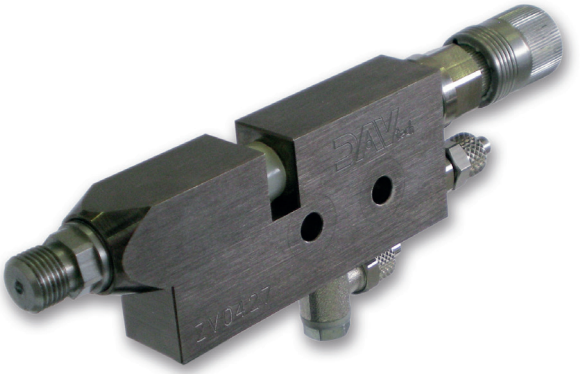
Installation and maintenance guide

DISPENSING VALVE **DA 400**



DAV TECH SRL
Via Ravizza, 30 - 36075 Montecchio Maggiore (VI) - ITALY
Tel. 0039 0444 574510 - Fax 0039 0444 574324
davtech@davtech.it - www.davtech.it

Index

1 INTRODUCTION

1.1 The manual

The user guide is the document that accompanies the valve from the time of its construction and throughout the period of use, it is therefore an integral part of the valve. It requires reading the manual before taking any action involving the valve. The manual must be readily available for use by staff and maintenance of the valve. The user and the attendant use are required to know the contents of this manual.

1.2 Warranty

The warranty is valid for a period of 12 months from the date of commissioning and no later than 15 months from the date delivery. The interventions carried out during the warranty period does not extend in any way the validity period of the guarantee. The seller is not liable for defects caused by normal wear of parts which by their nature are subject to wear.

1.3 Goods receiving

The original configuration of the valve must never be changed.
Upon receipt of the goods, check that:

- The packaging is intact
- The exact correspondence of the material ordered.

2 TECHNICAL DESCRIPTION

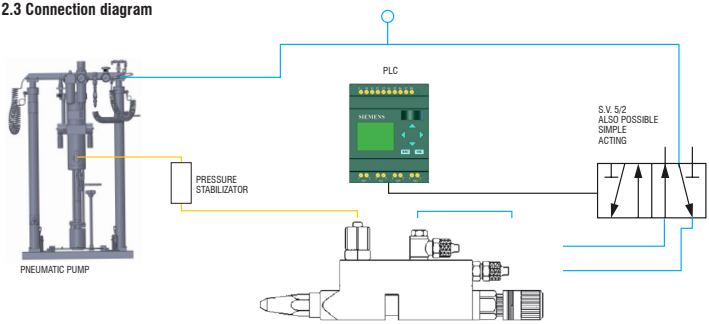
2.1 Valve Operation

The dispensing valve DA 400 is a pneumatic control component designed for precision dispense fluids low, medium or high viscosity. Its been at rest is normally closed (even in case of power failure pneumatic), being present inside a safety spring.
The pneumatic supply, at a pressure equal to or greater than 6 bar in its lower input (see diagram connection) will result in the withdrawal of the needle and the internal fluid flow.
The fluid flow can be modulated, as well as with the pressure to which is supplied, also by adjusting the opening of the needle through the adjustment on the top of the valve DA 400.

2.2 Technical Specification

Model	DA 400
Driving	Simple or double effect
Weight	260 g
Fluid pressure	Max 80 bar (double effect drive)
Driving air pressure	5 - 7 bar
Air inlet treading	M5
Fluid inlet treading	1/8 gas
Fluid outlet treading	Nozzle gas treaded, nozzle with bush, luer lock needles holder, stainless steel nozzles in various shape and dimensions
Cycle speed	Until a 200 cycles/min
Passage setting	Micrometric or with screw
Used material	Stainless steel, Widia, nickel and Teflon coated brass
Operating fluids	Silicone, liquid gaskets, greases, resin, oils and various low to high viscosity fluids

2.3 Connection diagram



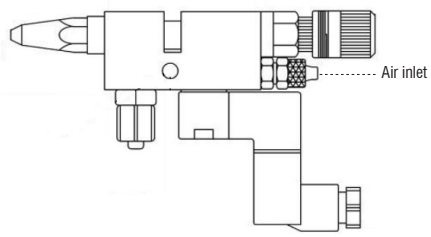
3 INSTALLATION

3.1 Mounting on the machine

The valve 400 can be mounted using the through holes present on its body. Download 3D models of the valve from our web-site to design brackets, fasteners, and check the dimensions.

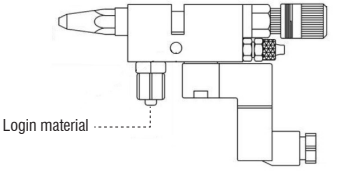
3.2 Drive the valve

The valve 400 can be used as a single-acting valve, air for opening and closing with the spring; or as a double-effect valve, air for opening and closing. The valve 400 must be connected to a solenoid valve 3/2 for the opening or to a solenoid valve 5/2 for opening and closing. The minimum operating pressure must be at least 6 bar.



