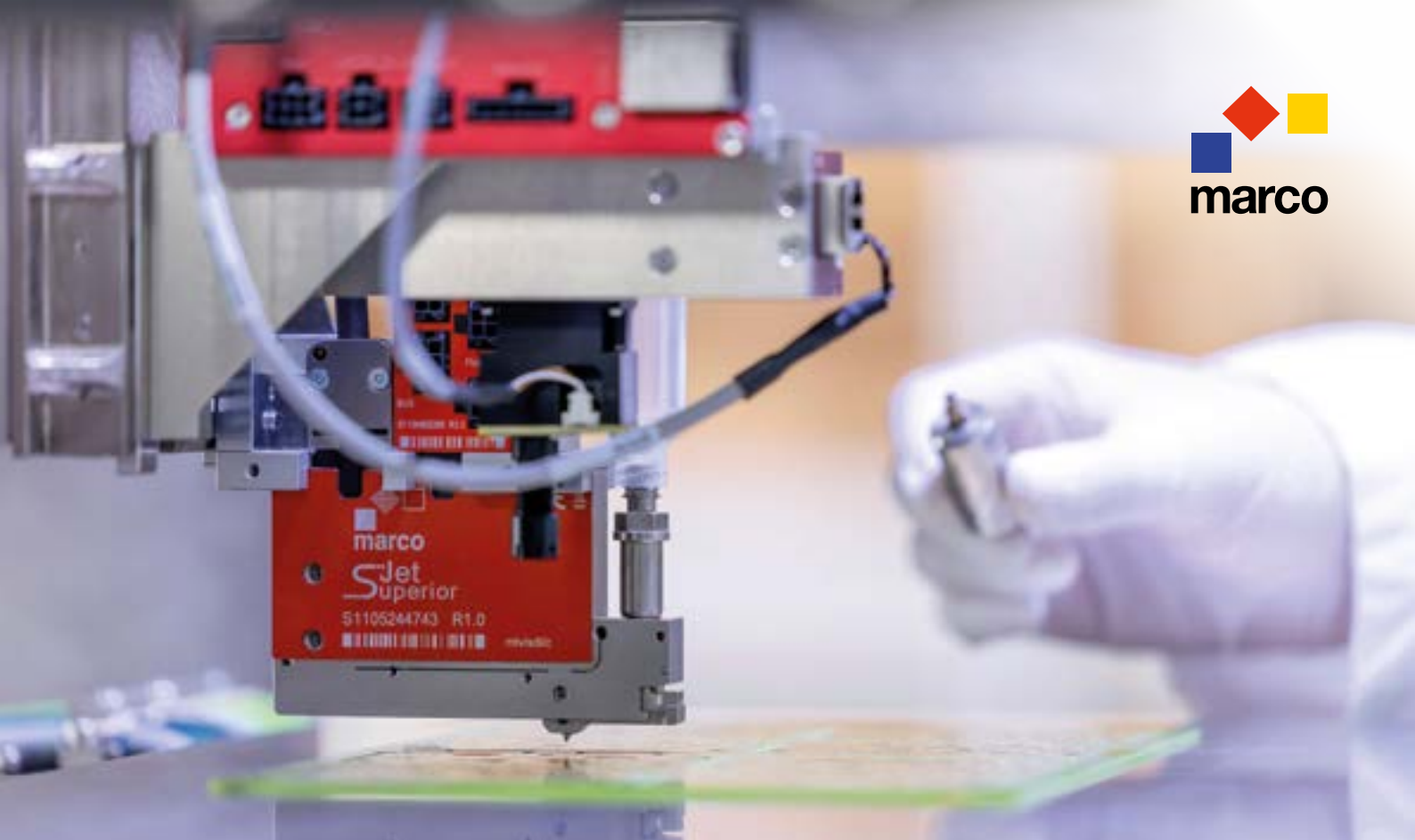




marco Valve Technology

Valve solutions for precise and flexible fluid dispensing

marco valve technology is designed for demanding fluid-dispensing applications across a wide range of industries. The portfolio covers solutions for low-viscosity fluids as well as highly viscous media, with a strong focus on precision, modularity, process stability, and easy maintenance.

Thanks to their modular design, marco valves can be adapted to specific media such as liquids or paste-like materials, process conditions, and integration requirements. This makes them a reliable choice for applications where standard valve solutions reach their limits.

Key features of marco valves:

High precision and speed	▶ Our piezo dispensing valves operate at up to 3,000 Hz, enabling fast, highly repeatable dispensing with consistent shot volumes and stable production quality.
Modular valve concept	▶ Interchangeable and serviceable components allow the valve to be adapted to different media, shot sizes, and process requirements while simplifying maintenance and reducing life-cycle costs.
Non-contact dispensing	▶ Piezo technology enables non-contact dispensing from multiple angles, protecting sensitive surfaces, improving precision on uneven parts, and reducing cycle times.
Durable piezo drive system	▶ The robust design with fewer moving parts allows piezo valves to exceed 1 billion cycles with minimal wear, reducing maintenance and unplanned downtime.
TorqueBlock drive technology	▶ Our TorqueBlock piezo drive uses rotary motion to reduce mechanical stress, improve process stability, and deliver precise dispensing with a longer service life.
Easy system integration	▶ The modular and configurable valve design simplifies integration into existing production lines and reduces engineering effort.

marco valve solutions combine precise dispensing performance with a high level of application flexibility. The modular design, customizable fluid-contacting components, and robust drive technologies make them suitable for processes where accuracy,

reliability, and maintainability are critical. This helps users improve process stability while keeping maintenance effort and operating costs under control.

