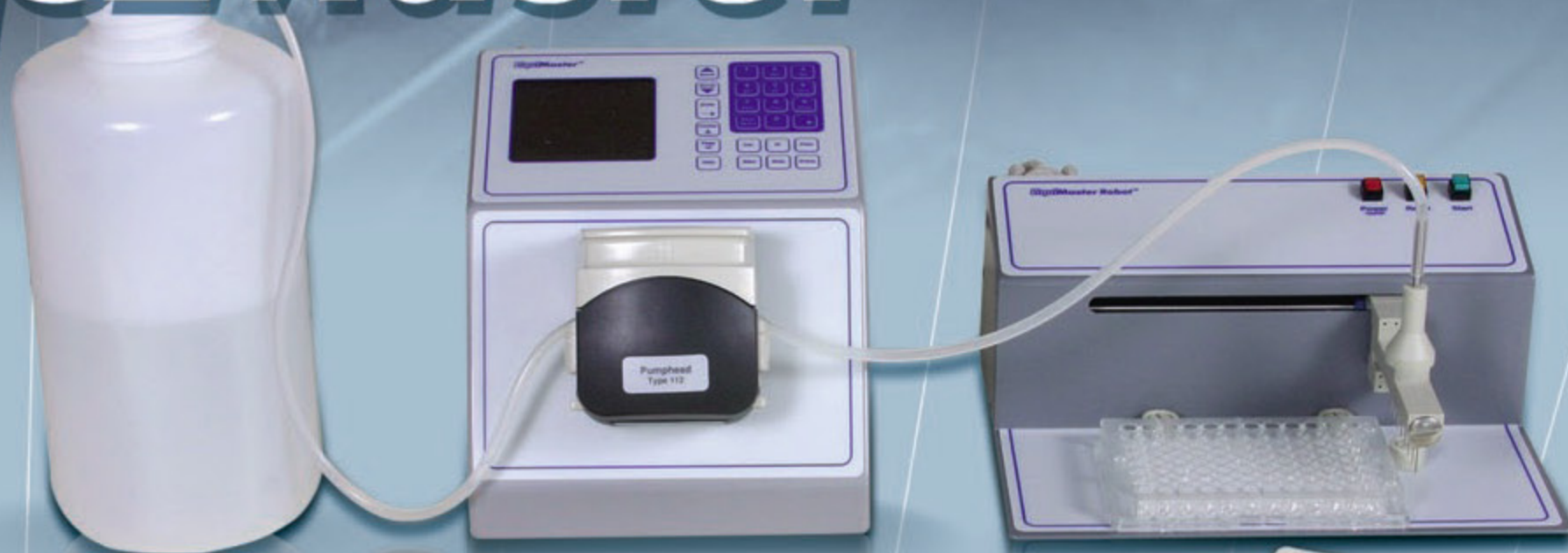


LiquiMaster™



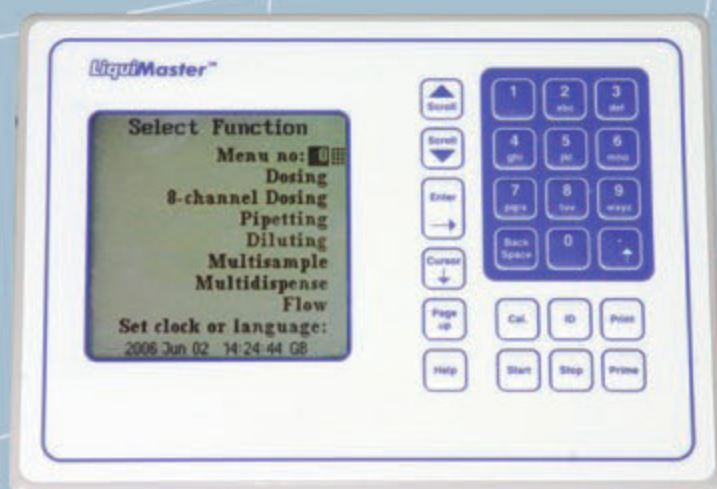
Automated Liquid Handling

Liquid handling in laboratories often is tedious and time consuming. LiquiMaster™ is a flexible and easy-to-use system which eliminates most of the work load, and speeds up the liquid handling at same time. With the LiquiMaster™ it is possible to perform operations such as dispensing, diluting, pipetting or plate filling up to 5 times faster than by conventional means.

The LiquiMaster™ system consists of an electronically controlled pump unit with optional periphery equipment, ranging from filling needles, single pipettes, 8-channel dispensers, up to a small Robot for automated filling of microplates. The LiquiMaster™ dispenses with a precision better than 0.5%, makes dilutions with the same accuracy, calibrates in a matter of seconds, and delivers a print-out of all operations data, including calibration.

Easy-to-operate

A large intuitive display makes the operation very simple. If in doubt in any cursor position, a help function will guide you.



Sample identification and Memory option

The LiquiMaster™ has an ID button to allow sample identification, such as batch number, liquid, operator name, etc. The Memory option allows storing up to 25 preferred liquid handling procedures, which are easily recalled.

Versatile

The LiquiMaster™ can be set-up to perform any type of liquid handling in the lab, whether dosing, diluting, pipetting, multidispensing, multisampling or calibrated flow.



LiquiMaster™ 8 channel dispense head

The 8 channel dispense head is ideal for semi-automated dispensing into 96 well microplates such as in ELISA procedures.



We take pipetting to perfection.

LiquiMaster™ Robot

The LiquiMaster™ Robot is a unique system for automated filling of microplates or deep-well plates in 96-well or 384-well formats. As an example it fills 100µl into 96 wells in less than 10 seconds, and 2ml into 96 wells in 45 seconds.



