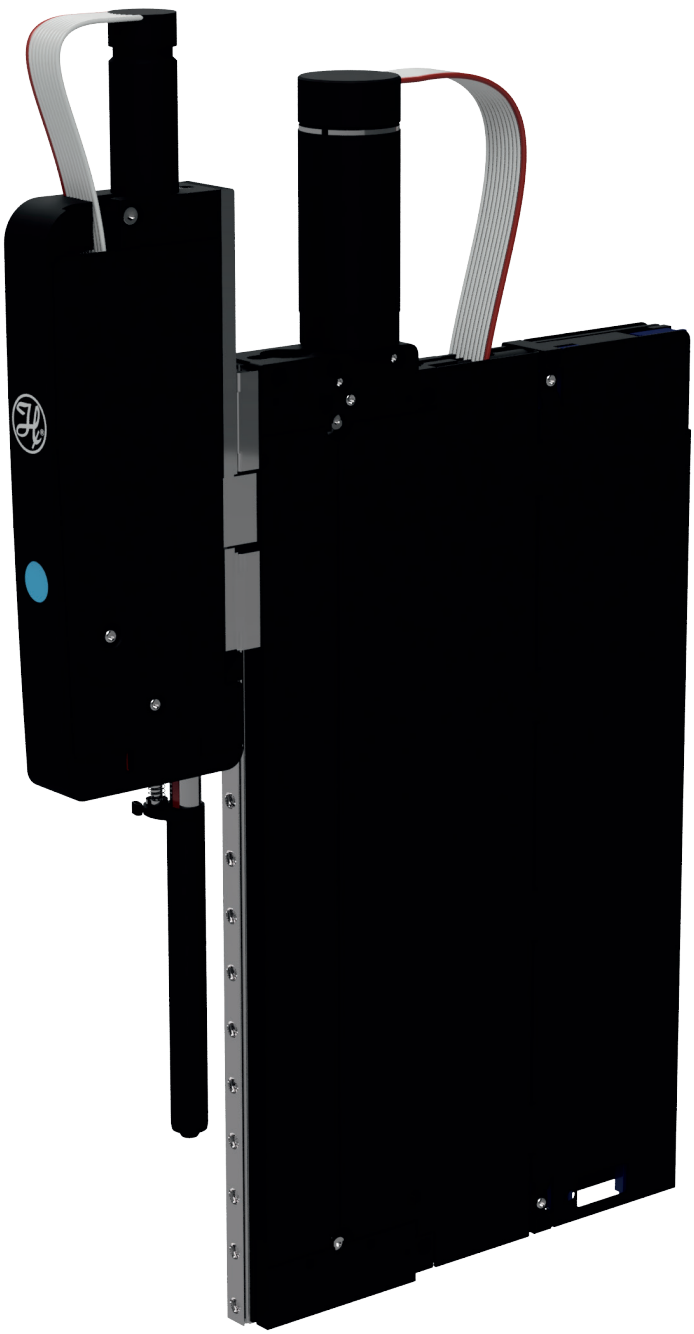
ZEUS® Pipetting Module
Specification Sheet



