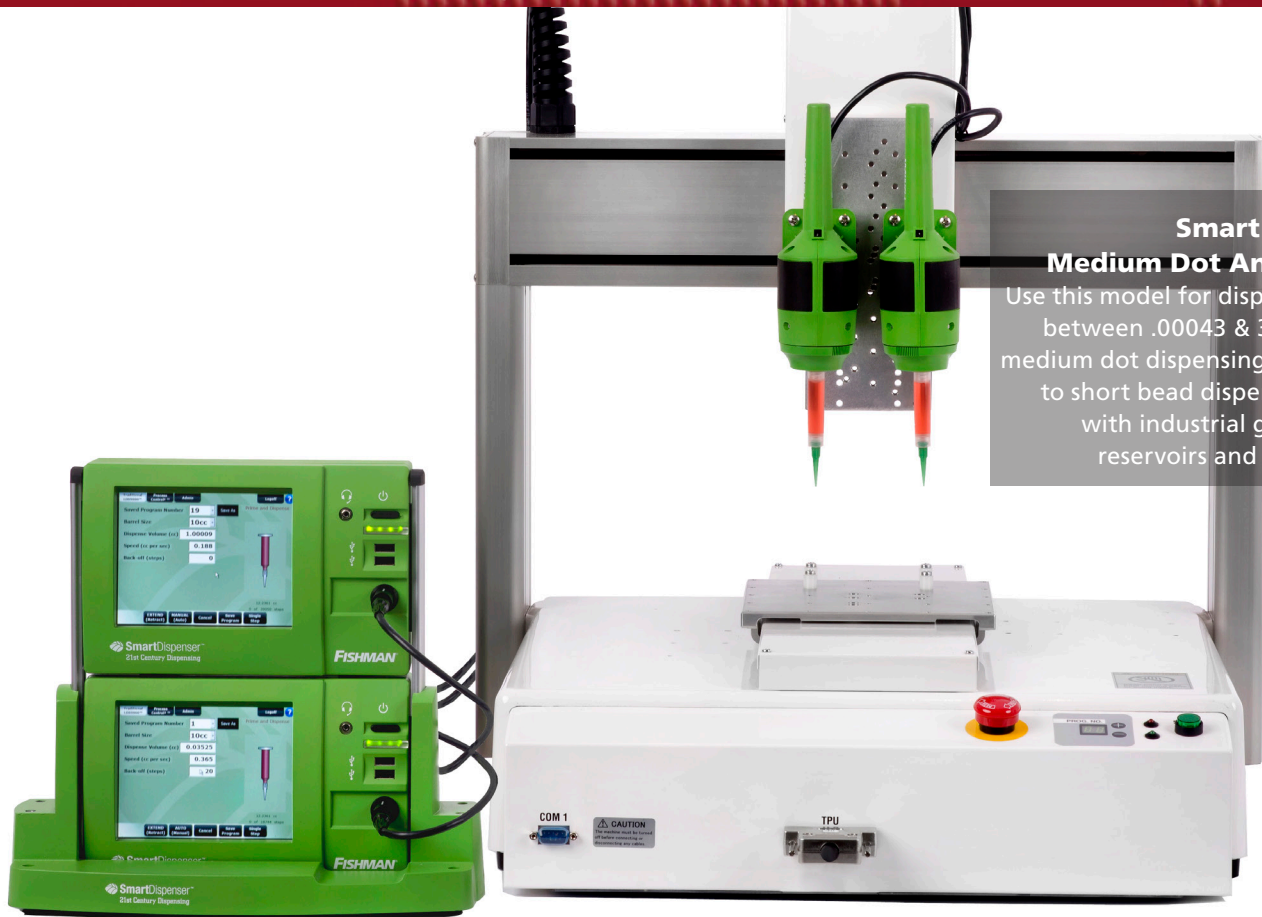


SmartDispenser®

MDAV HIGH TORQUE BENCHTOP AUTOMATION SYSTEM



**SmartDispenser®
Medium Dot Any Viscosity**
Use this model for dispense volumes between .00043 & 30cc, ideal for medium dot dispensing and medium to short bead dispensing. For use with industrial grade Genius® reservoirs and dispense tips.

