Installation and maintenance guide

SPRAY VALVE **DAS 90**

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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

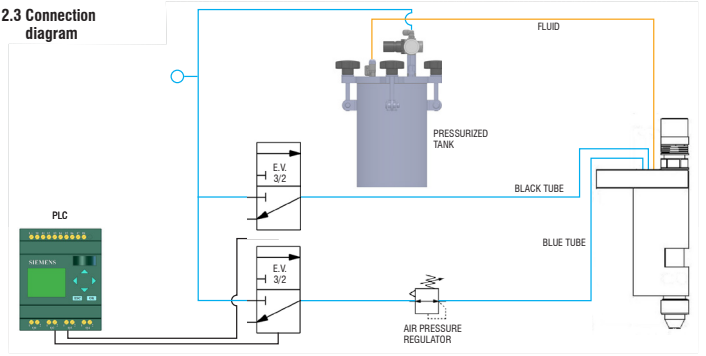
2.1 Valve Operation

The DAS 90 spray valve has been designed and built to be used in different applications. Its design and its versatility make it suitable for any application requiring the use of spraying valves. The DAS 90 valve is a low and medium viscosity fluid dispenser. The valve is pneumatically controlled by external solenoid valves. Sturdy and compact, it has the particularity of having nozzle and hood covered in anti-stick material. With appropriate gaskets it can be used for spraying solvent or acetate based adhesives.

2.2 Technical Specification

Model	DAS 90
Drive	Single acting
Weight	310g
Max fluid pressure	Max 10 bar
Actuating air pressure	5 - 7 bar
Atomizing air pressure	from 0.1 to 3 bar
Type inlet air	6x4mm Tube
Type inlet fluid	6x4mm Tube
Air cap	For round spray
Speed	Up to 200 cycles / min
Adjusting the passage	Micrometric
Used materials	Stainless steel, nickel-plated brass
Fluids to be dispensed	Oil, lubricants, water based paints, primers, inks (need to be tested)

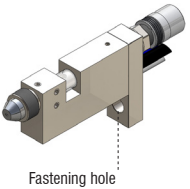
2.3 Connection diagram



3 INSTALLATION

3.1 Mounting in the machine

The DAS 90 valve must be mounted using the fixing plate on the valve.
A good valve fixing on the machine must be guaranteed, stable without vibration and with good accessibility for adjustment, cleaning and maintenance.



3.2 Drive the valve

The DAS 90 spray valve must be operated by two separate solenoid valves; a 3/2 way for the drive (black tube) and a 3/2 way for the spraying (blue tube).
The driving pressure must be between 5 and 7 bar.
The spraying between 0,1…2.5 bar.
The atomizing air must be activated before and closed after the operating air, this to prevent the fluid from dirtying the nozzle and the cap.

Spraying air time

Opening air time

3.3 Fluid connections

The valve must be connected to a fluid supply unit (pressure drum or diaphragm pump).
The material pipe is the clear 6x4 diameter.

3.4 Setting of the dispensed shot

Adjusting the needle stroke determines the amount of fluid dispensed.
To adjust the stroke, use the adjustment knob on the upper part of the valve.
Turn clockwise to decrease the needle stroke and consequently the adhesive amount.
Turning clockwise and coming to the end of the stroke, the valve will be completely closed, so it will not dispense fluid.
Turn counterclockwise to increase the needle stroke and then the amount of fluid.

Do not tighten the needle setting too firmly to avoid damaging the needle and nozzle.

3.5 Amount of the shot

Adjusting the amount of material (fluid) is determined by:

- **Diameter of the nozzle (0.5 - 0.8 - 1.0 - 1.5)**
- **Fluid pressure**
- **Needle stroke adjustment**

Acting on these factors, you can adjust the amount of material you want.

4 MAINTENANCE

4.1 General rules

The DAS 90 Spray Valve, thanks to the construction methods and materials used, is easy to maintain.
A minimum, simple, accurate and constant maintenance allow a long-lasting and regular operation of the valve, keeneedleg its performance unchanged.

Do not use metallic, pointed or sharp objects for cleaning, use only soft brushes or cotton cloths.

