



Product Overview

Tecan Cavro® Components – Tecan Cavro innovation is everywhere



For over 37 years Tecan Cavro brand components have provided innovative and reliable liquid handling for instrument designers in almost any application within clinical diagnostics, life science research and analytical chemistry. Tecan Cavro OEM components are designed and manufactured to the highest quality standards, meeting ISO 13485 requirements and Directive 2002/95/EC – RoHS. We are a world-leading supplier of OEM pumps, robotics and other liquid handling components for laboratory automation. You can have absolute confidence in the performance, workmanship and dependability of Tecan Cavro products.

Tecan Cavro pumps

Pumps to suit all OEM needs

Cavro Air Displacement Pipettor (ADP)

Compact, pneumatic pipetting solution for easy integration and advanced process security. Innovative and reliable design, ensuring long life and reproducible pipetting for your instrument

- Pipetting range < 5 – 1000 µl
- Resolution 25 nl/increment (40,000 increments for 1000 µl)
- Process Security Disposable tip detection and ejection, integrated pressure sensor for liquid level detection and streaming pressure data
- Tip compatibility Tecan LiHa disposable tips (DiTis) 10, 50, 200, and 1000 µl



Cavro Centris Pump

Compact, high precision and accuracy syringe pump, using precision-paired long-life ceramic components for longevity and a broad working range. The motor drive electronics are optimized for quiet and smooth operation with programmable flow rates from 5 ml/s to under 5 nl/s.

- Resolution: 181, 490 increments
- Ceramic valve options (non-distribution): 3-port (3P), 4-port (4P) and 4-port dual-loop (4P dual-loop)
- Ceramic valve options (distribution): 3-port (3+), 6-port (6+), 6-port chamfer (6+ chamfer), 9-port (9+) and 12-port (12+)
- Ceramic syringe options: 250 µl, 1.25 ml and 5 ml
- Plunger travel: 30 mm
- Wash option for operation with saline buffers



Cavro XCalibur Pump (XC)

Low-profile high performance syringe pump.

- Resolution: 3,000 increments (24,000 increments in microstep mode)
- Plastic valve options: 3P, 4P, 4P dual-loop, T, Y-block, 3+ and 4+
- Ceramic valve options: 3P, 3+, 6+ and 9+
- Glass syringe options: 50 µl, 100 µl, 250 µl, 500 µl, 1 ml, 2.5 ml and 5 ml
- Plunger travel: 30 mm



Cavro XLP 6000 Pump

The most versatile syringe pump.

- Resolution: 6,000 increments (48,000 increments in microstep mode)
- Plastic valve options: 3P, 4P, 4P dual-loop, T, Y-block, 3+, 4+, 6+ and 9+
- Ceramic valve options: 3P, 3+, 6+, 9+ and 12+
- Glass syringe options: 50 µl, 100 µl, 250 µl, 500 µl, 1 ml, 2.5 ml, 5 ml, 10 ml, 25 ml and 50 ml
- Plunger travel: 60 mm



Products shown are not to scale

Tecan Cavro pumps (continued)

Pumps to suit all OEM needs

Cavro XMP 6000 Multi-Channel Pump

The economical solution for parallel pipetting.

- 2-, 4-, 6- and 8-channel configurations
- Resolution: 6,000 increments (48,000 increments in micro-step mode)
- Solenoid valve options: 3-port and 3-port with bypass
- Glass syringe options: 100 μ l, 250 μ l, 500 μ l, 1 ml, 2.5 ml and 5 ml
- Plunger travel: 60 mm



Cavro XE 1000 Pump

The entry level syringe pump. With a rugged, low maintenance design, this pump delivers a low cost of ownership over the life of the product.

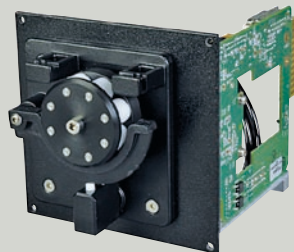
- Resolution: 1,000 increments
- Plastic valve option: 3P
- Glass syringe options: 50 μ l, 100 μ l, 250 μ l, 500 μ l, 1 ml, 2.5 ml and 5 ml
- Plunger travel: 30 mm



Cavro Smart Peristaltic Pump (SP)

Eight-roller, one-channel peristaltic pump for continuous flow applications.