MDAV-HT-BA

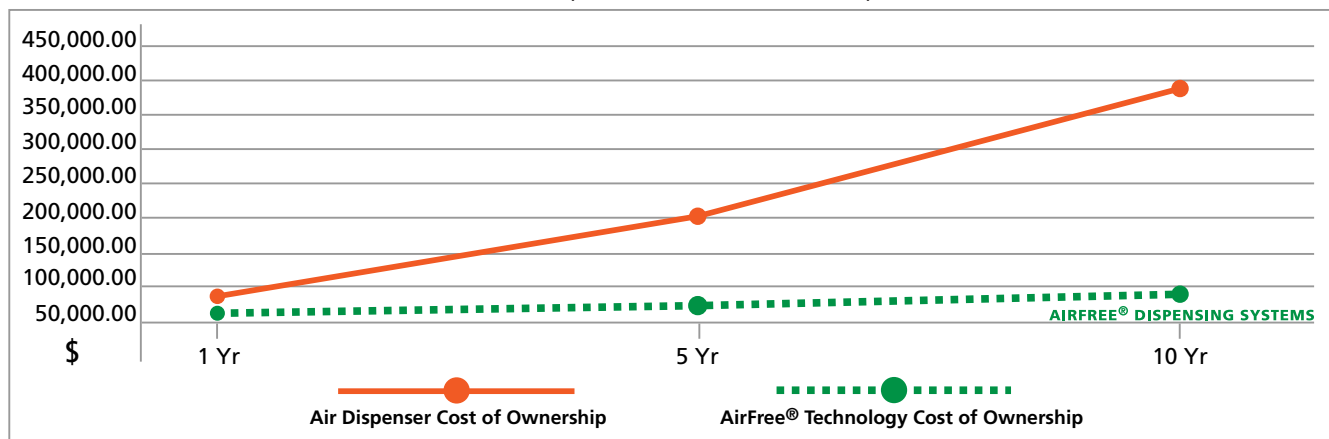
AirFree® Technology & Automation

AirFree® technology acts as an additional axis when mounted on a benchtop automation system. The precise control engineered into the X, Y and Z axis is now applied to the fluid delivery axis. All axes are motor driven lead screws with known speeds and can be coordinated providing the highest precision and repeatability available on a benchtop robot.

Total Cost of Ownership

AirFree® Technology Adds Profits When Replacing Air Driven Systems

Cost of ownership, Air vs. AirFree®, one fluid dispenser



Fishman Corporation 192 South Street, Hopkinton, MA 01748, United States
 US & Canada: 800-433-2115 | United Kingdom: 1905 456008 | Europe: +441905 456008
 Worldwide: 1-508-435-2115 | www.fishmancorp.com

FISHMAN®
Dispensing Innovation®

SmartDispenser® MDAV HIGH TORQUE BENCHTOP AUTOMATION SYSTEM

MDAV-HT-BA Medium Dot Any Viscosity

BARREL SIZE	3CC	5CC	10CC
MIN.VOL. (CC)	.00043	.00076	.00125
MAX. VOL. (CC)	3.0	5.0	10.0
MIN. RATE (CC/SEC)	.011	.019	.031
MAX. RATE (CC/SEC)	.259	.454	.750
MAX. BACKOFF (STEPS)	500	500	500
MAX. DELAY (SEC)	9.99	9.99	9.99



The SmartDispenser® MDAV-HT-BA (3-10cc) comes with 3-10cc Dispense Gun and 3, 5, 10cc Retaining Rings.

BARREL SIZE	30CC
MIN.VOL. (CC)	.00247
MAX. VOL. (CC)	30.0
MIN. RATE (CC/SEC)	.062
MAX. RATE (CC/SEC)	1.481
MAX. BACKOFF (STEPS)	500
MAX. DELAY (SEC)	9.99



The SmartDispenser® MDAV-HT-BA (30cc) comes with 30cc Dispense Gun and 30cc Retaining Rings.

Genius® Dispensing Components deliver advanced dispensing performance

Fishman's dispensing system components are designed specifically for industrial use, achieving optimized performance from AirFree® dispensing systems.

Barrel Reservoirs (available in 4 sizes)

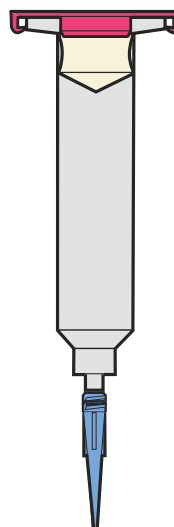
- Thickwall design eliminates flexing
- Precision molded zero degree taper assures smooth flow
- Disposable design eliminates need for cleaning PosiLok™ Pistons
- Enclosed chambers protect workforce from contacting assembly fluid.

PosiLok™ Pistons

- AirFree® design featuring patented positive lock piston attachment for positive displacement dispensing
- Precision molded for smooth flow and uniform advance
- Engineered to allow trapped air to escape while sealing in vapors and fluid Dispensing tips (available in 3 styles)

Dispensing Tips (available in 5 styles)

- Ergonomic Surlock™ design locks securely to the barrel with a simple twist
- Multiple sizes and lengths available to satisfy any dispensing application



Fishman Corporation manufactures in a Certified Silicone-Free environment, achieving close tolerance precision in an industrial grade system. Contact our Fluid Dispensing specialists to take advantage of our experience with thousands of successful applications and to pick the right components for your specific application needs. For free samples, go to www.fishmancorp.com/samples.

