Cavro® Magni Flex.

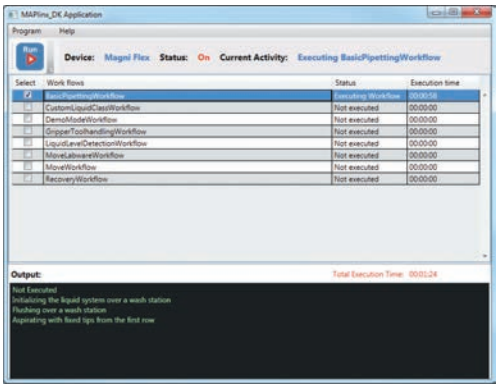
LATEST OEM ROBOTIC DEVELOPMENT PLATFORM FROM THE LIQUID HANDLING EXPERTS

Liquid handling and robotics made easy

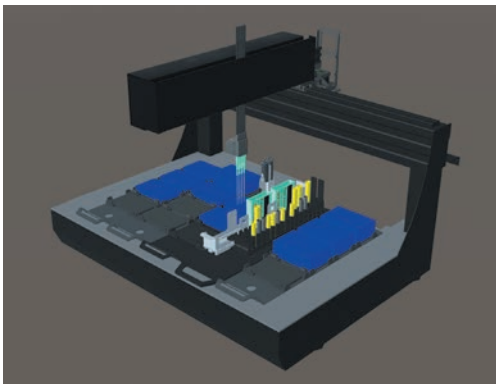
The Cavro Magni Flex represents a comprehensive, modular liquid handling framework that is designed to easily integrate into almost any system, in a wide range of laboratory processes – from molecular immunoassay processing to molecular diagnostics – allowing instrument designers to concentrate on their applications.

Key benefits

- **Versatile –** choose between liquid or air dispensing and various worktable sizes for your application requirement
- **Adaptable and flexible –** two, four or eight* independent Y and Z channels with variable spacing capabilities, enable the use of different labware formats to match the needs for your specific workflow
- **Proven and reliable –** backed by Tecan's 40 years of development experience and commitment to highest standards
- **Channel grippers –** use the existing channels as gripper extensions eliminates the need for an additional arm for labware handling
- **Broad range of pipetting volumes –** the low maintenance Cavro Pulssar PBC Pumps offer a 5 to 1,000 µl liquid handling range for broad application flexibility, and the new Air Restriction Pipetting Technology offers a volume range from 1 µl to 5000 µl
- **Auto-alignment –** automatically align the robotic arm for quick on-site set-up
- **Software development kit –** to accelerate end-user software development, offering:
  - Higher level command functions for easy robotic programming
  - Multichannel synchronization and collision avoidance
  - Drag and drop customizable worktable editor
- **3D simulator –** standalone software that emulates hardware commands in 3D, allowing methods to be developed, tested and improved before the hardware is even available



Application-based examples to expedite workflow creation.



3D simulator designed to simplify software programming and testing.

The Cavro Magni Flex is the ideal starting platform for your next instrument design with multichannel liquid handling needs. Designed for OEM customers who are looking to quickly develop an automated liquid handling solution, the Cavro Magni Flex provides a core robotic architecture that can evolve into a complete automation solution addressing your specific application needs.

*Not all configurations may be available in your region.

Specifications

Power requirements			
Operating voltage	100 to 240 VAC, 50/60 Hz		
Power supply rating	480 VA		
Maximal power per output @ 24 V	95 W continuous, 200 W for max. 120 s		
Communications			
To other Tecan Devices	CAN2(0) 500 kb/s CAN1(0) 100 kb/s USB RS232 RS485		
To host	USB2		
Mechanical			
Travel length	**X-axis**	**Y-axis**	**Z-axis**
		Functional / partial access	
2-channel	3 Grid: 527mm 5 Grid: 803mm 9 Grid: 1355mm	445(1) / 454(2) mm	≥143(3) / ≥180(4) mm
4-channel		388(1) / 414(2) mm	
8-channel	5 Grid: 764mm 9 Grid: 1316mm	353(1) / 414(2) mm	
Maximum speed			
Speed	750 mm/s	300 mm/s	400 mm/s
Acceleration	1,000 mm/s(5,6) 900 mm/s(7)	1,500 mm/s(2)	2,400 mm/s(2)
Resolution	0.02 mm	0.05 mm	0.0013 mm
Payload (per channel gripper pair)	N/A	N/A	400 g
Accuracy	± 0.5 mm	± 0.5 mm	± 0.5 mm
Dimensions	**3 Grid Deck**	**5 Grid Deck**	**9 Grid Deck**
Width	878 mm	878 mm	878 mm
Length	737.5 mm	737.5 mm	737.5 mm
Height	795.5 mm	795.5 mm	795.5 mm
Weight Liquid dispensing Air dispensing	 32.2(5) kg 36.7(5) / 37.5(6) / 42.7(7) kg	 39.2(5) / 41.7(6) / 49.9(7) kg 43.6(5) / 44.4(6) / 49.6(7) kg	 53(5) / 55.6(6) / 63.7(7) kg 57.4(5) / 58.2(6) / 63.4(7) kg
Pipetting	**Pipetting Precision (Precision CV)**	**Volume Range**	**Process Security**
Liquid System	5 µl: ≤ 10% 50 µl≤ 2% 1000 µl: ≤ 1%	5 µl to 1000 µl	cLLD (capacitive Liquid Level detection)
Air System	1 µl: ≤ 5% 200 µl: ≤ 2% 1000 µl: ≤ 2%	1 µl to 5000 µl	
Motor driver technology	**X-axis**	**Y-axis**	**Z-axis**
	Field-oriented control with incremental encoder	DC with incremental encoder	DC with incremental encoder
Options			
Tecan tip option	Standard fixed tips(8) Disposable tips(9)		
Software and programming			
Required OS	Windows® 10 OS		
Software	MAPlinx Setup Software MAPlinx Development Kit (C# Development Infrastructure		
Environment requirements			
Operating	15–32 °C / 59–90 °F		
	30–60 % relative humidity, not condensing at 30 °C / 86 °F		
	Altitude 0–2,000 m above sea level		

(0) Tecan-specific protocol
(1) Each channel individually
(2) All channels together
(3) With standard fixed tips
(4) With Disposable tips
(5) With 2 Channel Arm
(6) With 4 Channel Arm
(7) With 8 Channel Arm
(8) With Liquid dispensing only
(9) With Air Dispensing only (ARP)

Australia +61 3 9647 4100 **Austria** +43 62 46 89 330 **Belgium** +32 15 42 13 19 **China** +86 21 220 63 206 **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 17 4 **Nordic** +46 8 750 39 40 **Singapore** +65 644 41 886 **Spain** +34 93 595 25 31
Switzerland +41 44 922 89 22 **UK** +44 118 9300 300 **USA** +1 919 361 5200 **Other countries** +41 44 922 81 11

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