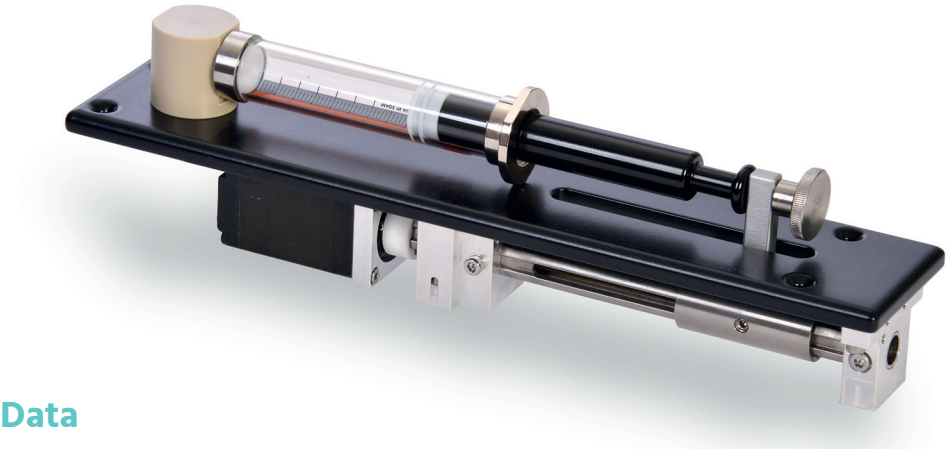
Precision Syringe

The Precision-SY built-in syringe pump is a typical OEM product. The pump was specially developed for use in equipment where high precision in the nano to milliliter range is required when introducing samples or reagents.
It is specially matched to the requirements of the analysis equipment, i.e. the shape and color of the mounting plate are tailored to customer requirements. This means that there is no single model in the traditional sense. Instead, you, the customer, can define a tailored product that is perfectly matched to your equipment.

The core elements of the pumps are a stepper motor, a spindle, a linear guideway, a syringe holder and replaceable syringes. Thanks to the high stepper motor resolution of 25,600 steps per revolution, individual steps during the movement sequence are barely perceptible. A connecting element that forms a rigid connection between the spindle and the syringe plunger transmits the drive force from the stepper motor, thus delivering the feed motion for filling or emptying the syringe. Metering syringes with volumes between 0.05 ml and 10 ml are used.

The OEM syringe pump Precision-SY is optionally available with our stepper motor control SMC01, corresponding control software and connection kit.



Technical Data

Mechanical data	
Dimensions LxWxH	230 x 50 x 62 mm
Approx. weight	600 g
Maximum stroke	63.5 mm
Minimum feed rate	0.273 nm/s
Maximum feed rate	1,367 mm/s
Smallest step resolution	0.0273 µm per step
Accuracy	±0,5%
Reproducibility	±0,5%
Transverse force	100 N
Main materials	Powder-coated/anodized aluminum, stainless steel, PEEK
Syringe holder	1/4 – 28 UNF thread (adjustable holder as option)
Pressure plate	6 – 32 UNC thread (adjustable holder as option)

Elektrical data for motor	
Stepper motor	1.8°
Current/phase	0.67 A
Operating temperature	-10 to 50 °C
Increase in temperature during operation	Max. 80 °C (standstill, 2 phases

Data for sensors	
End position/reference position	Hall effect sensor
Incremental encoder	Optional

Operating conditions	
Temperature range	+10 to +40 °C
Relative humidity	20 % to 80 %, non-condensing
Suitable media	Aqueous, acidic, alkaline and organic media

Data communication	
Data protocol	RS485 / USB

Control option	
Spetec PC software, Symax Control	Standard application. Manual control and predefined movement sequences possible
Spetec PC software, SMC01	Predefined commands but no predefined movement sequences Time-based control possible
Customer's PC software	Control via stepper motor controller SMC01 or control board.

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