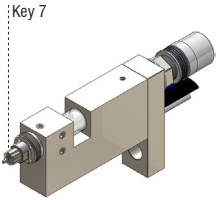
4.2 Cleaning and replacing the nozzle

Before disassembling and cleaning the nozzle the following operations must be performed:

1) Wash the valve
2) Release the pressure from the system
3) Unscrew the ring nut and remove the air cap
4) Loosen the needle adjustment by turning the grain or knob counter-clockwise.
5) Unscrew the nozzle (Pos.17) with a 7 wrench

After removing the nozzle:

1) Put the nozzle under running water and then blow carefully with compressed air and clean the nozzle hole.
2) Repeat the operation until all the impurities present are removed.
3) Screw the nozzle back (pos. 17) with a 7 wrench.



4.3 Valve Disassembly

Before disassembling the valve:

1) Clean the valve
2) Release the pressure from the system
3) Unscrew the ring nut (Pos.19) and remove the air cap (Pos.18) (fig.1)
4) Unscrew the nozzle (Pos.17) with a 7 wrench
5) Unscrew the adjustment block (Pos.1) with a 13 mm wrench.
Take care because the spring is pushing.
6) Remove the spring (Pos.2)
7) Carefully remove the fixing plate (Pos.10)
complete with pipe holder and pipes. (fig 2)
8) With a narrow nose pliers pull off the needle (Pos.3)
9) Unscrew the compass (Pos.9) with a screwdriver and remove it from the body (fig.3)

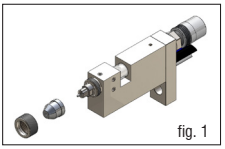


fig. 1

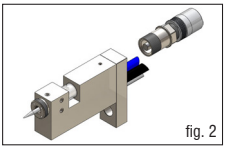


fig. 2

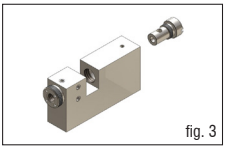


fig. 3

If necessary, remove the needle (Pos.9):

⚠ The measurement between the tip of the needle and the needle ring must be 51.4 mm

1) Check the wear of the O-ring (Pos.4) and replace it if necessary
2) Lubricate the new O-ring before mounting it.

4.4 Valve Re-assembly

After having cleaned it thoroughly and replaced all the damaged parts (above all the seals and the scraper mounted under the compass). Reassemble in the reverse order of disassembly by lightly lubricating the parts and gaskets with mounting 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 valve (solenoid valve) control. Perform a manual test.
	The pressure of the fluid is too low or absent.	Check the fluid supply pressure and, if necessary, increase it.
	The nozzle is clogged	Unscrew and clean the nozzle.
	The filter is dirty (if present)	Wash or replace the filter.
	A tube is bent	Check the status of the fluid supply pipes
	Insufficient drive pressure	Check drive pressure (4…6 bar)
	Fluid residues present in the system	Clean the system with water
Fluid out of the compass	O-ring or shaped gasket on the damaged valve body	Replace O-ring or shaped gasket
Fluid flow between valve body and fixing plate	O-ring on the damaged dam reservoir	Replace the O-ring of the hub
The nozzle dries even if the valve is not piloted	Presence of dirt in the nozzle	Clean or replace the nozzle.
The valve opens late	Insufficient drive pressure	Check drive pressure (4…6 bar)
	O-ring on the damaged spike	Replace the O-ring on the needle
Splashed irregularly	Insufficient spraying pressure	Check spraying pressure (0,5…2,5 bar)
	Dirt in the air cap	Clean the air cap

5.2 Spray setting

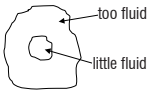
Dirty air cap: fluid flows from the nozzle

> Clean the air cap and the nozzle
> Decrease the atomizing air

Too fluid

> Decrease the fluid pressure

Round cap



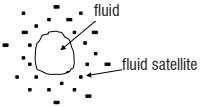
Irregular application: Insufficient misting air