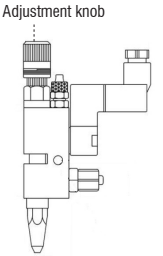
3.3 Fluid connection

The valve must be connected to a power supply unit (tank, pump or other). A hose must be connected to the connector in the lower part of the valve. If you work at pressures above 8 bar use fittings and pipes for high pressure .



3.4 Setting of the valve

The adjustment of the stroke of the plunger determines together with the pressure of the material and the opening time of the amount of fluid dispensed.



> Micrometric version:

To adjust the stroke to act on the adjustment knob on the upper part of the valve. Rotate clockwise to decrease the travel of the needle and consequently, the amount is fluid. Turn clockwise coming all the way the valve will be fully closed, so it will dispense fluid.

Rotate counterclockwise to increase the stroke of the plunger and therefore the amount of fluid.

Do not tighten too much so decided to adjust the needle to avoid damaging the nozzle and needle.

3.5 Setting of the material quantity

The adjustment of the quantity of material is determined by:

> The nozzle diameter (0.3 - 0.5 - 0.8 - 1.0 - 1.5)

> The pressure of the fluid

> Adjusting the stroke of the needle

Acting on these factors one can adjust the amount of desired material.

4 MAINTENANCE

4.1 Genaral rules

The valves DA 400, due to construction methods and materials used, are easy to maintain. Minimal maintenance, simple, accurate and allow a continuous operation lasting over time and adjust the valve, maintaining unchanged performance.

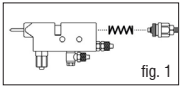


fig. 1

4.2 Valve disassembly

Before disassembling the valve:
1) Clean the outside
2) Release the pressure from the system
3) Loosen the adjustment lock with a key 13. Be careful because the spring is pushed (see Fig. 1)
4) Unscrew the nozzle with a 9 or a 10-key (see Fig. 2)
5) Remove the spring
6) Needle nose pliers, pull the needle narrow (see Fig. 3)
7) Remove the protective plastic sleeve with a screwdriver and unscrew and remove the sleeve from the valve body. (see Fig. 4)

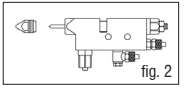


fig. 2

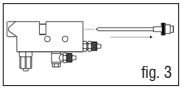


fig. 3

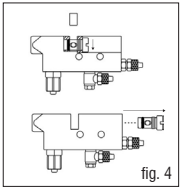


fig. 4

4.3 Valve Re-assembly

After it has been cleaned thoroughly and have replaced all the damaged parts (especially the seals and scraper mounted below the compass). Reassemble in the reverse order of disassembly with little lubrication of the parts and the seals with grease.

5 TROUBLESHOOTING

5.1 Problems and solutions

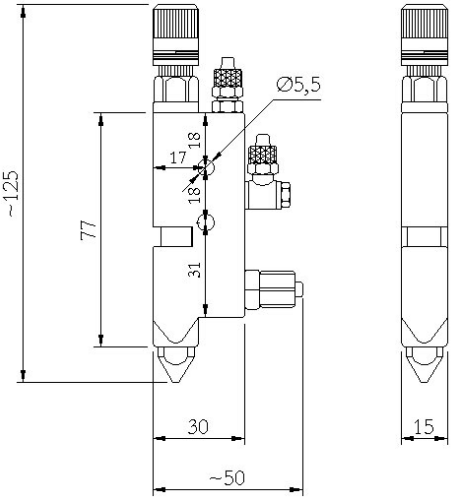
The search for defects in the operation should be performed only by personnel qualified respecting the safety rules in force.

PROBLEM	POSSIBLE CAUSE	SOLUTION
Nothing or little fluid	Valve does not receive the command	Check the control (solenoid) of valve. Perform a manual test.
	The pressure of the fluid is too low or absent.	Check the pressure of the power supply fluid and possibly increase it.
	The nozzle is clogged	Remove and clean the nozzle.
	The filter is dirty (if any)	Clean or replace the filter.
	A tube is bent	Check the fluid supply pipe
	Actuating pressure is not sufficient	Verify the actuation pressure (6 bar)
	Residual fluid in the system to clean	Remove any solid particles
Flow of fluid compass	Moulded gasket damaged	Replace the molded seal
The nozzle drips also if the valve is not pilot	Presence of dirt in the nozzle	Clean or replace nozzle
The valve opens late	Pressure drive is not enough	Check the operating pressure (6 bar)
	O-ring on the piston damaged	Replace O-ring on the piston pneumatic

