

precision dots

VERMES

••••• MICRODISPENSING

MDS 3010+ & MDS 3020+ Series for low to medium viscosity

PERFORM MOST COMPLEX INDUSTRIAL APPLICATIONS

- HIGHEST PRECISION PIEZO-BASED DISPENSING
- PROGRAMMABLE SCENARIOS FOR USER DEFINED PATTERNS
- REAL TIME PARAMETER SETTING
- MAXIMUM STABILITY & UNIQUE TAPPET SUSPENSION
- HIGHEST THROUGHPUT IN A WIDE RANGE OF APPLICATIONS
- REAL TIME CLOCK
- EASY MAINTENANCE



PERFECT SOLUTION FOR LOW & MEDIUM VISCOSITY APPLICATIONS

- The modular design of the VERMES Microdispensing systems MDS 3010+ / MDS 3020+ enables a flexible use with fluids of low and medium viscosity
- The systems are suitable for a wide range of industrial applications including:
 - Life science, medical diagnostics and pharmaceuticals, e.g. water based cell and protein solutions
 - Electronics, semiconductors and automotive, e.g. UV glues, Cyanoacrylate, anaerobe glues
 - Other electronics, e.g. solder flux, selective coating
 - Fine mechanics, e.g. oiling and greasing

PROGRAMMABLE SCENARIOS

- Four programmable and storable scenarios enable the user to define his own combinations of parameter sets
- Dispensing of lines with different widths, immediate change of drop size and speed
- Allows complex dispensing patterns without external control

PARAMETER CHANGE THROUGH SELECT PINS

- External control of setups and scenarios via the select pins of the AUX socket
- Select pins allow change of parameters on the fly

USER-FRIENDLY ADJUST MODES

- The controller MDC 3090+ offers both a first drop mode and a fixed adjust mode
- The first drop mode is especially useful when working with several systems in parallel ensuring that all valves and parameters are comparable
- The fixed adjust is needed for e.g. adhesives that are highly reactive, such as Cyanoacrylate. It is automatically coupled with the first drop mode

ADVANCED CONTROLLER FEATURES

- Built-in real time clock tracks all failures and unintentional stoppages
- The response time for signal handling is extremely fast with a PLC trigger delay of only 85 µs
- Trigger signals can be as low as 40 µs



Recommended media	Low viscous adhesives, such as aqueous fluids, UV glues, Cyanoacrylate, anaerobic glues Medium viscous adhesives, such as organic solvents, solder flux, oil, grease
Type of tappets	Different shapes in monolithic ceramics or tungsten carbide
Type of nozzles	Various shapes, materials and hole diameters
Dispensing quantity	Min. 5 nl per pulse (depending on medium)
Droplet diameter	Min. 300 µm (depending on medium)
Dispensing viscosity	MDS 3010+ up to 300 mPas MDS 3020+ up to 8,000 mPas
Supply pressure	0.1 – 8 bar (rel.) max. 30 bar
Maximal frequency	>3,000 Hz
PLC trigger delay	85 µs
Additional functionality	Real-time behavior at: Scenarios → pre-programmable volume change Select Pins → operation controlled volume change
Valve operating modes	Burst Mode: predefined burst after trigger signal Single Shot Mode: path length dependent triggering Infinite Mode: number of shots controlled by external trigger External Mode: application controlled definable drop volume setting
Optional heating system	Regulated nozzle heating: 180 °C, higher upon request
Memory for parameter sets	Internal: 10; external: unlimited
Standard interface	RS232C; 24 V/5 V PLC
Dimensions	Valve: 103 mm H x 39,5 mm W x 10 mm D Control unit: 128 mm H x 102 mm W x 173 mm D (without cable) for installation into 19"-rack
Weight	Valve: approx. 210 g, Controller MDC 3090+: approx. 1,500 g
Power connection	110/240 V AC, 50/60 Hz power socket (back side)

OPTIONAL HEATER COMPONENTS

- Local nozzle heater can be added at any time and works together with the external VERMES MFC heater controller

MODULARITY & COMPATIBILITY

- The modular design of VERMES MDS 3010+ and MDS 3020+ allows highly flexible user defined configurations with a wide variety of nozzles and fluid boxes
- The controller MDC 3090+ is compatible with all valves of the MDV 3010 and the MDV 3020 series

LOW COST OF OWNERSHIP

- The valve design separates between wet and dry area which makes service easy and economical

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