

# Installation and maintenance guide



## DISPENSING VALVE DA 400 MINI PEEK



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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.

Reproduction of any part of this manual, in any form, without the express written permission of DAV Tech. The text and illustrations in this manual are not binding, the DAV tech reserves the right, at any time and without notice, the right to make any changes to improve the product or for reasons of character manufacturing or commercial.

### 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 DA 400 MINI PEEK dispensing valve is a pneumatic control component designed for precision dosing of low, medium or high viscosity fluids.

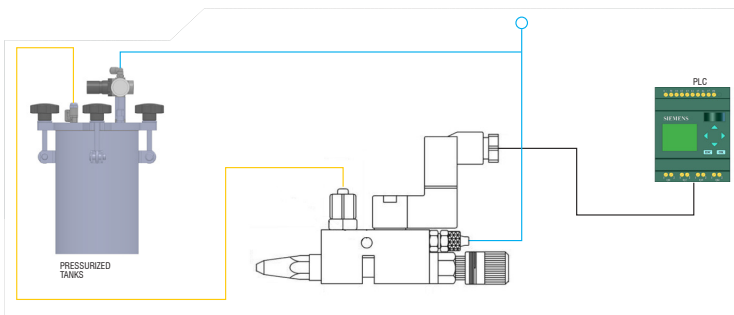
Its rest state is normally closed (even if there is no pneumatic supply), as there is a safety spring inside it. Pneumatic supply, at a pressure equal to or greater than 6 bar, and the 24 VDC current of the solenoid valve, will lead to the retraction of the inner needle and fluid flow.

Fluid flow can be modulated, as well as with the pressure to which it is supplied, by adjusting the needle opening by adjusting the upper part of the DA 400 MINI PEEK valve.

### 2.2 Technical Specification

|                                 |                                   |
|---------------------------------|-----------------------------------|
| <b>Model</b>                    | DA 400 MINI PEEK                  |
| <b>Operation mode</b>           | Double Acting                     |
| <b>Weight</b>                   | 230 g                             |
| <b>Max fluid pressure inlet</b> | Max 50 bar                        |
| <b>Actuating air pressure</b>   | 6 - 7 bar                         |
| <b>Air inlet thread</b>         | M5                                |
| <b>Fluid inlet thread</b>       | 1/8 gas                           |
| <b>Outlet thread</b>            | Luer lock nozzle                  |
| <b>Speed</b>                    | Up to 300 cycles / min            |
| <b>Adjusting the passage</b>    | Micrometric                       |
| <b>Used materials</b>           | Peek, Viton, PTFE                 |
| <b>Fluids to be dispensed</b>   | Anaerobic glue, Aggressive fluids |

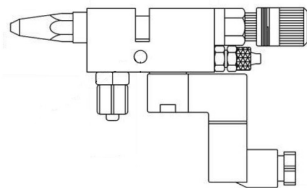
## 2.3 Connection diagram



## 3 INSTALLATION

### 3.1 Mounting on the machine

The DA 400 MINI PEEK valve can be mounted using the through holes on its body. If necessary, contact us and we will be happy to provide you with the 3d models of the valve to design brackets, fasteners and check the dimensions.



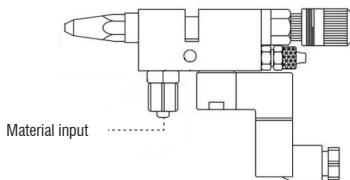
### 3.2 Drive the valve

The DA 400 MINI PEEK valve works at double acting with the solenoid valve 5/2 mounted directly on board. The solenoid valve is always kept powered at a pressure of 6 bar upwards and commanded by giving and removing 24 VDC power.

### 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 fitting located at the bottom of the valve.

When working at pressures above 8 bar, use high pressure connections and tubes.



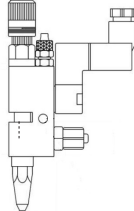
### 3.4 Setting of the valve

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

#### > Micrometric adjustment version:

To adjust the travel, act on the adjustment knob at the top of the valve. Turn clockwise to decrease spike stroke and consequently the amount of product. Turning clockwise, reaching the end of the stroke the valve will be fully closed, so it will not flow fluid. Rotate counterclockwise to increase the stroke and then the amount of fluid.

Adjustment knob



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

### 3.5 Setting of the material quantity

Adjusting the amount of material is determined by:

> **Nozzle diameter (0.3 - 0.5 - 0.8 - 1.0 - 1.5)**

> **Fluid pressure**

> **Adjusting the stroke of the needle**

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

## 4 MAINTENANCE

### 4.1 General rules

The 400 MINI PEEK valves, thanks to the construction methods and the materials used, are easy to maintain. Minimal, simple, accurate, and constant maintenance allow for long-lasting and smooth operation in valve time, while maintaining performance unchanged.