> Increase the atomizing air pressure

Poor amount of fluid

> Increase the fluid pressure

Round cap



With: Sufficient amount of fluid

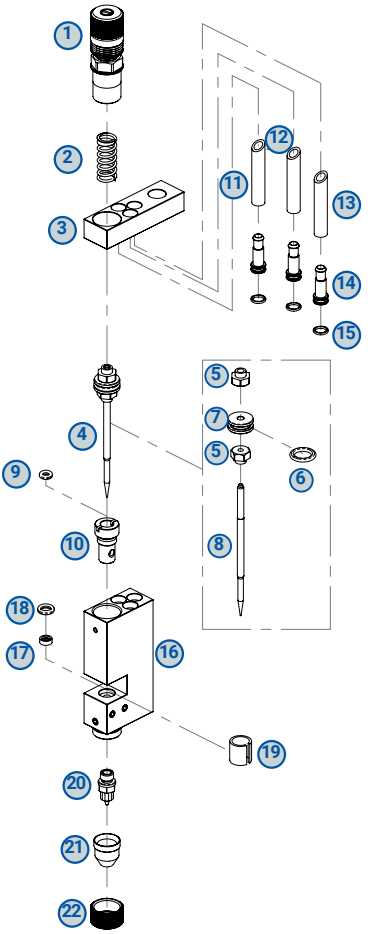
> Right Valve distance from the piece
> Impurities free fluid
> Right pressure regulation

The fan should look like this:

Round cap

6 SPARE PARTS DAS 90 AND DIMENSIONS

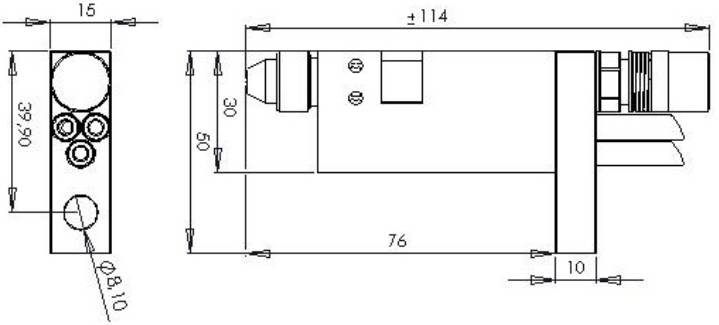
6.1 Spare parts DAS 90



6.2 Spare parts list DAS 90

Ref.	Descrizione		Codice
1	MICROMETRIC REGULATION COMPLETE		0003.011003
2	PRESSURE SPRING		0003.000400
3	FIXING PLATE		0003.01910
4	NEEDLE COMPLETE		
	NEEDLE COMPLETE 0,5 MM	4.1	0003.01705
	NEEDLE COMPLETE 0,8 MM	4.2	0003.01708
	NEEDLE COMPLETE 1,0 MM	4.3	0003.01710
	NEEDLE COMPLETE 1,5 MM	4.4	0003.01715
5	NEEDLE NUT		0003.0903040
6	O-RING		0003.000011E
7	PISTON		0003.01830
8	BASIC NEEDLE		
	BASIC NEEDLE 0,5 MM	8.1	0003.02705
	BASIC NEEDLE 0,8 MM	8.2	0003.02708
	BASIC NEEDLE 1,0 MM	8.3	0003.02710
	BASIC NEEDLE 1,5 MM	8.4	0003.02715
9	O-RING		0003.000006E
10	BUSH		0003.01610
11	BLUE HOSE (ATOMIZATION AIR)		0003.010407
12	CLEAR HOSE (FLUID)		0003.050407
13	BLACK HOSE (COMMAND AIR)		0003.140407
14	HOSE HOLDER		0003.011110
15	O-RING		0003.050X10E
16	BODY VALVE		0003.01411
17	VARISEAL		0003.30400T
18	O-RING		0003.000008E
19	PLASTIC COLLAR		0003.36000029
20	NOZZLE		
	NOZZLE 0,5 MM	20.1	0003.01205
	NOZZLE 0,8 MM	20.2	0003.01208
	NOZZLE 1,0 MM	20.3	0003.01210
	NOZZLE 1,5 MM	20.4	0003.01215
21	AIR CAP		
	AIR CAP 0,5 MM	21.1	0003.01105
	AIR CAP 0,8 - 1,0 MM	21.2	0003.01108
	AIR CAP 1,5 MM	21.3	0003.01115
22	COLLAR		0003.01310
	GASKET KIT COMPLETE		GASKETKIT-DAS90

6.3 Overall dimensions



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