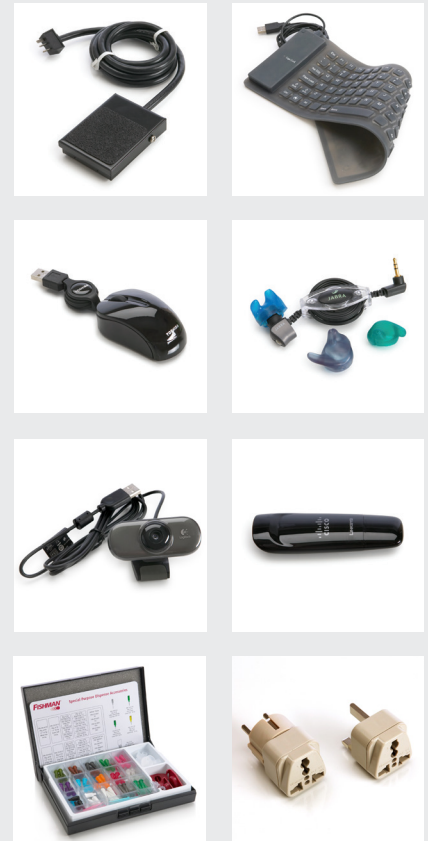
MDAV-HT-BA SMARTDISPENSER® APPLICATIONS

Thick pastes	*
Thin watery fluids	*
Thin cyanoacrylates	X
Solder paste	*
Pre-mixed and frozen	*
Microdots	X
Bonding and gluing	*
Potting and filling	•
Beading and stripping	•

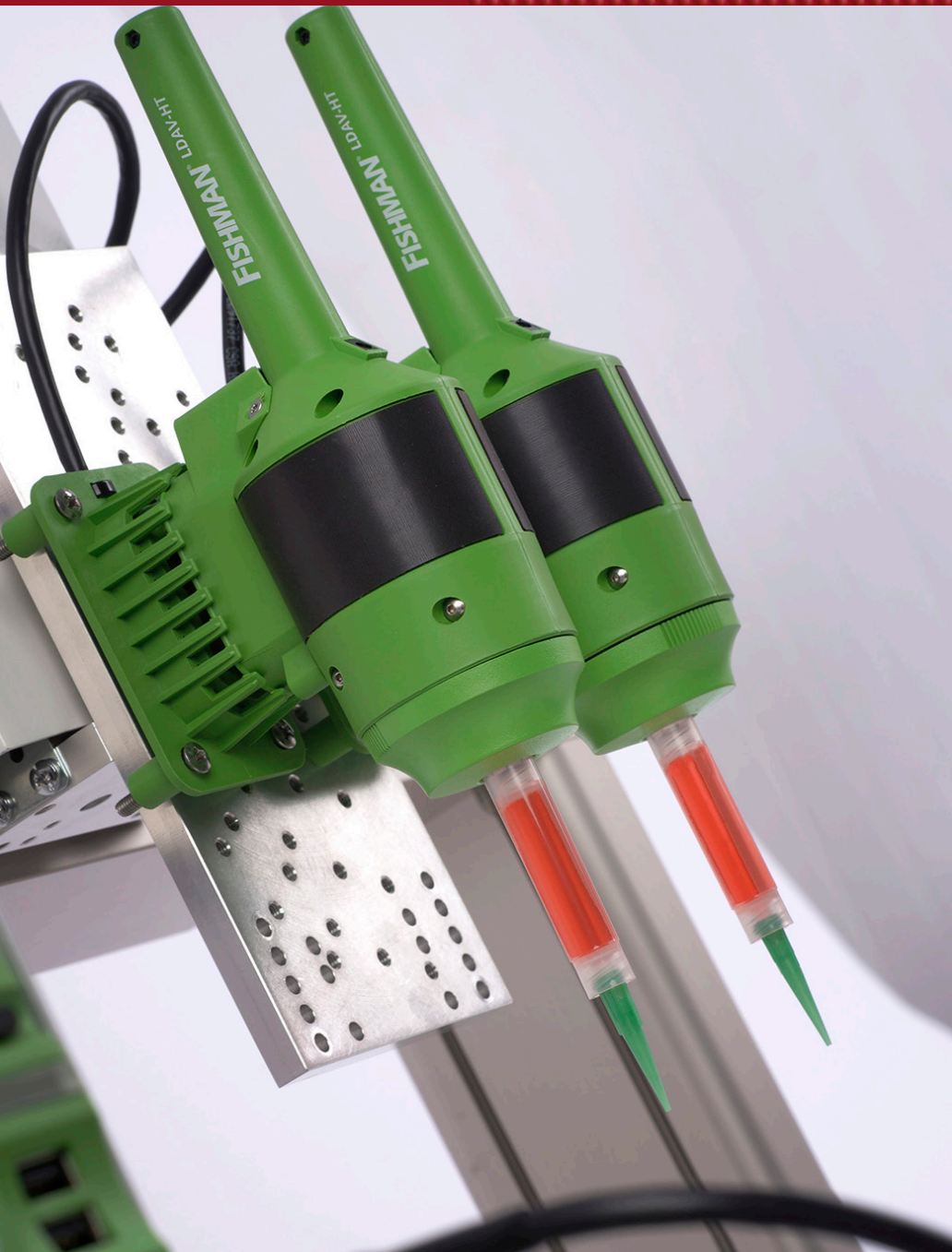
* Recommended • Satisfactory X Do not use

