

Screw dosing system for solder paste



Dispensing Controller DSS 10 and Displacement Valve DSV 747

- *Volumetric dosage in particular for solder pastes*
- *purifying dosages, e.g. dot \varnothing 0,3 mm*
- *Precision pressure automatic controller and pulsed control air*
- *simple integration in automated devices*
- *Adjuster with integrated z-stroke*
- *optionally contactless level monitoring*
- *optionally progress control proportioning by laser inspection*

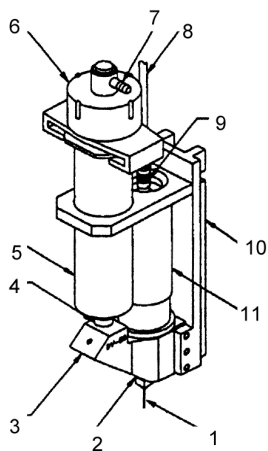
System description

The screw dosing systems by ATN was especially developed for proportioning pasty media, e.g. solder pastes, adhesives, viscous sealants and other particle-filled materials. With the dosing principle of the displacement valve DSV 747 the medium (e.g. solder paste) is pressed under smallest pressure from the reservoir into the material chamber of the auger. The actual dosage of the paste is realized by the motor turn of the auger. By the combination of the principle of the screw valve with a precise control of time, pressure and dosing quantity in the Controller it is possible, accurate, to proportion repeatable quantities without damaging thereby the metal particles of the solder paste. The controller DDS controls the reservoir pressure and the speed of the dosing spindle. It was

developed particularly for the employment in automatic systems. The 24V-IO-Signale makes a direct control by an external control unit (e.g. SPS) possible. The engine control guarantees an absolute synchronisation and thus a constant yield quantity. Beyond that the pressure, with which the medium is pressed into the spindle, for a reliable and even dosage is crucial. The static pressure on the material must remain constant also with quantity alterations. Already small pressure fluctuations can have substantial effects on the dosing accuracy. The ATN systems are equipped with precision pressure automatic controllers therefore which adjust pressure fluctuations in the net to a large extent. For a fast shifting process the magnet-valve is installed as close as possible to the

metering valve and is separated from the actual control. The modular metal housings of the controls permit a flexible configuring of the connections up- or downward. The rear wall remains free and makes with the optional mounting plate the assembly possible on the DIN rail in the switchgear cabinet. The current supply is made by a 24V-connection. For a controlled dosing process the precise vertical movement of the metering valve is very importantly, in particular when the yield, retarding and tearing the medium off. For accurately reproducible positioning the pneumatic Z-axis with adjustable shock absorbers is suitable. The additional attitude in all three space axes makes an accurate fine positioning possible.

Technical Specifications and Details



- 1 Dispense Tip
- 2 Locking Hub
- 3 Valve Body
- 4 Luer Lock Interface
- 5 Barrel Reservoir 3-30 ccm
- 6 Reservoir adapter
- 7 Air Line
- 8 Controlling Cable
- 9 Plug
- 10 Mounting Bracket
- 11 DC Gear Motor

Displacement Valve DSV 747

Dimensions:	140 x 40 x 71 (w/ mounting bracket)
Weight:	245 g
Voltage motor:	variable, 10 to 24 V DC
Power:	2,7 W
Screw:	stainless steel
Working Frequency:	>400 / min
Screw-Speed.:	250 (standard) / 400 (optionally) RPM
Screw-Pitch:	8 (standard) / 16 (optionally) Threads per Inch (25,4 mm)
Option:	contactless level monitoring Laser inspection Z-stroke

Dispensing Controller DSS 10

Voltage input:	24 V DC
Dimensions:	170 (W) x 60 (H) x 150 (D) mm
Weight:	ca. 500g
Pre-Pressure Reservoir:	0-2 bar
Voltage motor:	10-24 V, DC
Power motor:	max. 10W