

Pump 33 DDS (Dual Drive System) Syringe Pump - Specifications

The Harvard Apparatus **Pump 33 DDS** (Dual Drive System) is a leap forward in syringe pump capability. The Pump 33 DDS has two independent pumping channels controlled by an intuitive touch screen interface.

This multi-purpose syringe pump employs advanced syringe mechanisms that include a tight gripping, extremely secure syringe clamp that accommodates syringe sizes 0.5 µl to 60 ml. The Pump 33 DDS offers enhanced flow performance with high accuracy and smooth flow from 1.02 pl/min to 106 ml/min.

The new Harvard Apparatus Pump 33 DDS employs a graphical user interface controlled with a large 7" LCD Colour Touchscreen.



Specifications

UNIT SPECIFICATION	PARAMETER
Accuracy	± 0.25 %
Linear Force (Max, per syringe)	70 lbs (31.75 kg) at 100% Force Setting up to a flow rate of 90 ml/min using up to a 60 ml syringe with a 32.573 mm inner diameter. 50 lbs (22.6 kg) at 100% Force Setting for flow rates 90 ml/min to 106 ml/min using the same size syringe.
Syringe Size:	Two Independent syringe mechanisms (noted as syringe drive P1 & P2)
Minimum	0.5 µl (0.103 mm minimum inner diameter)
Maximum	60 ml (32.573 mm maximum inner diameter)*
Flow Rate:	
Minimum	1.02 pl/min (0.5 ul syringe, 0.103 mm inner diameter)
Maximum	106 ml/min (60 ml syringe, 32.573 mm diameter)
Display	7" WQVGA TFT Color Display with Touch Screen
Modes of Operation:	
Twin Condition	Both syringes of the same size operate identically (flow rate, direction & volume)

Independent Condition	Both syringes operate independently
Reciprocating Condition	Continuous flow, both syringes of the same size operate identically in opposite directions
Non-Volatile Memory	Stores all settings
Pump Command Control	ASCII Command Set
Real time Clock	Yes, with battery backup (battery included and required for real time clock)
Connectors:	
Power	Barrel connector, (-) barrel (+) post 2mm X 5mm male plug
RS-485	IEEE-1394, 6 pos (Pump-to-pump communication only)
USB	Type B
RS-232	9 pin D-Sub Connector
(I/O) TTL	15-pin D-sub connector (one for each axis)
Footswitch Connections	Mini phono jack
Drive Motor	Two independent stepper motors
Motor Drive Control	MCU controlled
Step Rate:	
Minimum	27 sec/ μ step
Maximum	26 μ sec/ μ step
Stall Detection	Yes, independent axis stall detection
Input Power	30 V, 2.0 A
Power Supply	Input 100-240 VAC, 50-60 Hz, Output 30V 2.0 A, 50 Watts
Dimensions	[L x D x H] 11" x 15" x 8" (28 cm x 39 cm x 21 cm)
Weight	21 lbs (9.09 kg)
Operating Temperature	4°C to 40°C (40°F to 104°F)
Storage Temperature	-10°C to 70°C (14°F to 158°F)
Operating Humidity	80% @ 25° C ambient temperature
Storage Humidity	20% to 80% RH, non-condensing
Classification	Class I
Pollution	Degree 1
Installation	Category II
Regulatory Certifications	CE, ETL (UL & CSA), CB Scheme, EU RoHS, WEEE

*NOTE: Some larger syringes may be compatible with the Pump 33 DDS. Please contact Technical Support for more information.

Bilaney Consultants

Please contact us if you need further information, advice or pricing about the products we sell:

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