- Stepper motor control of pump speed and direction with step loss encoder
- Resolution: 1,600 micro-steps/head revolution; 3,200 microsteps/pump head revolution
- Tube ID options: 2 mm and 3 mm
- Flow rate: 0.2 – 175 ml/min (with 3 mm ID tubing)

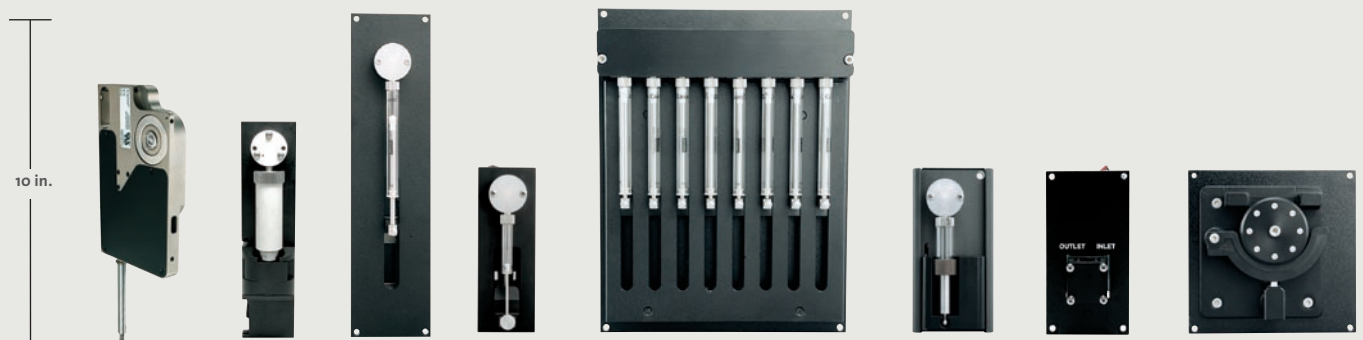


Cavro MiniWash Pump (MW)

Easy-to-use continuous flow diaphragm pump for fast system priming, tip washing or bulk fluid dispensing.



Products shown are not to scale



Comparison view of pumps

Tecan Cavro robotics

Reliable liquid handling robotic components

Cavro Omni Robot

Highly versatile general purpose liquid handling robot. Its modular design offers superior flexibility for a wide range of OEM applications.

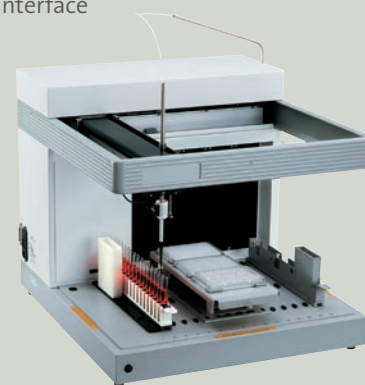
- Easy integration
- Closed-loop positioning
- Finished, professional appearance
- One- and two-arm options
- Probe options: standard Tecan probes and disposable tips
- Standard travel length for X-axis: 500 mm, 750mm, 1,250 mm
- Standard travel length for Y-axis: 150 mm, 300 mm
- Standard travel length for Z-axis: 210 mm
- Custom ranges available
- Standard colors: silver, gray
- Custom color options



Cavro Mini Sample Processor (MSP)

Automated sample processors designed for OEM manufacturers of analyzers or reagent systems to automate sample preparation or assay methods.

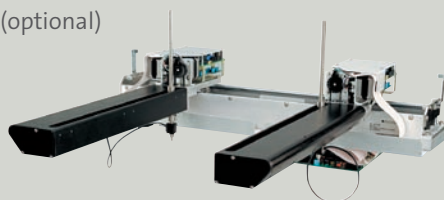
- Two sizes available
- One- and two-arm options
- Probe options: standard, cap piercing, multi-channel, and disposable tips
- Compatible with standard Tecan racks
- Controls up to eight Tecan Cavro pump modules
- RS232 communication interface
- Compatible with the Cavro Express Software (optional)



Cavro Robotic Sample Processor (RSP)

The perfect base unit to automate OEM XYZ liquid handling applications. Flexible in size and configuration, it offers a range of liquid handling options and end-effectors.

- Multiple configurations of x, y, and z ranges are available
- One- and two-arm options
- Probe options: standard, cap piercing, multi-channel, and disposable tips
- Controls up to eight Tecan Cavro modules
- RS232 communication interface
- Compatible with the Cavro Express Software (optional)



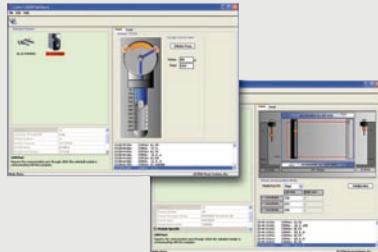
Products shown are not to scale

Tecan Cavro software

Intuitive software packages

Cavro Fusion Software

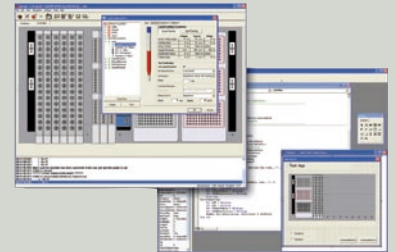
Cavro Fusion Software enables easy connection and operation of Tecan Cavro modules through a Windows®-based PC. The graphical user interface (GUI) allows new users to perform basic tasks, while advanced users have access to a scripting environment for bench testing, script testing and on-site troubleshooting. The software also automatically identifies the communications port used for connection of Tecan Cavro components and other installed devices. Cavro Fusion Software is supplied as an evaluation tool and is not intended to be used as application software.



