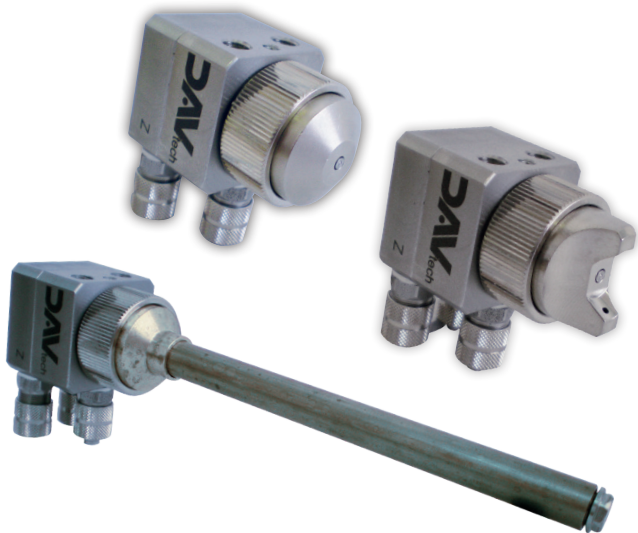


# Installation and maintenance guide

**DAV**tech

## SPRAY VALVE DAS 30



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### DAV TECH SRL

Via Ravizza, 30 - 36075 Montecchio Maggiore (VI) - ITALY  
Tel. 0039 0444 574510 - Fax 0039 0444 574324

[davtech@davtech.it](mailto:davtech@davtech.it) - [www.davtech.it](http://www.davtech.it)

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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.

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### 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 micro-spray valve DAS 30 is designed to obtain micro-spraying of various types of fluid.

The miniaturized size is perfect for compact layouts, and its design and strength make it ideal for who is looking for a real cost-effective solution.

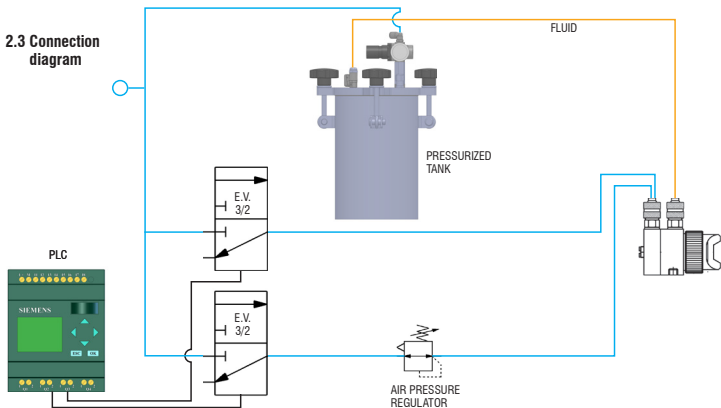
The spray valve DAS 30 can be equipped with various kind of extensions, to fit perfectly any different application.

### 2.2 Technical Specification

<b>Model</b>	DAS 30
<b>Drive</b>	Single acting
<b>Weight</b>	140g
<b>Dimensions</b>	40x25x25 mm
<b>Max fluid pressure</b>	Max 3 bar - HP version until 12 bar
<b>Actuating air pressure</b>	5-6 bar
<b>Atomizing air pressure</b>	0,1 - 6 bar
<b>Type inlet air</b>	Tube 6x4mm
<b>Type inlet fluid</b>	Tube 6x4mm
<b>Air cap</b>	For round or flat spray (various angle)
<b>Speed</b>	Until 200 cycle/min
<b>Adjusting</b>	Micrometric - Optionally available with opening sensor
<b>Used materials</b>	Stainless steel
<b>Fluids to be dispensed</b>	Oil, lubricants, release agents, thread-lockers (PEEK Version) etc

# Installation and maintenance guide

## 2.3 Connection diagram



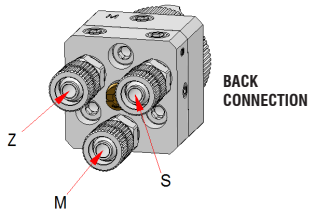
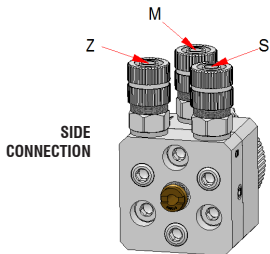
## 3 INSTALLATION

### 3.1 Mounting in the machine

The valve can be mounted with any orientation, using the 2 M5 holes on its body. The distance between the valve and the point of application results in different results. It is important that the valve is protected from dirt, shocks and vibrations, which could impair its smooth operation. The inputs on the valve are marked with letters: M Fluid inlet (max. 3 bar) - Z Atomizing air (0.1 - 6 bar) - S Air command (5-6 bar).

