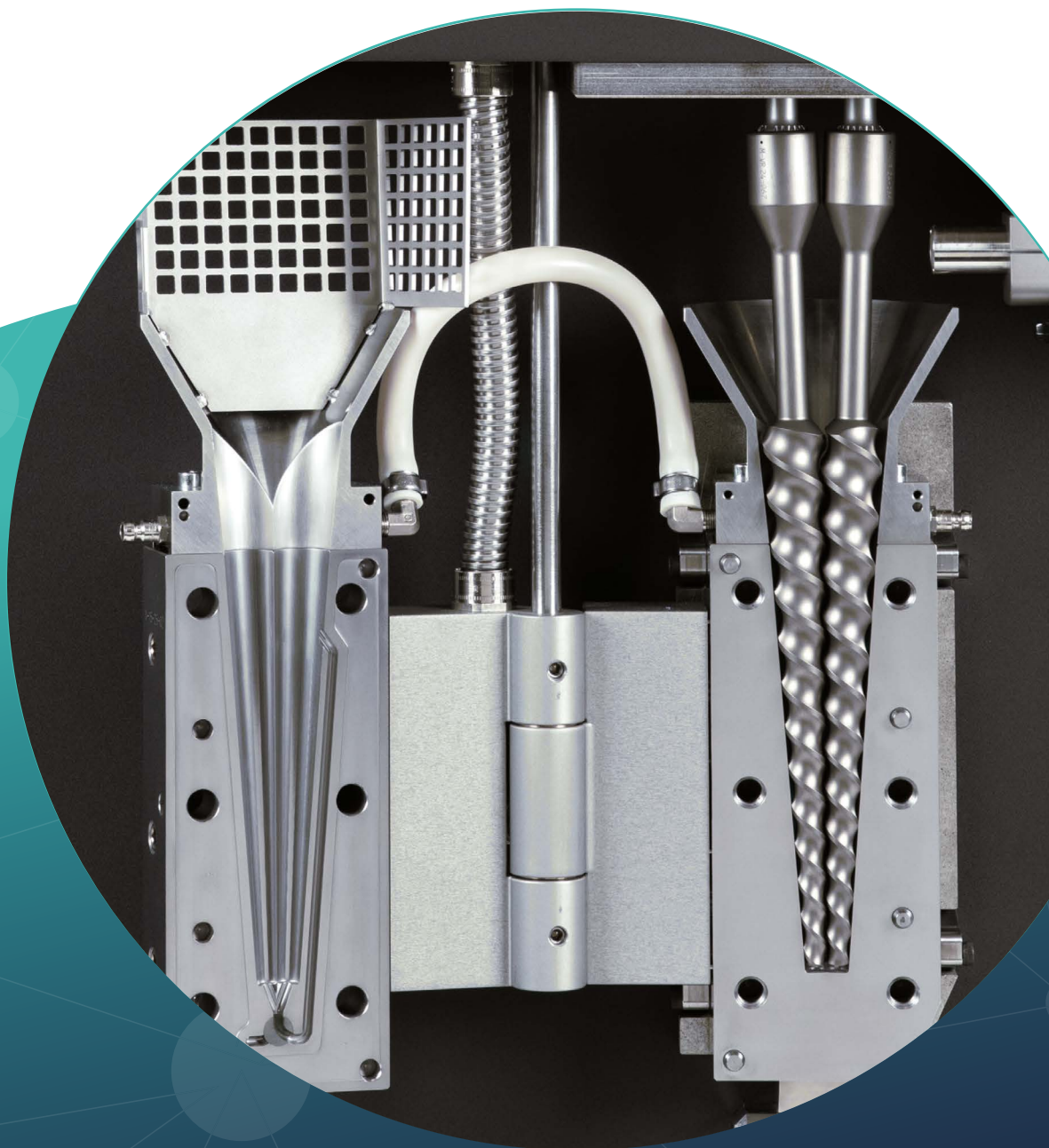




Xplore Xperience

Cost-Effective and Accessible Lab-scale Compounding



Xplore Xperience Micro-Compounder Line

Cost-Effective and Accessible Lab-scale Compounding

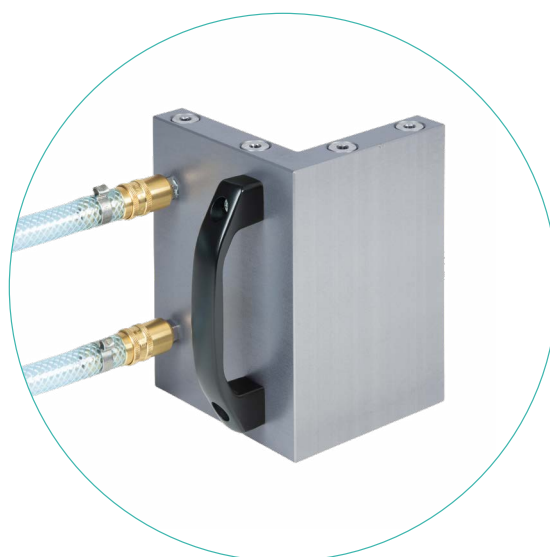
The MC Xperience is our latest micro-compounder with a capacity of either 5 or 15 ml, designed to enhance R&D performance through its reliability, ease of use and robust construction, at a cost-effective price. It offers Xplore Instruments known quality, precise and stable control while fitting efficiently on a laboratory bench or inside a fume hood. It is an accessible instrument for developing new compound formulations.

With more than 30 years of Dutch craftsmanship and expertise, Xplore Instruments continues to drive innovation in material processing technology. The Xperience line is developed in close collaboration with our customers, tailoring to their changing needs, providing access to a broader range of economically priced performance instruments. It combines Xplore's well-known ease of use, precise process control and efficiency, in a robust design.

The Xperience line integrates excellent mixing performance, a robust motor drive, housing, barrel and screws, and consistently reproducible results. Fully intermeshing screws ensure high output across applications including in-line injection moulding, film and multifilament extrusion. It supports continuous operation for melting and extrusion (e.g. filaments and films). Built with Xplore's focus on durability and precision, the Xperience line unites advanced mixing, extrusion and upscaling capabilities. The screw torque of 10–20 Nm, continuously monitored, is available across the full rpm range of 1–500. This enables high shear rates, excellent mixing and fine dispersion of viscous compounds, resulting in filaments and films with superior dimensional stability.

With torque levels up to 20 Nm, the Xperience line easily processes a wide range of polymers. Fully intermeshing screws deliver high-efficiency mixing, ensuring uniform material properties throughout the entire sample.

The compact housing of the Xperience line minimizes the footprint while improving handling and installation in laboratory environments, including fume hoods. Extrusion can also be performed vertically downward. The 24-bit motor drive ensures precise and reliable control, provides continuous digital torque monitoring, and reduces maintenance through its robust design and Xplore's durable, scratch-resistant barrels and co-rotating intermeshing screws. These design elements guarantee reproducible mixing performance and consistently high yields.





