

## MOTOR DRIVED VOLUMETRIC PUMPS **DAVM 300 - DAVM 400**

The motor driven volumetric pumps **DAVM** is the state of art in the micro-dispensing world.

The pumps are driven by a controlled motor (stepper or brushless) and allow volumetric dispensing in strips or drops, with the highest accuracy, without be affected from inlet fluid pressure, viscosity and temperature of the media etc.

The motor, driven in one direction dispense the fluid, and if driven in the other direction suck back the fluid, preventing dripping and levelling the pressure on the nozzle.



### DAV TECH SRL

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#### FIELD OF APPLICATION:

- > **Silicone dispensing**
- > **Grease dispensing**
- > **Resin dispensing**
- > **2K fluid dispensing**
- > **Adhesive dispensing**
- > **Low to high viscosity fluid dispensing**

#### FEATURES:

- > Dispensing not affected by viscosity change
- > Dispensing not affected by temperature change
- > Dispensed amount changed without mechanical setup
- > Easy integration with robotic systems
- > Amount and speed of the dispensing can be changed continuously
- > Inversion of the dispensing for suck back

#### Technical data

|                              |  |
|------------------------------|--|
| <b>Model</b>                 | DAVM 300 SS - DAVM 300 POM-C<br>DAVM 400 SS - DAVM 400 POM-C   |
| <b>Drive</b>                 | Electric with stepper or brushless motor   |
| <b>Fluid pressure</b>        | DAVM 300 SS: Max 12 bar, DAVM 300 POM-C: Max 10 bar<br>DAVM 400 SS: Max 10 bar, DAVM 400 POM-C: Max 10 bar |
| <b>Body material</b>         | Stainless steel - Delrin   |
| <b>Rotor material</b>        | Stainless steel  |
| <b>Stator material</b>       | Viton Extreme (others upon request)  |
| <b>Inlet thread</b>          | 1/2 gas  |
| <b>Outlet thread</b>         | 1/4 gas  |
| <b>Dispended volume</b>      | DAVM 300: 0,5 cc/rev - 500 mm <sup>3</sup> /rev - DAVM 400: 1,0 cc/rev - 1000 mm <sup>3</sup> /rev         |
| <b>Min. volume dispensed</b> | DAVM 300: 0,03 cc - DAVM 400: 0,06 cc  |
| <b>Accuracy</b>              | +/- 1%   |
| <b>Max speed</b>             | 120 rev /min   |
| <b>Udes fluids</b>           | Fluids from low to high viscosity  |

## PRINCIPLE OF OPERATION

A stainless steel rotor is inside an elastic material stator. Between the two parts is created a series of chambers, with constant amount.

Once the rotor is put in rotation, it move a certain quantity of fluid, which depend only from rotation angle, dispensing it out of the pump.

An inversion of the rotation sense create a suck back, preventing any fluid dripping.



## INTEGRATION OF DAVM PUMPS ON ROBOTS

The DAVM pumps are easy to be integrated on 6 axis, Scara or cartesian robots, with specific brackets, easy to create (DAV Tech can supply the 3d models of the pumps). The DAVM pumps allow, also if moved with constant speed, to obtain a various size of the fluid strip (or drops) dispensed, changing only the speed of the motor that drive the pump.

## DRIVE DAVM PUMPS

The drivers to move the motors on the DAVM pumps, can be supplied directly by DAV Tech. For the stepper motors, especially, the driver is vectorial, and checking an encoder on the motor can control any step loose. The drivers can be integrated with any PLC with simple I/O signals or, upon request, with Modbus, Can, or Profibus protocol.

### Connection diagram