The inputs can be moved to the back of the valve, replacing the grains (see exploded 12) assembled and going to fix them on the inputs left free with an anaerobic sealant.

Fastening hole

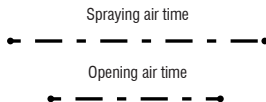


### 3.2 Drive the valve

The DAS 30 spray valve must be actuated by two separate solenoid valves; A 3/2 way to drive and a 3/2 way to spray. The drive pressure must be between 5 and 6 bar.

Spraying pressure between 0.1 ... 6 bar. To achieve an ideal result, the spraying air must be activated first and closed after the drive air, to prevent dripping.

It is possible, but not advised, to control the air for opening and additional air through the same solenoid valve.



### 3.3 Fluid connection

The valve must be connected to a fluid supply unit (pressure tank or diaphragm pump).

### 3.4 Setting of the dispensed shot

The stroke stroke can be adjusted by acting on the micrometric screw located on the back of the valve body. Each screw stroke corresponds to a 0.025 mm movement of the pin stop block. It is important not to reduce the passage excessively by forcing the stop block to prevent needle and nozzle damage. By acting anti-clockwise on the block, the stroke of the needle (and thus the dosed amount) increases, acting in the opposite direction the dispensed quantity decreases.



**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(0.3 - 0.5 - 0.8 - 1.0 - 1.5 - 2 - 2,5 mm)**
- > **Fluid pressure**
- > **Pin stroke adjustment**

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

## Installation and maintenance guide

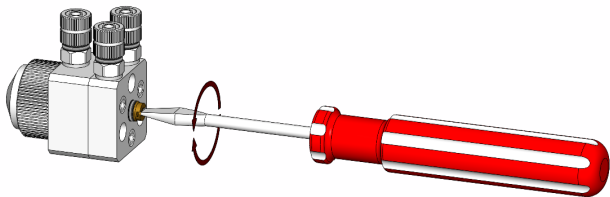
### 3.6 Screw regulation

The spray valve can be used with continuous or intermittent operation. In intermittent operation, the control air pressure must be adapted to the switching frequency and material supply pressure. Under ideal operating conditions (specially calibrated material pressure, control air pressure, needle stroke, short lines) up to 30 cycles per second are possible.



- The operating air pressure (S) must be 6 bar.
- The additional air (Z) must be adjusted so that it is turned on before the needle retracts and is turned off only after the nozzle closes (reduces the need for maintenance).
- If the material is kept under pressure without contact with outside air, it can remain in the valve for long periods without the valve being used.
- Use only clean, filtered material. Ideally, the control air supplied to the valve should be lightly lubricated (line air).

The additional air pressure (Z) and the material pressure (M) are closely related to each other.

The atomizing air pressure should not be significantly greater than the material pressure, otherwise back pressure could develop which would push the material back into the nozzle.



**NOTE!** The flow of material can be adjusted to suit individual requirements by turning the regulating screw:

Turn screw to the right:   
to reduce the material flow  
Turn screw to the left:   
to increase the material flow



**NOTE!** The illustrations in these instructions may differ slightly from the actual version of the device. Incorrect handling can damage the nozzle and nozzle needle. Only reduce the material flow (by turning the regulating screw to the right) while the material is being dispensed. Once the nozzle closes, do not turn the regulating screw any further to the right.

