



Cavro® Centris Pump

The OEM components of tomorrow. Today!

Superior performance with an innovative design

The Cavo® Centris Pump is a high reliability and virtually maintenance free OEM pump module. It combines high precision ceramic components with an innovative and compact design to deliver market leading precision and accuracy over a wide volume range.

Key benefits

The Cavo® Centris Pump offers a broader working volume range from a single syringe size compared to other similar pumps, enabling you to do more with one pump than ever before. Tecan Cavo OEM components are designed and manufactured to high quality standards, meeting ISO 13485 requirements and Directive 2002/95/EC (RoHS).

• Superior pipetting performance

The Cavo Centris Pump achieves superior accuracy and precision through its elegant drive mechanism, and features long-life ceramic components, unique in a syringe pump of this design. With the novel design features, the pump achieves a broad dynamic range – one pump can pipette the range normally covered by two pumps. The pump's high efficiency drive mechanism and optimized micro stepping control enable excellent liquid handling performance at small volumes, yet still have the necessary speed and power to achieve high volume performance. In addition, programmable flow rates from under 5 nl/s up to 5 ml/s ensure performance across a broad application range.

• Innovative and reliable by design

The Cavo Centris Pump's simple and rigid mechanical design with fewer moving parts ensures reliability. Precision-paired ceramic parts, that do not require a compliant O-ring seal on the plunger/barrel or require an unswept dead volume, give almost no resistance or wear. Customized parts and optimized drive electronics have resulted in whisper quiet operation, especially for slow dispense applications. The compact dimensions of the Cavo Centris Pump and the optional mounting kit provide maximum flexibility for easy hardware integration.

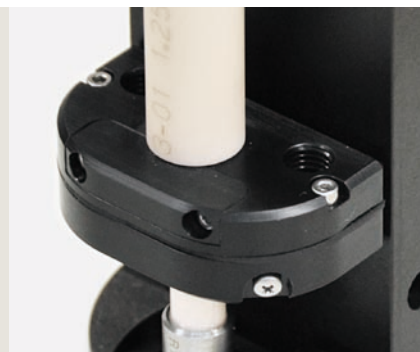
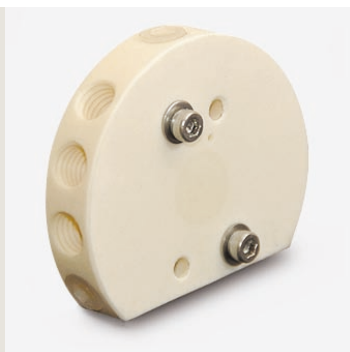
• Lower total cost of ownership

The durable, long-life moving parts in the Cavo Centris Pump will last the life of the pump, requiring no replacement. No more spare valves and syringes. High reliability and quality of parts also help to keep the pump relatively maintenance-free, so that expensive downtime is kept to a minimum.



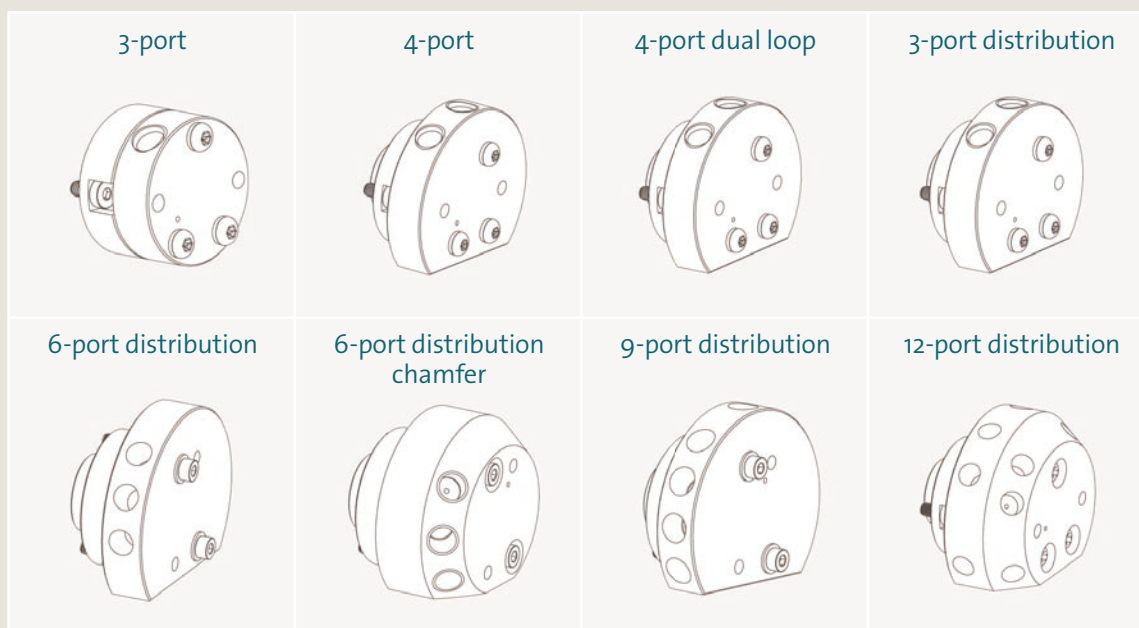
High accuracy is maintained to the smallest dispense volumes.

