



mta automation ag

*Micro-dispensing
techniques*



Micro-dispensing techniques

Volumetric dispensing for high-precision dispensing

Experience

With 10 years experience and more than 500 micro-dispensing installations delivered, we provide a unique know-how, recognized and appreciated in various industries in fields such as automotive, medical, sensors, micro-engines, watch-making, optical-electronics and domestic appliances.

We offer reliable solutions not only for dispensing mono-component products, but also for dispensing two-component products thanks to our unique, patented dynamic mixing system.

The techniques

With our range of volumetric dispensers, we can achieve a perfect repeatability of quantities to be dispensed from one point to another, and this for micro-volumes down to 0.1 mm³.

Our digital control dispensers enables us to provide the perfect solution, whatever the viscosity of the product.

A complete service

As well as the dispensing units themselves, we provide our customers with a complete service:

- feasibility tests in our laboratories
- advice in process optimization
- the realization of complete automated units, including construction, software, production and assembly
- on-site installation, training and assistance throughout the world

Which technique for which application?

Examples:

	Constant volumes	Variable volumes	Lines	Filling
Greases	MVD	NVD	NBD	-
Oil	MVD	NVD	NBD	NBD
Paints and lacquers	MVD	NVD	NBD	NBD
Solvents	MVD	NVD	NBD	NBD
Medicines, food	MVD	NVD	NBD	NBD
UV adhesive	MVD	NVD	NBD	NBD
Two-component poly-urethanes, epoxy and silicone	NBD	NBD	NBD	NBD

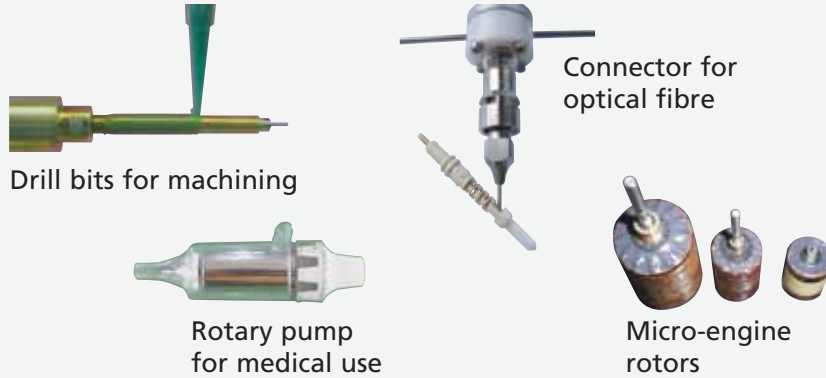
MVD

NVD

NBD

Micro-dispensing techniques

Examples of applications



Special machine



In addition to our standardized robots, we are able to offer special solutions such as this dispensing robot produced entirely according to customer specifications with numerical axes with high-resolution precision, CNC control with interpolation on three axes and micro-volumetric dispenser for two-component products.

The micro-dispensing program



Dispensing station

- Motorised volumetric dispenser
- Numerical volumetric dispenser
- Numerical volumetric dispenser for two-component products

Dispensing robot TR 300

- Digital volumetric dispenser
- Numerical volumetric dispenser for two-component products

Dispensing robot RC 500

- Numerical volumetric dispenser
- Numerical volumetric dispenser for two-component products

Motorised volumetric dispenser – MVD



- Simple setting of quantity to be dispensed thanks to a regulator ring
- Adjustable dispenser volume up to 100 mm³
- Volumetric dispensing without valve
- Ceramic dispensing piston
- Repeatability > 99%
- Liquid or viscous products dispenser
- No seals (no wear)

Numerical volumetric dispenser – NVD



- Simple setting of quantity parameters via numerical controller
- Adjustable dispenser volume of 0.05-1250 mm³
- Volumetric dispensing without valve
- Ceramic dispensing piston
- Repeatability > 99%
- Liquid or viscous products dispenser
- No seals (no wear)

Dispensing station



For applications which do not necessitate the flexibility of a robot, the simple dispensing station satisfies all required needs. The modularity of our slides and standard elements enables us to always offer a solution adapted to the application.

The programmable electronic control allows the dispensing axes and values to be set.

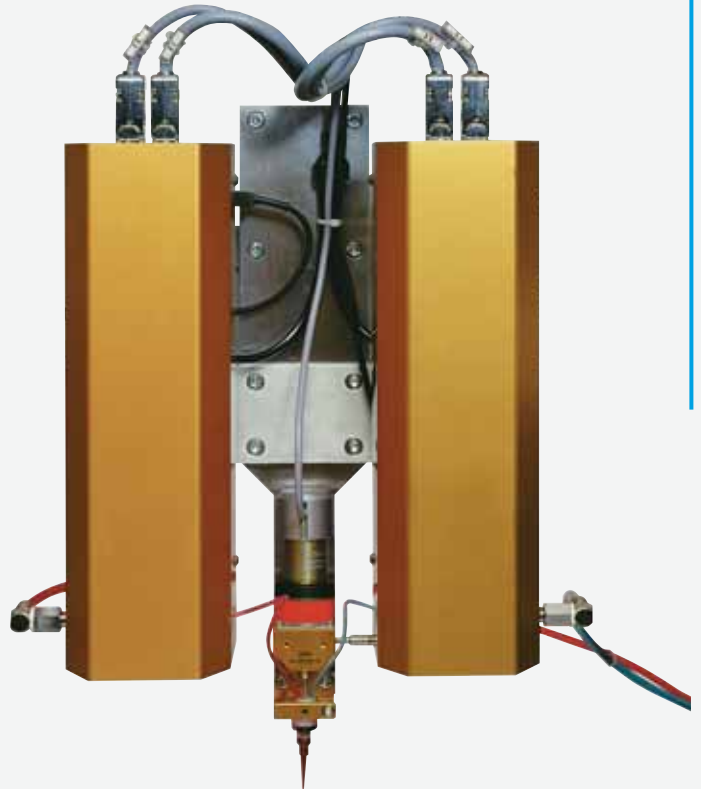
Dispensing robot TR 300



- Adapted for semi-automatic operations
- Work area 300 x 300 mm
- Operating system: WINDOWS
- Number of axes: 3 or 4
- Speed of X and Y axes: ≤ 200 mm/s, Z: ≤ 100 mm/s
- Shift of axes: point by point or interpolation
- Reproduction of positioning: $\pm 20\mu\text{m}$

Numerical volumetric dispenser for two-component products – NBD

- Simple setting of quantity parameters via numerical controller
- Adjustable dispenser volume of $2 \times 0.05\text{-}1250 \text{ mm}^3$
- Volumetric dispensing without valve
- Ceramic dispensing piston
- Repeatability > 99%
- Liquid or viscous products dispenser
- No seals (no wear)
- Mixing by dynamic or static mixer
- Low-volume dynamic mixing chamber



Dispensing robot RC 500

- Adapted for semi-automatic and fully-automatic operations
- Work area $500 \times 500 \text{ mm}$
- Operating system: WINDOWS
- Number of axes: 3 or 4
- X, Y and Z axes in closed loop
- Speed of axes: $\leq 200 \text{ mm/s}$
- Shift of axes: point by point or interpolation
- Reproduction of positioning: $\pm 20 \mu\text{m}$
- On-line service via modem link

Possible versions:

- stand-alone
- with rotary table
- in-line with conveyor





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