## 4 MAINTENANCE

### 4.1 General rules

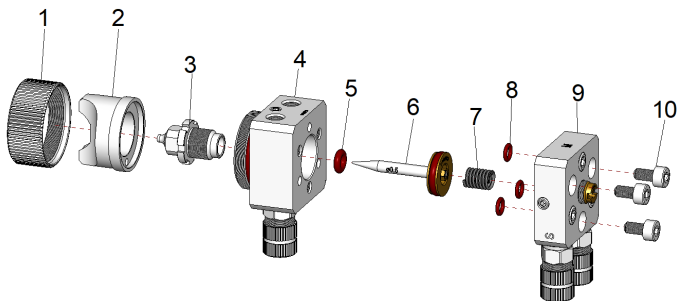
The DAS 30 spray valve, thanks to the construction methods and materials used, is easy to maintain.

Minimal, simple, accurate, and constant maintenance allow for long-lasting and smooth operation in valve time, while maintaining performance unchanged.

### 4.2 Valve Disassembly and Re-assembly

Before disassembling the valve:

- Clean the valve
- Disconnect it from the entire circuit
- Remove the screws (10)
- Remove the pneumatic body (9), being careful not to lose the O-rings (8)
- Remove the spring, the needle (6) and the O-ring (5)
- Unscrew the ring nut (1) from the main body (4), and together with it also the air cap (2)
- Unscrew, using a wrench, the nozzle (3)
- Clean and replace all damaged gaskets (in red) and any other parts
- Reassemble in the reverse order.



# Installation and maintenance guide

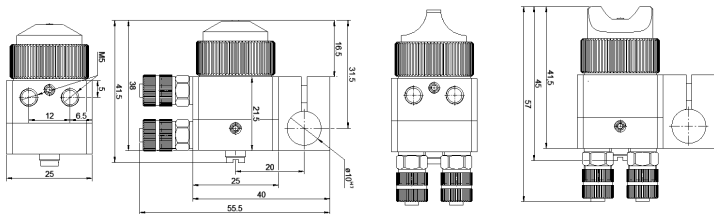
## 5 TROUBLESHOOTING

### 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 (5-7 bar)
Fluid out of the compass	Fluid residues present in the system	Clean the system with water
	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 5-7 bar
	O-ring on the damaged spike	Replace the O-ring on the pin
Splashed irregularly	Insufficient spraying pressure	Check spraying pressure (0,1...2,5 bar)
	Dirt in the air cap	Clean the air cap

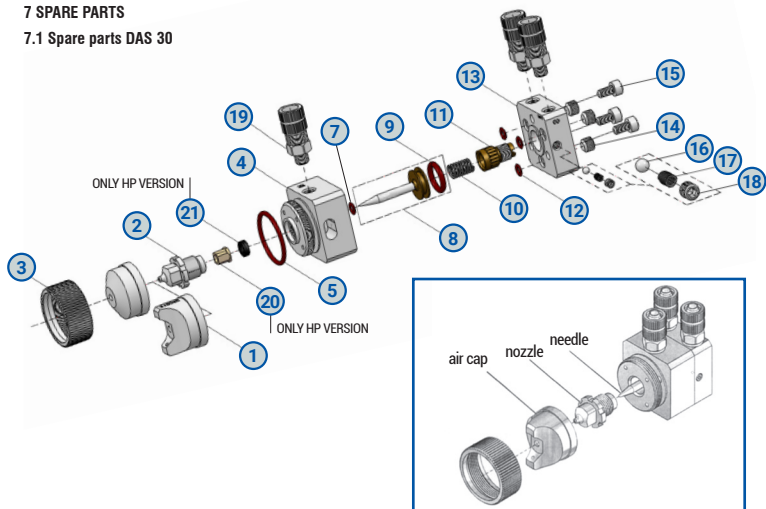
## 6 DIMENSIONS





## 7 SPARE PARTS

## 7.1 Spare parts DAS 30



## 7.2 Lista componenti DAS-30

## STANDARD VERSION

Pos	Code	Q.ty	Description
1	See next table	1	Air cap
2	See next table	1	Nozzle
3	410028	1	Collar
4	510025	1	Main body
5	640006	1	O-ring
6	220089	3	M5 fitting
7	640026	1	Seal
8	See next table	1	Needle
9	640366	1	O-ring
10	820017	1	Pressure spring
11	610090	1	Regulation block
12	640000	3	O-ring
13	510028	1	Pneumatic body
14	610021	3	Grub screws
15	610008	3	Screws
16	650004	1	Conical element
17	820077	1	Spring
18	610017	1	Grub screw
19	220089	3	Fitting
	GASKETKIT-DAS30		GASKET KIT COMPLETE

