(Stainless Steel)
25. Cylinder	26. Bolt	27. Bolt(M4*45)

SECTION 7

TROUBLESHOOTING

- **Shaft does not move**
 - Check power of the air supply line and other equipment.
 - Check for cured material at the valve outlet.

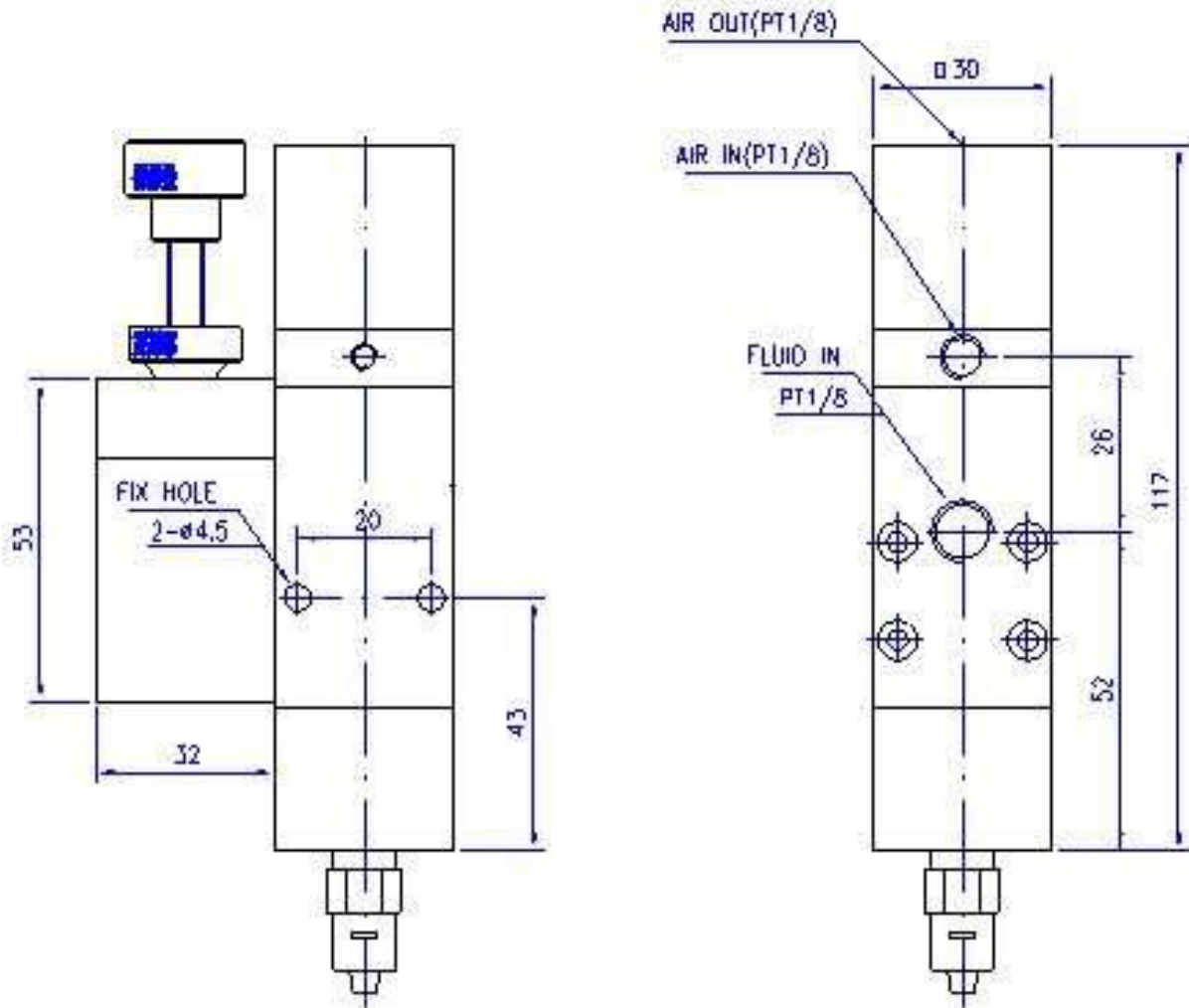
- **Material leaks**
 - If it leaks from the Needle (12), unfasten the Metering Cap (6) and clean the O-ring (2) on the Piston (3). If it happens again after cleaning, change the O-ring (2).
 - If the liquid leaks from the body of the Valve, clean the Bushing (20), Quid Ring (19) and O-ring (18). If the leak continues, replace all parts.
 - Replace the Shaft (24).

- **Valve does not dispense**
 - Check the Stopper (10) position and the actuation of the Shaft (24).
 - Check the material feed line.
 - Check the power of the air supply line and other equipment.

- **Air bubbles in fluid**
 - Turn the valve upside down (or at least 90° from the horizontal) and dispense 2-3 shots.
 - Check the material supply.

SECTION 8

DIMENSIONS





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