Intelligent Liquid Handling

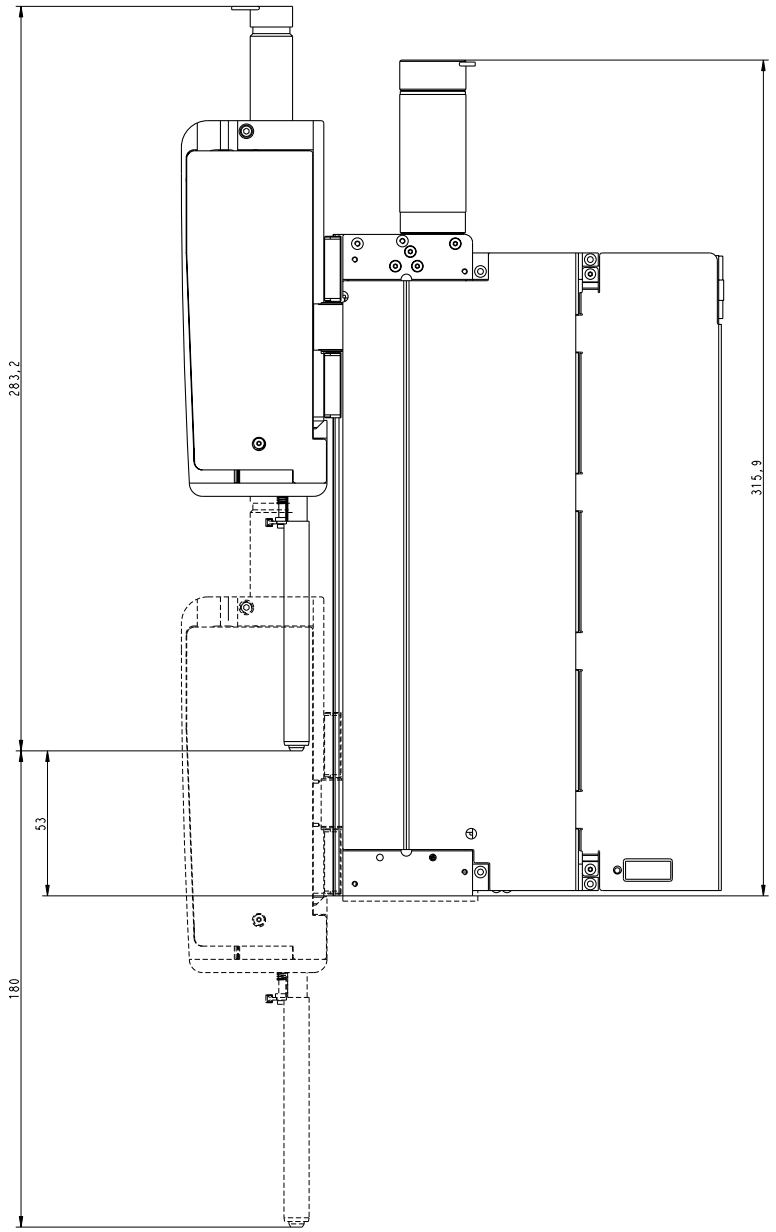
ZEUS (Z-Excursion Universal Sampler™) has been designed to take ownership of the entire pipetting process. It is based on Hamilton's revolutionary air displacement pipetting technology and uses disposable CO-RE II® tips to avoid carry-over.

With its integrated z-motion, ZEUS automatically picks up the tip, detects and follows the liquid level during aspiration and dispense. ZEUS adjusts its movements to the liquid type to ensure accurate and precise pipetting. The on-board Qualitative Pipetting Monitoring™ (QPM) actively prevents malfunctions. These high level capabilities allow customers to significantly shorten development timelines and get product to market faster.

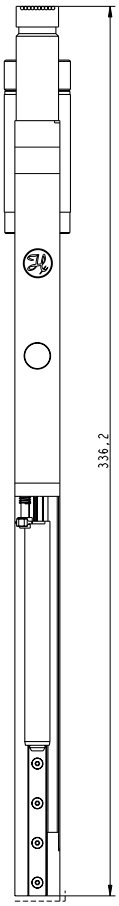
ZEUS Product Drawings and Dimensions in mm

Straight Configuration

Side



Front



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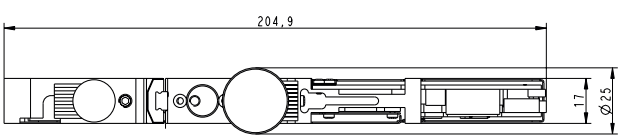

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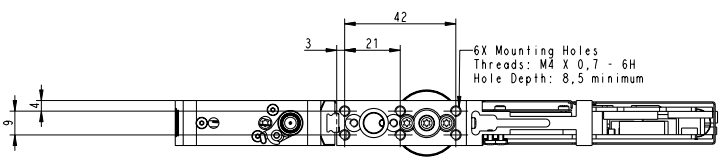


Ordering Information

ZEUS Pipetting Module

Part Number	Description	Includes
800700	ZEUS CO-RE module	
202977-0020	Test platform	Holder for the ZEUS module, and Communication box
202977-0021	Holder for ZEUS module	
202977-0022	Communication box	USB / Hamilton CAN converter, power supply, cables and software CD

Test platform

Accessories and Spare Parts

Part Number	Description
800336	Holder for CO-RE tip rack
800337	Tip ejection sleeve (1/pk)
6606396-03	CO-RE II Tip Adapter (1/pk)