## HIGH PRESSURE (HP) VERSION (25 bar)

Pos	Code	Q.ty	Description
1	See next table	1	Air cap
2	See next table	1	Nozzle
3	410028	1	Collar
4	510938	1	Main Body HP
5	640006	1	O-ring
6	220089	3	M5 Fitting
7	640026	1	Seal
8	See next table	1	Needle
9	640366	1	O-ring
10	820014	1	Pressure spring HP
11	610090	1	Regulation block
12	640000	3	O-ring
13	510028	1	Pneumatic body
14	610021	3	Grub screws
15	610008	3	Screws
16	650004	1	Conical element
17	820077	1	Spring
18	610017	1	Grub screw
19	220089	3	Fitting
20	320564	1	Needle guide HP
21	640045	1	Quad ring HP
	GASKETKIT-DAS30HP		GASKET KIT COMPLETE

# Installation and maintenance guide

## 7.3 Needle

### STANDARD NEEDLE



Code	Description
110155	NEEDLE 0,2-0,3 MM
110156	NEEDLE 0,5 MM
110157	NEEDLE 0,8 MM
110158	NEEDLE 1,0 MM
110159	NEEDLE 1,2 MM
110160	NEEDLE 1,5 MM
110161	NEEDLE 2,0 MM
110162	NEEDLE 2,5 MM

### NEEDLE FOR SENSOR



Code	Description
110696	NEEDLE 0,2-0,3 MM
111062	NEEDLE 0,5 MM
111930	NEEDLE 0,8 MM
111931	NEEDLE 1,0 MM
111932	NEEDLE 1,2 MM
111933	NEEDLE 1,5 MM
111934	NEEDLE 2,0 MM
111935	NEEDLE 2,5 MM

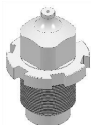
## COMPLETE SENSOR DAS-30

Code	Description
320314	NEEDLE OPEN/CLOSE DETECTING SENSOR



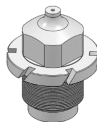
## 7.4 Ugello

### STANDARD NOZZLE



Code	Description
210110	NOZZLE 0,2 MM
210111	NOZZLE 0,3 MM
210112	NOZZLE 0,5 MM
210113	NOZZLE 0,8 MM
210114	NOZZLE 1,0 MM
210115	NOZZLE 1,2 MM
210116	NOZZLE 1,5 MM
210117	NOZZLE 2,0 MM
210118	NOZZLE 2,5 MM

### SPIN NOZZLE



Code	Description
210776	NOZZLE 0,2 MM
210777	NOZZLE 0,3 MM
210778	NOZZLE 0,5 MM
210779	NOZZLE 0,8 MM
210780	NOZZLE 1,0 MM
210781	NOZZLE 1,2 MM
210782	NOZZLE 1,5 MM
210783	NOZZLE 2,0 MM
210784	NOZZLE 2,5 MM

## 7.5 Air cap

## FLAT AIR CAP

60° (STANDARD)

Code	Description
310032	FOR NOZZLE 0,2-1,0 MM
310033	FOR NOZZLE 1,2-1,5 MM
310079	FOR NOZZLE 1,8-2,0 MM
310090	FOR NOZZLE 2,5 MM

90°

Code	Description
310036	FOR NOZZLE 0,2-1,0 MM
310037	FOR NOZZLE 1,2-1,5 MM
310166	FOR NOZZLE 1,8-2,0 MM
310167	FOR NOZZLE 2,5 MM

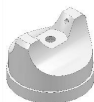
45°

Code	Description
310038	FOR NOZZLE 0,2-1,0 MM
310039	FOR NOZZLE 1,2-1,5 MM

## ROUND AIR CAP

15°

Codice	Description
310034	FOR NOZZLE 0,2-1,0 MM
310035	FOR NOZZLE 1,2-1,5 MM
310080	FOR NOZZLE 1,8-2,0 MM
310091	FOR NOZZLE 2,5 MM



