



Cavro[®] Centris Pump

A new level of accuracy for precision liquid handling

Superior performance with an innovative design

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

Key benefits

The Cavro Centris Pump offers a broader working volume range from a single syringe size compared to similar OEM pumps, enabling you to do more with one pump than ever before. **Tecan Cavro OEM components are designed and manufactured to high quality standards, meeting ISO 13485 requirements and the EU RoHS Directive.**



High accuracy is maintained to even the smallest dispense volumes

• Superior pipetting performance

The Cavro Centris Pump achieves accuracy and precision through its elegant drive mechanism, and optional long-life ceramic components, unique in a syringe pump of this design. The pump's high efficiency drive mechanism and optimized control enable excellent liquid handling performance at small volumes, yet still have the necessary speed and power to achieve high volume performance. These novel design features offer a broad dynamic range, often achieving the range normally covered by two pumps. 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

A simple and rigid mechanical design with fewer moving parts ensures the Cavro Centris Pump's reliability. Depending on the needs of your application, you can select from a broad range of ceramic or plastic valves and ceramic or glass syringes. Precision-paired ceramic syringes give minimal resistance or wear, and do not require a compliant O-ring seal on the plunger/barrel or an unswept dead volume. Customized parts and optimized drive electronics have resulted in whisper quiet operation, especially for slow dispense applications. The compact dimensions of the Cavro Centris Pump and the optional mounting kit provide maximum flexibility for easy hardware integration.

• Lower total cost of ownership

The durable, long-life drive mechanism in the Cavro Centris Pump will last the lifetime of the pump, offering good reliability. High quality parts also help to keep the pump relatively maintenance-free, keeping downtime to a minimum.

Superior longevity



Precision-paired ceramic parts give high accuracy and longevity



The Cavro Centris Wash Option improves performance for harsh application

Technical features

Tecan Cavro's industry standard OEM command set

Programmable in units of stepper motor increments or by volume (μl)

Optional mounting kit available for easier integration

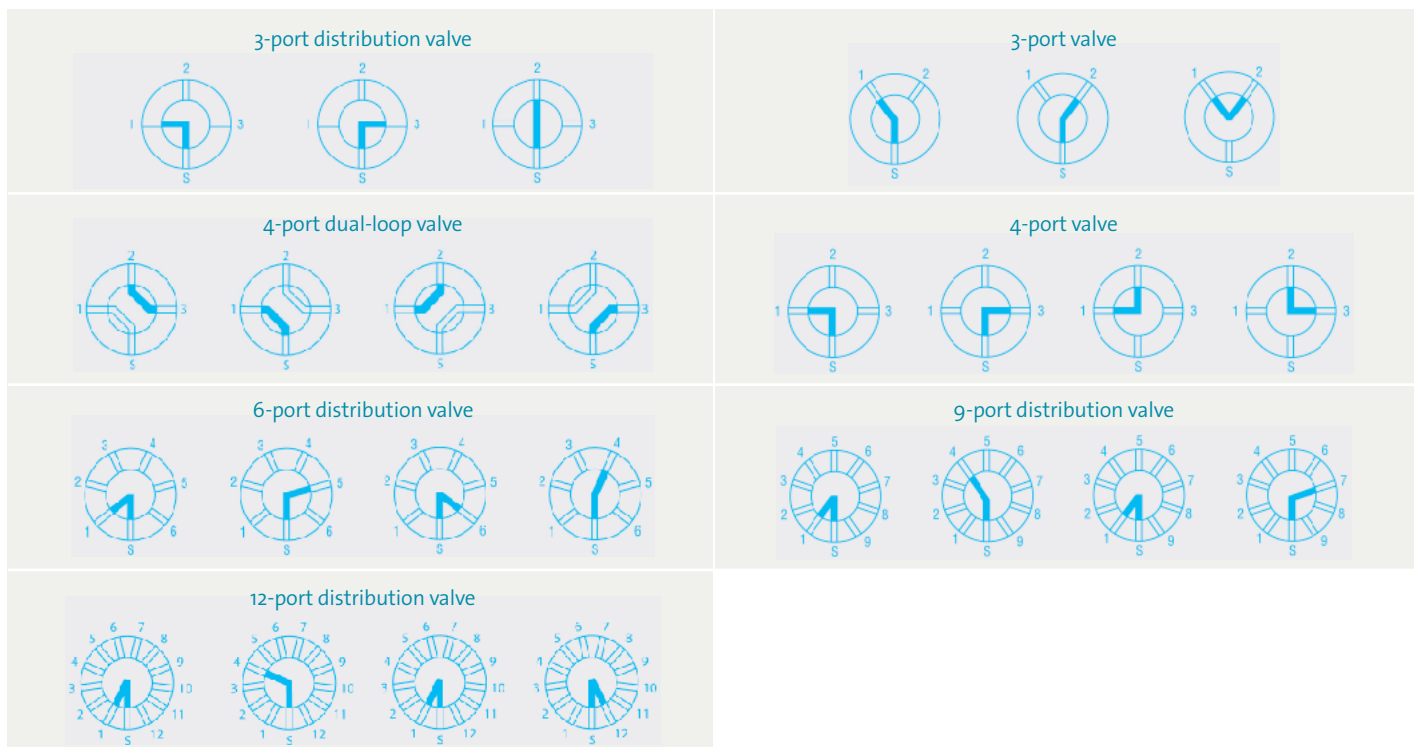
Step-loss detection on plunger and valve movements

RS232/RS485/CAN communication with configurable baud rates

Wash Option available for applications using saline buffers with ceramic syringes