CO-RE II adapter

Tip ejection sleeve

Holder for CO-RE tip rack

Disposable CO-RE II Tips*

Part Number	Description			
235904-ZEUS	1000 µL tip	non-filtered	conductive	40 racks of 96
235905-ZEUS	1000 µL tip	filtered	conductive	40 racks of 96
235902-ZEUS	300 µL tip	non-filtered	conductive	60 racks of 96
235903-ZEUS	300 µL tip	filtered	conductive	60 racks of 96
235806-ZEUS	300 µL slim tip	non-filtered	conductive	40 racks of 96
235647-ZEUS	300 µL slim tip	filtered	conductive	40 racks of 96
235966-ZEUS	50 µL tip	non-filtered	conductive	60 racks of 96
235948-ZEUS	50 µL tip	filtered	conductive	60 racks of 96
235900-ZEUS	10 µL tip	non-filtered	conductive	60 racks of 96
235901-ZEUS	10 µL tip	filtered	conductive	60 racks of 96

*Other tips are available on request

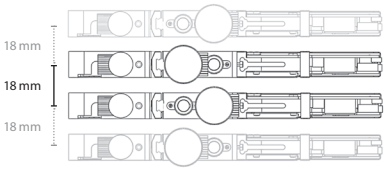
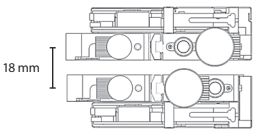
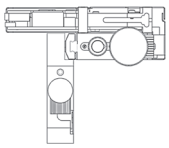
CERTIFIED
Biological purity tested
DNase-/RNase-free
non-pyrogenic

96 x 1000 µL CO-RE II tips

For more information on ZEUS and other Hamilton OEM Components please visit

www.hamiltoncompany.com/OEM

Product Specifications

Dimensions Width x Depth x Height	25 mm x 205 mm x 337 mm	45 mm x 118 mm x 337 mm	161 mm x 102 mm x 337 mm
			
	Straight configurations (Single or parallel arrangement)	Folded configurations (Single arrangement or as a pair)	Right angle configuration (Single arrangement)
Weight	1100 g		
z-Drive	Maximum z-Excursion Resolution z-Axis Maximum Speed z-Axis	180 mm 0.1 mm 350 mm/s	
Pipetting Drive	Volume Range Resolution Maximum Speed	1 µL – 1000 µL 0.1 µL 150 mm/s corresponding to 2'500 µL/s	
Pipetting Mode	Single and aliquot dispensing		
Process Security	Tip presence sensor Pressure-based and capacitive Liquid Level Detection (cLLD and pLLD) Qualitative Pipetting Monitoring (QPM) Anti-Droplet Control (ADC)		
Operating Data	Power requirement Temperature range Relative humidity Noise level	48 VDC ± 5%, 1.8 A 18°C – 32°C 40% – 80% (non-condensing) < 60 dBA, Indoor use only	
Storage and Transportation	Temperature range Relative humidity	-25°C to +70°C 40% – 80% (non-condensing, indoors)	
Communication	CAN (Hamilton protocol), FCC connector Selectable baud rates Device addressing	 125, 500 kBaud (others on request) up to 31 modules on a single CAN bus	
RoHS Compliant	Yes		

Pipetting Performance*

Disposable Tip Size	Pipetting Volume	Accuracy	Precision
10 µL	1 µL	5.0%	4.0%
10 µL	5 µL	2.5%	1.5%
10 µL	10 µL	1.5%	1.0%
50 µL	1 µL	5.0%	4.0%
50 µL	5 µL	2.5%	1.5%
50 µL	50 µL	2.0%	0.75%
300 µL	10 µL	5.0%	2.0%
300 µL	50 µL	2.0%	0.75%
300 µL	300 µL	1.0%	0.75%
1000 µL	10 µL	7.5%	3.5%
1000 µL	100 µL	2.0%	0.75%
1000 µL	1000 µL	1.0%	0.75%

*Pipetting specifications were determined gravimetrically using a high precision balance and strictly controlled environmental conditions: test temperature: 20 ± 2°C, relative humidity: 50% ± 5%, test liquid temperature range: ≤± 0.5°C of room temperature; balance used: Mettler Toledo MX5.

The measurements were done with Hamilton Verification Solution (deionized water with 0.1% NaCl and 0.01% Tween detergent) using standard CO-RE conductive tips. A new tip was used for each pipetting cycle (aspiration and dispense). At least 10 points were taken for each volume and pipetting module. Volumes > 20 µL were dispensed in jet mode. Volumes ≤ 20µL were dispensed in surface mode. Results may vary using other liquid or environmental conditions.

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