Windows is a registered trademark of Microsoft Corporation.

Cavro Express Software

Cavro Express Software has been designed to simplify integration of robotic platforms, with convenient tools to speed up the development of control software for Cavro MSP and Cavro RSP robots and their derivatives. The software is designed for liquid handling applications, combining a straightforward graphical user interface (GUI) for basic control of the robot with easily programmable scripts for more complex, repeated routines.



Cavro Express Software is supplied as a development tool and is not intended to be used as application software.

Other Tecan Cavro components

Accessories for your OEM components

Cavro Integration Kit

Provides all necessary items for you to quickly start evaluating Tecan Cavro components. Kits include a power supply, cables, communications interface and Cavro Fusion Software compatible with current Tecan Cavro pumps, valves, robots and other components.



Cavro Smart Valve (SV)

The compact stepper motor-driven valve module.

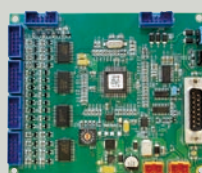
- Plastic valve options: 3P, 4P, 3+, 4+, 6+ and 9+
- Ceramic valve options: 3P, 3+, 6+ and 9+
- Selectable direction of rotation



Cavro Smart Input/Output Board (IO Board)

Provides an easy way to connect and control TTL level I/O ports.

- 16 I/O lines, 4 analog inputs

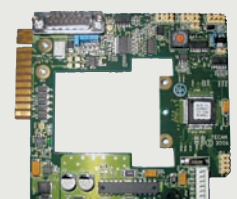


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Cavro Linear Option Board (LO Board)

A single axis motor controller for one stepper motor using the familiar Tecan Cavro command set.

- Controls one stepper motor
- Includes inputs for one homing sensor and one step loss sensor

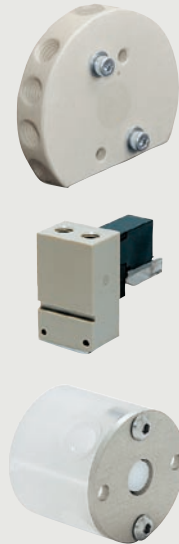


Tecan Cavro accessories and consumables

Tecan Cavro valves

The wide assortment of Tecan Cavro valves helps to configure the pumping system to meet your needs. The most common valve configuration is a rotary valve made of Teflon® and PCTFE but, if your applications require longer life or specific chemical compatibility, Tecan offers valves made of different materials including ceramic, PEEK™, PPS and UH-MWPE.

Solenoid valves are available for the multi-channel pumps. These space efficient valves are designed for easy access and minimal pumping action.



Tecan Cavro syringes

Tecan provides a full range of glass and ceramic syringes specifically designed for Tecan Cavro syringe pumps. These syringes are the heart of the pumping system! Combined with Tecan Cavro's syringe pumps, they provide the superior performance that our customers have relied on for over 30 years.



Tecan fittings and tubing

Tecan has a variety of tubing options to complement the Tecan Cavro products. In addition, customization is available for tubing material, length, fittings and end style to suit any application.

A variety of Teflon tubing is available, with fittings in 1/4-28 and M6 formats, and can be custom labeled to help with your tubing management. The ends of the tubing can be drawn at the tip to improve your precise dispensing results. So, whether dispensing small or large volumes, we can supply tubes to meet your requirements.



Tecan probes

Most of our probes are made of Teflon-coated stainless steel and have liquid detection capability. Technical notes to help optimize your liquid handling parameters are available.

Tecan has the probe to help you optimize your application:

- Wide bore, mid-range, and small ID probes
- Cap-piercing probes
- Dual lumen probes
- 8-channel probes



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Tecan Cavro accessories and consumables

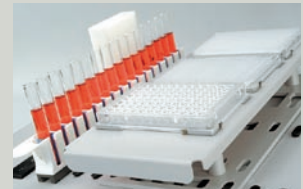
Tecan disposable tips

Tecan offers high quality disposable tips, manufactured to the highest standards, for precise, reliable and safe pipetting. Compatible with Tecan's proprietary liquid level detection, Tecan offers disposable tips with or without filter, for automated pipetting with our liquid handling components.



Tecan racks

Ready to dispense into a microplate? Need to pierce a test tube cap? Choose from a variety of Tecan racks and carriers to meet the needs of your application.



- Racks for various tube sizes
- Microplate racks in portrait or landscape orientations
- Reagent racks
- Disposable tip racks
- Deep-well racks
- Microcentrifuge tube racks

For more information, see www.tecan.com/diti

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