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

Auxiliary I/O ports to interface with other modules

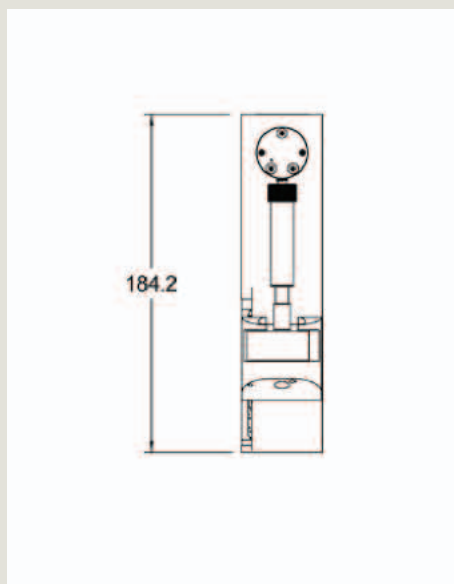


Valve options

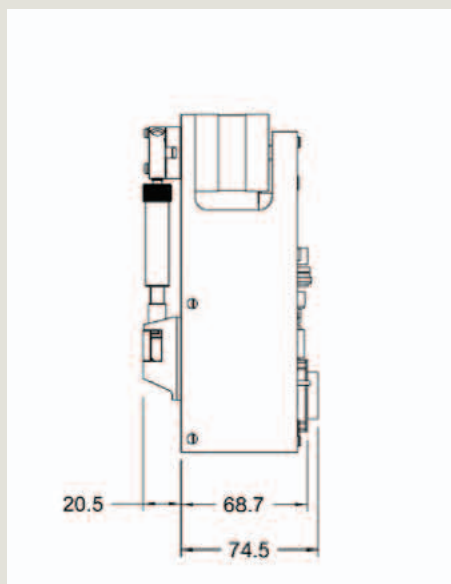
Outstanding performance and reliability

Specifications

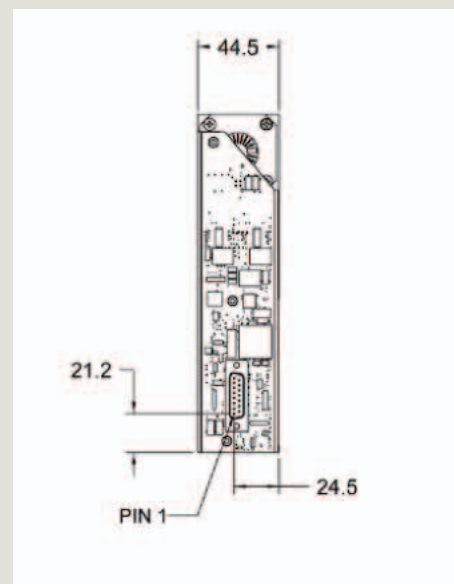
Dimensions	184.2 x 68.7 x 44.5 mm (7.25 x 2.7 x 1.75 in)	
Resolution	181,490 increments	
Ceramic syringe volumes	250 µl, 1.25 ml, 5 ml	
Glass syringe volumes	50 µl, 100 µl, 250 µl, 500 µl, 1.0 ml, 1.25 ml, 2.5 ml, 5.0 ml, and 12.5 ml	
Dynamic range	>3 orders of magnitude (<0.1 – 100 % syringe volume)	
Accuracy	≤0.25 % deviation from expected result at full stroke (at 25 °C (77°F), with 1.25 ml ceramic syringe using deionized water)	
Precision	0.05 % CV at full stroke (at 25 °C (77°F), with 1.25 ml ceramic syringe using deionized water)	
Ceramic valve options	Non-distribution: 3-port, 4-port, 4-port dual-loop Distribution: 3-port, 6-port, 6-port chamfer, 9-port, 12-port	
Plastic valve options	Non-distribution: 3-port, 4-port, 4-port dual-loop Distribution: 3-port	
Life expectancy	5 million moves (as per Tecan life test protocols using ceramic syringes)	
Power requirements w	Supply voltage: 24 VDC ±1.0 %	Peak current: 2.5 A
Speed	1.0 sec – 50 h/stroke	
Environmental operating conditions	15 – 50 °C (59 – 122°F), 20 – 80 % RH at 40 °C (104°F)	



Front view



Side view



Back view

There are hundreds of available configurations of the Cavro Centris Pump. Please contact your local Tecan representative to select the configuration which is best for your needs.

Austria +43 62 46 89 33 **Australia** ++61 3 9647 4100 **Belgium** +32 15 42 13 19 **China** +86 10 5869 5936 **France** +33 4 72 76 04 80 **Germany** +49 79 51 94 170 **Italy** +39 02 92 44 790
Japan +81 44 556 73 11 **Netherlands** +31 18 34 48 174 **Portugal** +351 21 000 82 16 **Singapore** +65 644 41 886 **Spain** +34 93 490 01 74 **Sweden** +46 31 75 44 000
Switzerland +41 44 922 89 22 **UK** +44 118 9300 300 **USA** +1 919 361 5200 **Other countries** +41 44 922 8125

Safety and regulatory compliance

Tecan Cavro OEM components are designed and manufactured to the highest quality standards, meeting ISO 9001 and ISO 13485 requirements, EU RoHS directives and the QSR compliant quality system. Most Tecan Cavro components are UL recognized components. Products shown are not to scale.

Tecan Group Ltd. makes every effort to include accurate and up-to-date information, however, it is possible that omissions or errors might have occurred. Tecan Group Ltd. cannot, therefore, make any representations or warranties, expressed or implied, as to the accuracy or completeness of the information provided. Changes can be made at any time without notice. All mentioned trademarks are protected by law. For technical details and detailed procedures of the specifications provided please contact your Tecan representative. This may contain reference to applications and products which are not available in all markets. Please check with your local sales representative.

© 2013, Tecan Trading AG, Switzerland, all rights reserved.

www.tecan.com