### 4.2 Valve Disassembly

Before disassembling the valve:

- 1) Clean it externally
- 2) Drain the pressure from the system
- 3) Remove the solenoid valve, taking care not to lose the 2 O-rings between valve body and solenoid valve
- 4) Unscrew the adjustment block with a wrench 13. Be careful because the spring is in thrust (see figure 1)
- 5) Unscrew the nozzle with a 9-key or 10-key (see figure 2)
- 6) Remove the spring
- 7) With a small pinch clamp, remove the needle (see figure 3)
- 8) Remove the plastic cover of the compass and with a screwdriver, unscrew and remove the compass from the valve body. (see Figure 4)

### 4.3 Re-assembly

After having thoroughly cleaned and replaced all the damaged parts (especially the gaskets and scraper mounted under the compass), reassemble following the reverse order of the disassembly by slightly lubricating the parts and gaskets with the fitting grease.

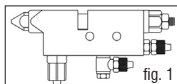


fig. 1

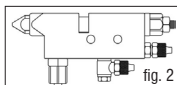


fig. 2

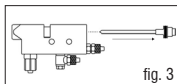


fig. 3

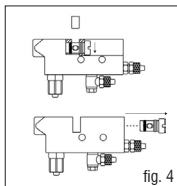


fig. 4

## 5 TROUBLESHOOTING

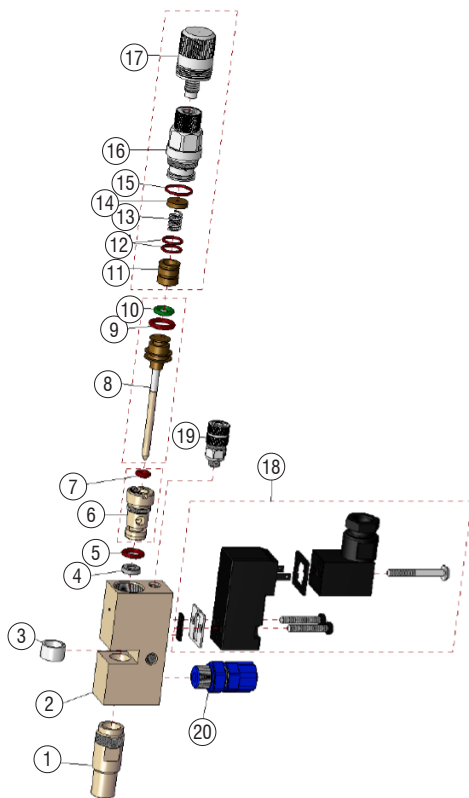
### 5.1 Problems and solutions

The search for any malfunctions must be carried out by qualified personnel only, subject to the relevant safety regulations.

| 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  |
| Flow of fluid compass                           | Actuating pressure is not sufficient            | Verify the actuation pressure (6 bar)                                  |
|   | Residual fluid in the system to clean           | Remove any solid particles   |
|   | 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 Spare parts DA 400 MINI PEEK



## 6.2 Spare parts list DA 400 MINI PEEK

| N.                      | CODE   | DESCRIPTION                             | PZ |
|-------------------------|--------|---|----|
| 1                       |        | Nozzle                                  |    |
|                         | 211606 | 1.1 LV Nozzle 0.4 mm                    | 1  |
|                         | 212235 | 1.2 LV Nozzle 0.5 mm                    | 1  |
|                         | 211709 | 1.3 Luer-Lock Nozzle                    | 1  |
|                         | 213063 | 1.4 M 1/8" Nozzle                       | 1  |
| 2                       | 511117 | Main Body, PEEK                         | 1  |
| 3                       | 640101 | Plastic collar                          | 1  |
| 4                       | 640004 | Gasket                                  | 1  |
| 5                       | 640021 | O-Ring                                  | 1  |
| 6                       | 810165 | Bush                                    | 1  |
| 7                       | 640026 | O-Ring                                  | 1  |
| 8                       |        | Needle                                  |    |
|                         | 111938 | 9.1 LV Needle 0.4 mm PEEK               | 1  |
|                         | 112654 | 9.2 LV Needle 0.5 mm PEEK               | 1  |
|                         | 112021 | 9.3 KV Needle 0.2/0.3 mm PEEK/Luer Lock | 1  |
|                         | 112652 | 9.4 STD Needle / 0.5 mm PEEK            | 1  |
| 9                       | 640001 | O-Ring                                  | 1  |
| 10                      | 640002 | O-Ring                                  | 1  |
| 11                      | 710016 | Regulation bush                         | 1  |
| 12                      | 640019 | O-Ring                                  | 2  |
| 13                      | 820023 | Pressure spring                         | 1  |
| 14                      | 930010 | Pressure spring                         | 1  |
| 15                      | 640052 | O-Ring                                  | 1  |
| 16                      | 220132 | Regulation body                         | 1  |
| 17                      | 610092 | Regulation nut                          | 1  |
| 18                      | 150104 | Solenoid valve 3/2 vie, complete        | 1  |
| 19                      | 220089 | Air fitting                             | 1  |
| 20                      | 220022 | Fluid plastic fitting                   | 1  |
| GASKETKIT-DA400MINIPEEK |        | Gasket kit complete                     |    |

### 6.3 Overall dimensions

The size varies depending on the nozzle and the type of flow regulation you choose. Dimensions can change depending on the nozzle you choose. Download 3D models from our web-site.