FLAT AIR CAP



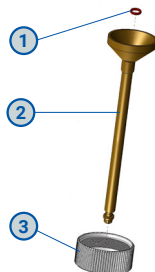
ROUND AIR CAP

## 7.6 Valve extender (Standard)

RADIAL DISPENSING VALVE EXTENDER 360° - L:100 mm

Ø 4 mm

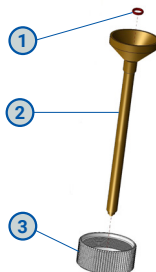
Pos	Code	Description
1	640203	O-RING
2	230747	RADIAL DISPENSING VALVE EXTENDER
3	410028	NUT



FRONTAL DISPENSING VALVE EXTENDER - L:100 mm

Ø 4 mm

Pos	Code	Description
1	640203	O-RING
2	231515	FRONTAL DISPENSING VALVE EXTENDER
3	410028	NUT



Special custom versions available on request.

# Installation and maintenance guide

## RADIAL DISPENSING VALVE EXTENDER 360° - L:100/200 mm

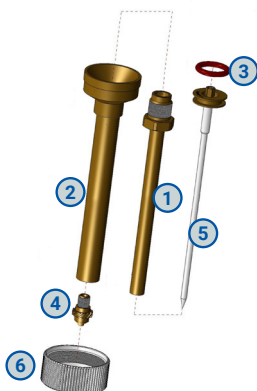
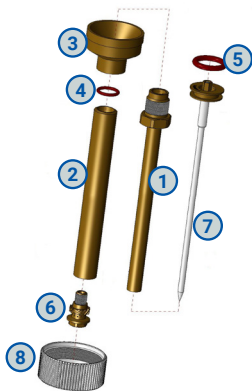
Ø 8 mm

Pos	Description	vers.	Code
1	INNER TUBE STD (100 mm)	1.1	850129
	INNER TUBE HP (100 mm)	1.2	851134
	INNER TUBE STD (200 mm)	1.3	850096
	INNER TUBE HP (200 mm)	1.4	854821
2	OUTER TUBE (100 mm)	2.1	850130
	OUTER TUBE (200 mm)	2.2	850097
3	BELL		220197
4	O-RING		640039
5	O-RING		640366
6	NOZZLE 0,4 mm	5.1	211206
	NOZZLE 0,6 mm	5.2	211343
	NOZZLE 0,8 mm	5.3	211327
7	NEEDLE STD (100 mm)	6.1	110432
	NEEDLE VERS. SENSOR	6.2	112929
	NEEDLE STD (200 mm)	6.3	112601
8	COLLAR		410028

## FRONTAL DISPENSING VALVE EXTENDER - L:100/200 mm

Ø 8 mm

Pos	Description	vers.	Code
1	INNER TUBE STD (100 mm)	1.1	850129
	INNER TUBE HP (100 mm)	1.2	851134
	INNER TUBE STD (200 mm)	1.3	850096
	INNER TUBE HP (200 mm)	1.4	854821
2	OUTER TUBE COMPLETE (100 mm)	2.1	850215
	OUTER TUBE COMPLETE (200 mm)	2.2	850669
3	O-RING		640366
4	NOZZLE 0,5 mm		210348
5	NEEDLE STD (100 mm)	6.1	110432
	NEEDLE VERS. SENSOR	6.2	112929
	NEEDLE STD (200 mm)	6.3	112601
6	COLLAR		410028



**8 SPECIAL VERSION :**

The DAS 30 valve exists in many special variants:

- PEEK version, for aggressive or reactive products
- Extension extension for radial spraying (draw design) Extensions are available in lengths of 100, 200, 300, 400 and 500 mm and allow to dispense holes and cylinders with low and medium viscosities such as oils and greases.
- Version with sensor for objectization after valve opening.
- Special versions with extensions and nozzles for spraying in difficult access areas. For example, with tilted nozzles 45 °, with double spraying nozzles etc.
- Versions with special seals for extremely high temperature working areas (up to 150°).

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

**[davtech@davtech.it](mailto:davtech@davtech.it) - [www.davtech.it](http://www.davtech.it)**

We reserve the right to modify at any time, without notice, the specifications, dimensions and weights in this manual.  
The illustrations are not binding.