Precise temperature control and a water-cooled top hopper for secure dosing are included as standard, with an optional water-cooled jacket available. The design also simplifies servicing and enables easy integration of post-die add-ons such as cast film or filament lines. The optimized design ensures fast operation, variable residence times and enhanced cycle speeds for compounding, extrusion, shaping and cleaning.

The Xperience line is available with proprietary rheological software for upscaling to larger parallel twin-screw extruders and offers barrel sizes of 5, or 15 ml. These features make it possible to work efficiently with limited or high-value compounds. Standard fully intermeshing screws ensure excellent mixing performance and consistently high yields, supporting ambitious material development programs.

The Xperience line is a core instrument for R&D and quality control laboratories working with plastics, resins, compounds, elastomers, films, filaments and reactive extrusion processes.

Xplore leads in the miniaturization of polymer processing tools, enabling polymer formulation development, rapid screening, feasibility studies and the resolution of complex technical challenges. Developed in response to customer requirements, the Xperience line provides a cost-efficient and reliable solution for enhanced laboratory-scale compounding and extrusion.





Technical Specifications:

- Barrel volume(s): 5 and 15 ml (custom volumes possible)
- Screw system: fully intermeshing, detachable, hardness 54 HRC, coating hardness 1000 Vickers
- Maximum melt torque: 10, 15, or 20 Nm, continuously monitored
- Screw speed: 1 – 425 rpm, continuously variable
- Barrel: abrasion-resistant, hardness 54 HRC, coating hardness 2000 Vickers
- Maximum operating temperature: 350 °C or 425 °C
- Temperature control: melt and 2 × 3 barrel heating zones, 6 heating cartridges, 8 thermocouples
- Rheological data acquisition: melt torque, shear viscosity, shear rate, shear stress
- Heating time (80 → 240 °C): <10 min
- Dimensions (H × W × D): 93 × 60 × 44 cm
- Weight: 125 kg
- Power supply: [400 Vac / 50–60 Hz, 3 phase, 16 A; 210 Vac / 50–60 Hz, 3 phase, 16 A]
- Operating control: integrated touchscreen or USB computer interface
- Co-rotation standard, optional counter-rotating gearbox
- Continuous or batch operation; vertical extrusion possible



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