LiquiMaster™ Automated Liquid Handling

Cat. No.	Description
LiquiMaster	
FM-421	Basis models with all pipetting functions (includes pumphead FM-H112)
FM-421 Print	Print option
FM-421 Memo	Memory option
LiquiMaster Robot	
FM-852	Mini-robot for 96-well and/or 384-well plates (includes TH-0801)

Pipette modules and needles

Pipette modules	
TH-0200	For 200 µl tips (short shaft)
TH-0201	For 200 µl tips (long shaft)
TH-1000	For 1,000 µl tips (short shaft)
TH-1001	For 1,000 µl tips (long shaft)
TH-5000	For 5 ml tips
TH-0800	8-channel pipettor
TH-0801	8-channel distributor for mini robot

Filling needles (with collar)

FN-0001	For 0.5 and 1 mm tubing
FN-0002	For 2 mm tubing
FN-0004	For 4 mm tubing

Suction needles (with V-slot)

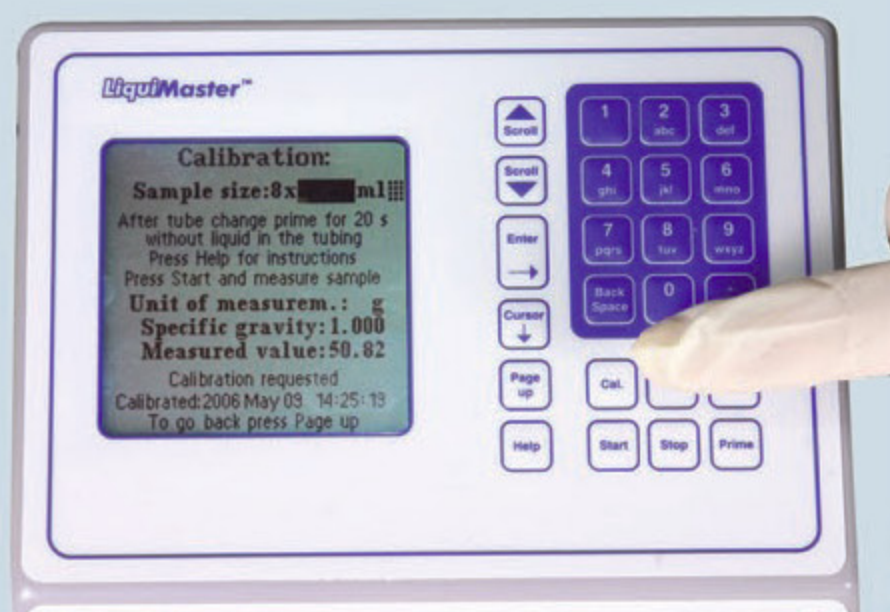
FN-0101	For 0.5 and 1 mm tubing
FN-0102	For 2 mm tubing
FN-0104	For 4 mm tubing

Silicon Tubing

DSM-03-16	0.3 mm inner diameter; 1.6 mm wall thickness - per meter
DSM-05-16	0.5 mm inner diameter; 1.6 mm wall thickness - per meter
DSM-1-16	1 mm inner diameter; 1.6 mm wall thickness - per meter
DSM-2-16	2 mm inner diameter; 1.6 mm wall thickness - per meter
DSM-4-16	4 mm inner diameter; 1.6 mm wall thickness - per meter

Easy calibration

Calibration is easy. After pressing the Cal. button, the display will tell how to do. The procedure takes less than 20 seconds.



Specifications pump

Sample size and dose sizes

Pipetting, Multidispense, Multisample	20µl – 10ml
Dilutions	20µl – 10ml samples, 20µl – 1000ml diluent
Dosing	20µl – 1000ml
Flow	12µl – 800ml / min
Power supply	230V, AC, or 115V, AC changeable. 50W
Dimensions	Height: 180mm, Depth: 190mm, Width: 170mm, Weight: 3.2kg
Printer	with a 25-pin SUB D socket for Centronics parallel interface

Repeatability and accuracy for various tube sizes

Repeatability and accuracy depends on the number of pump rotations. For a given volume many rotations using a small tubing gives higher accuracy than few rotations using a larger tubing.

Tube size	Repeatability: ±1%		Repeatability: ±1%		Repeatability: ±1%	
	Minimum Volume	Time	Minimum Volume	Time	Minimum Volume	Time
0.3 mm	60µl	1.9 sec	120µl	3.5 sec	600µl	17.5 sec
0.5 mm	200µl	1.1 sec	400µl	2.2 sec	2ml	8.3 sec
1 mm	800µl	1.1 sec	1.6ml	2.2 sec	8ml	8.3 sec
2 mm	3ml	1.1 sec	6ml	2.2 sec	30ml	8.3 sec
4 mm	10,6ml	1.1 sec	21.2ml	2.2 sec	106ml	8.3 sec

Specifications for various pipettes

Repeatability and accuracy depends on the number of pump rotations. For a given volume many rotations using a small tubing gives higher accuracy than few rotations using a larger tubing.

Pipette type	Volume	Tube size mm	Accuracy ± %	Repeatability ± %	Time sec
TH0200	20-200µl	0.3	4 – 0.6	3 – 0.3	0.7 – 2.6
	50-200µl	0.5	4 – 1.6	3 – 1.0	0.5 – 1.1
TH1000	100-1000µl	0.5	3 – 0.6	2 – 0.4	0.7 – 4.3
	200-1000µl	1.0	4 – 1.6	3 – 1.0	0.5 – 1.3
TH5000	0.5-5ml	1.0	2 – 0.5	1 – 0.4	0.8 – 5.1
	1-5ml	2.0	4 – 1.0	3 – 0.6	0.6 – 1.7



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