Superior longevity



Precision-paired ceramic parts give high accuracy and unprecedented longevity.

Cavro Centris Wash Option improves performance for harsh applications.



Ceramic valve options

Technical features

Tecan Cavro's industry standard OEM command set

Step loss detection on plunger and valve movements

Advanced on-board diagnostics: mechanical force measurements, step-loss detection verification, operational tests, safety monitors, command and error logs and move counters

Program moves in units of stepper motor increments or volume (μL)

Self-aligning maintenance free syringe capture mechanism

RS232/RS485/CAN communication with configurable baud rates

Optional mounting kit available for easier integration

Optional wash option available for applications using saline buffers

Auxiliary I/O ports to interface with other modules

Outstanding performance and reliability

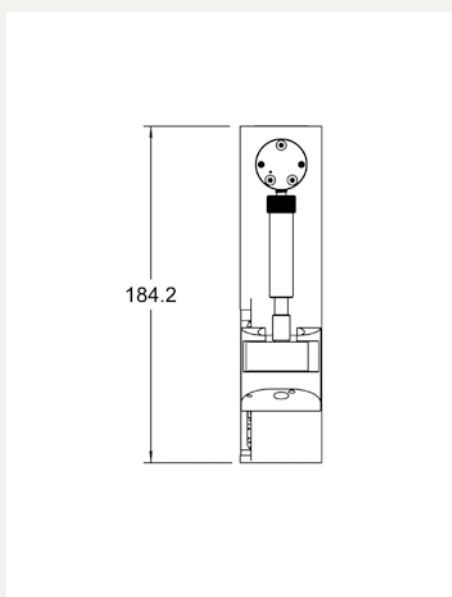
Specifications

Dimensions	184.2 x 68.7 x 44.5 mm (7.25 x 2.7 x 1.75 in)
Resolution	181,490 increments
Syringe volumes	250 µl, 1.25 ml, 5 ml
Dynamic range	>3 orders of magnitude (<0.1 – 100% syringe volume)
Accuracy	≤0.25% deviation from expected result at full stroke (at 25 °C (77 °F), with 1.25 ml syringe using deionized water)
Precision	0.05% CV at full stroke (at 25 °C (77 °F), with 1.25 ml syringe using deionized water)
Valve options (non-distribution)	3-port, 4-port, 4-port dual-loop
Valve options (distribution)	3-port, 6-port, 6-port chamfer, 9-port, 12-port
Life expectancy	4 million cycles (8 million moves)
Power requirements	supply voltage: 24 VDC ±1 0% peak current: 2.5A
Speed	1.0 sec – 50 h/stroke
Environmental operating conditions	15 – 50 °C (59° – 122 °F), 20 – 80% RH at 40 °C (104 °F)

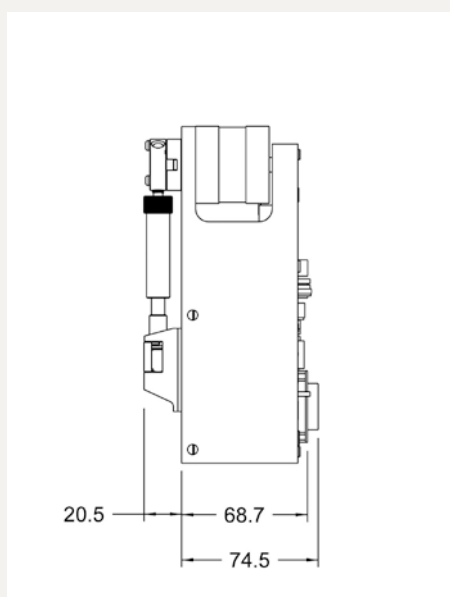
Safety and regulatory compliance

The Cavo Centris Pump family of products is UL recognized (standard UL61010A-1) and bears the UL designation label.

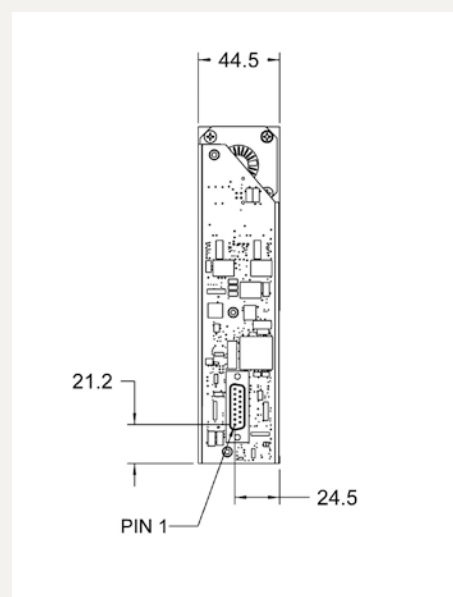
Specifications are subject to change without notice.



Front view



Side view



Back view

There are more than 300 available configurations of the Cavo Centris Pump. Please contact your local Tecan representative to select the configuration which is best for your needs.

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