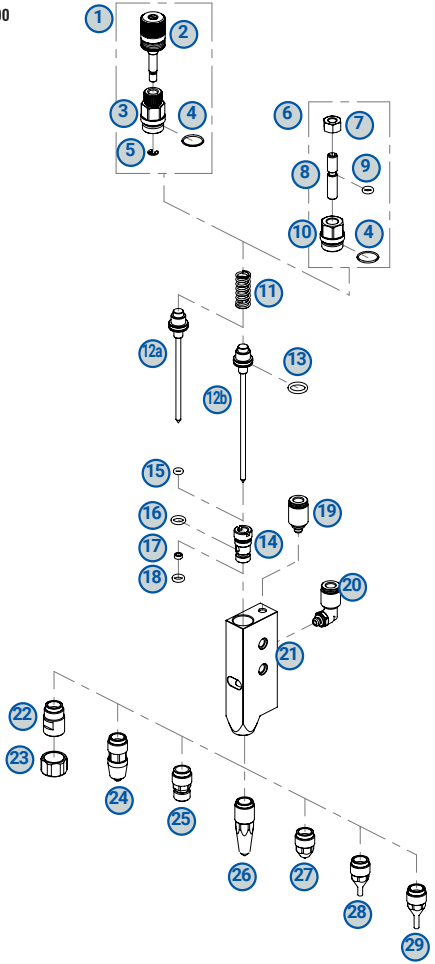
6 SPARE PARTS AND DIMENSIONS

6.1 Dimensions DA 400

The sizes can change depending on the type of nozzle and flow control selection.
Download 3D models from our web-site.
The size may vary depending on the nozzle used.



6.2 Spare parts DA 400



6.3 Spare parts list DA 400

Ref.	Description		Code	Additional description
1	MICROMETRIC REGULATION COMPLETE		0003.32500007	
2	MICROMETRIC REGULATION TRIGGER		0003.32500008	
3	MICROMETRIC REGULATION BLOCK		0003.32500009	
4	ORING		0003.100X10E	
5	REGULATION SEEGER		0003.200321	
6	SCREW REGULATION COMPLETE		0003.32500002	
7	SCREW REGULATION GRUB		0003.0006010	
8	SCREW REGULATION PIN		0003.32500003	
9	ORING		0003.000007E	
10	SCREW REGULATION BLOCK		0003.32500004	
11	SPRING		0003.000400	
12a	KV NEEDLE		0003.84230103	
12b	LV NEEDLE		0003.84230203	
13	ORING		0003.000011E	
14	BUSH		0003.83100104	
15	ORING		0003.000006E	
16	ORING		0003.000010E	
17	VARISEAL		0003.30790T	
18	ORING		0003.000008E	
19	AIR FITTING		0003.RRAZ0252	
20	AIR FITTING 90°		0003.RRBF0252	
21	VALVE BODY		0003.000050C	
22	MG NOZZLE		0003.85800101	
23	MG NOZZLE COLLAR		0003.85800102	
24	LUER LOCK NOZZLE		0003.85100150	
25	M 1/8" NOZZLE		0003.85100180	
26	LV NOZZLE			
	LV NOZZLE 03	26.1	0003.85310003	LV NOZZLE 0,3 MM
	LV NOZZLE 05	26.2	0003.85310005	LV NOZZLE 0,5 MM
	LV NOZZLE 08	26.3	0003.85310008	LV NOZZLE 0,8 MM
	LV NOZZLE 10	26.4	0003.85310010	LV NOZZLE 1,0 MM
	LV NOZZLE 15	26.5	0003.85310015	LV NOZZLE 1,5 MM
27	KV NOZZLE			
	KV NOZZLE 03	27.1	0003.85510003	KV NOZZLE 0,3 MM
	KV NOZZLE 05	27.2	0003.85510005	KV NOZZLE 0,5 MM
	KV NOZZLE 08	27.3	0003.85510008	KV NOZZLE 0,8 MM
	KV NOZZLE 10	27.4	0003.85510010	KV NOZZLE 1,0 MM
	KV NOZZLE 15	27.5	0003.85510015	KV NOZZLE 1,5 MM
28	KL NOZZLE 7 MM			
	KL NOZZLE 05	28.1	0003.85510105	KL NOZZLE 0,5 MM
	KL NOZZLE 08	28.2	0003.85510108	KL NOZZLE 0,8 MM
	KL NOZZLE 10	28.3	0003.85510110	KL NOZZLE 1,0 MM
	KL NOZZLE 15	28.4	0003.85510115	KL NOZZLE 1,5 MM
29	KL NOZZLE 10 MM			
	KL NOZZLE 05	29.1	0003.85510205	KL NOZZLE 0,5 MM
	KL NOZZLE 08	29.2	0003.85510208	KL NOZZLE 0,8 MM
	KL NOZZLE 10	29.3	0003.85510210	KL NOZZLE 1,0 MM
	KL NOZZLE 15	29.4	0003.85510215	KL NOZZLE 1,5 MM
	KIT GUARNIZIONI COMPLETO		GASKETKIT-DA400-DA400EV	

DAV TECH SRL Via Ravizza, 30 - 36075 Montecchio Maggiore (VI) - ITALY - Tel. 0039 0444 574510 - Fax 0039 0444 574324
davtech@davtech.it - www.davtech.it