Overview of the marco Valve Range

						
PRODUCT	Pneumatic valve	Basic valve	Compact valve - various types	sJet valve - various types	sJet Power	Tower valve
marco part number	mtv/pv/kit-II/a	mtv/dsm/*	mtv/vsm/*, mtv/vsl/*, mtv/vdm/*, mtv/vdl/*	mtv/ssm/*, mtv/ssl/*, mtv/sdm/*, mtv/sdl/*	mtv/bem/c	mtv/xdl/*
Contact - needle dispensing	✓	✓	✓	✓	✓	✓
Non-contact - jet dispensing	✗	✓	✓	✓	✓	✓
Spray	✗	✓	✓	✓	✓	✓
Dimensions (mm)	57 x 14 x 61.7	85.5 x 14.1 x 40	72 x 12 x 60	85.5 x 14 x 52	85.4 x 19.5 x 52	52.6 x 27 x 95.5
Weight (g)	125	188	180	178 - 193	240	296
Dispensing frequency	Up to 20 Hz	Up to 500 Hz	Up to 3,000 Hz burst	Up to 3,000 Hz burst	Up to 1,000 Hz burst	Up to 1,000 Hz burst
Stroke control	✗	✗	✓	✓	✓	✓
Heating	✗	✗	Up to 210°C	up to 210°C	up to 210°C	Up to 75°C
Nozzle version / size	50 to 600 µm	50 to 800 µm	15 to 1,200 µm	15 to 1,200 µm	15 to 1,200 µm	15 to 1,200 µm
PLC integration	Directly over 24V signal	Over Modbus TCP/IP - after activation	Over Modbus TCP/IP & Modbus Serial RS485	Over Modbus TCP/IP & Modbus Serial RS485	Over Modbus TCP/IP & Modbus Serial RS485	Over Modbus TCP/IP & Modbus Serial RS485
Configuration	No configuration necessary - only 24V signal needed	Windows utility, HMI	Driver box, HMI	HMI	HMI	HMI
Pulse time/ cycle time adjustable	✓	✓	✓	✓	✓	✓
Opening and closing curves	✗	Limited possibilities (3 fixed curve times)	Customizable	Customizable	Customizable	Customizable
Maximum operating pressure	75 bar	75 bar	100 bar	75 bar	75 bar	75 bar
Comment	Especially used for filled materials with a special valve seat; pneumatic-driven	Available in KITS: mtv/ba/kit*; piezo-driven	Piezo-driven	Available as long-life variant; piezo-driven	High viscosity variant of sJet valve; piezo-driven	Piezo-driven

✓ Included ✓✗ Optional compatibility ✗ Not available

Please note: Technical data is subject to change due to ongoing development

	
PivotJet	StepDot
mtv/asl/a	mtv/sdp/*
✓	✓
✓	✓✗
✓	✗
55 x 23.8 x 66.5	110 x 116 x 157
120-130	2,200
Up to 3,000 Hz burst	Up to 100 Hz
✓	✓
Up to 75°C	Up to 70°C
15 to 1,200 µm	15 to 1,200 µm
Over Modbus TCP/IP & Modbus Serial RS485	Over Modbus TCP/IP & Modbus Serial RS485
HMI	DCU
✓	✓
Customizable	Customizable
75 bar	10 bar
Combined with mtv/ax4 system for 360° dispensing	Especially used for solder paste small dot dispensing

marco Valve Seats

We offer a comprehensive range of more than 200 valve seats for contact and non-contact dispensing applications. Manufactured in-house from materials such as steel, copper, tungsten, and PEEK, they can be adapted to a wide variety of media and process requirements.

A key advantage is our customization capability: our engineering and manufacturing teams can tailor valve seats, fittings, and nozzles to match specific customer designs, application conditions, and performance requirements.



1. Spray nozzle – 175 mm protruding
2. Protruding valve seat – 20 mm length, 6 mm diameter
3. Spray nozzle – 11 mm protruding
4. Protruding valve seat – 12 mm length, 3 mm diameter
5. Jet Flat valve seat – orifice: 28 µm diameter
6. Copper Sheathing
7. LuerLock Adapter
8. Protruding valve seat with tip nozzle
9. Curtain nozzle
10. Jet Flat valve seat
11. Valve seat for screw nozzles
12. PistonJet valve seat

Only a small selection of our portfolio is included here. Our complete range comprises more than 200 different valve seat variants, and the orifices can be exchanged as required for each valve seat.

marco valve seats are engineered for high design flexibility and easy maintenance. The internal construction allows quick exchange of wetted parts, helping to reduce downtime, simplify servicing, and lower maintenance effort.

A broad range of valve seat options supports precise adaptation to the dispensing process.

Orifice sizes from **Ø 15 µm to Ø 1200 µm** enable accurate control of flow rate and shot size. Different styles, including **jet flat**,

jet vulcan, **luer lock tip**, **screw nozzle**, **spray nozzle** and **protruding nozzle**, allow the valve seat to be matched to the required dispensing pattern, media type, and application geometry.

For reliable sealing, marco offers a wide selection of materials such as **FFKM**, **silicone**, **HNBR**, **FKM** and **EPDM**. These materials are selected according to the fluid, chemical exposure, and temperature conditions of the application, helping to ensure stable performance and long service life.

Your one-stop shop solution partner

Our commitment to quality and innovation inspires us to deliver valve seat solutions that enhance the efficiency and reliability of your dispensing systems. Whether you require standard components or customized solutions, our team is ready to assist you in achieving optimal performance for your applications.

Get in touch with our team today.

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Tell us about your application –
and acquire a system built around your process.

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