SMARTDISPENSER® MDAV-HT-BA 3-30CC DISPENSE STARTER KIT CONTENTS

- Foot Pedal
- Keyboard
- Mouse
- Earphone
- Video Camera
- Cisco Wireless Connectivity Device
- Needle Kit
- Manuals
- Power Supply Connection
- Universal Power Supply



SmartDispenser® MDAV HIGH TORQUE BENCHTOP AUTOMATION SYSTEM



SPECIFICATIONS

Usage:	Indoor use
Altitude:	Up to 2000m
Temperature:	0° to 40° C
Maximum Relative:	80% for temperatures up to 31° C decreasing linearly to
Humidity:	50% relative humidity at 40° C
Mains Supply	
Voltage Fluctuations:	Not to exceed ±10%
Installation	
Overvoltage:	Category II
Pollution:	Degree 2, Class 1
Input Voltage:	100-240 VAC 47-63Hz
Max Inrush Current:	3.2A-1.8A
Output Voltage:	5.0VDC
Output Power:	4.6W
Fuse Rating:	1.0A/250 VAC
Initiate Circuit:	Dry contact
Drive Motor:	MDAV-HT-BA 1.8 Degree 200 Steps/Rev
Axial Movement:	MDAV-HT-BA .048 Axial Pitch .00024"/Step
Control Circuitry:	CMOS microprocessor
Interface:	Touch Screen or Keyboard/Mouse
Minimum Dispense Volume:	0.00043ml

CONTROL UNIT

Size:	5.6 x 9.9 x 6.3in (14.23 x 25.15 x 16cm)
Weight:	4.7lbs (2.13 kg)

GUN

Length:	7in (17.8cm)
Weight:	10.6oz (301 gr)
Cable Length:	3 feet (91.5cm)

What makes the SmartDispenser® so smart?

The combination of 3 powerful platforms.

AIR-FREE MANUFACTURING

- One program – worldwide
- Closed-loop feedback
- 6-10X more repeatable than pneumatics
- Volume base numeric dispensing
- Positive displacement via stepper motor
- Firmware proven for over a decade
- Eliminates expensive air compressor
- Designed to integrate into automation systems using PLCs

WINDOWS 7 NETWORKING

- SD Device to MES System Networking
- Remote programming and lock out
- Real time production data
- Live video feed
- Auto e-mail of unauthorized program changes
- On screen work instruction (audio option)
- Connectivity between SmartDispensers® Desktop, Laptop and Smartphone.
- Video/Audio training and tutorials

SMARTPHONE FUNCTIONALITY

- Touch screen
- Finger gesturing controls
- MES Networking Apps
- Custom Manufacturing Apps

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FISHMAN®
 Dispensing Innovation®

JANOME FEATURES

High Precision

High Rigid Structure

A solid aluminum alloy is employed on the base and an aluminum alloy extension with a high rigid section is employed on the column

Labyrinth Mechanism

A social labyrinth mechanism underneath the work table keeps foreign objects (e.g. screws, liquid or dust) out.



Smooth Movement

Smooth movement is attained with the micro-step control system

Flexible Interface

- RS-232C port for PC connection
- RS-422 port for teaching pendant
- I/O (Output 16, Input 16)

User Friendly

Clear Wide Screen

Wide and easy viewable teaching pendant screen
Language: English/German/Japanese etc..
Measurement: mm/inch

Simple Teaching

Using the JN C-Points software users can teach dates easily. It also has commands to operate particular jobs. Users can also create their own original software.

Simple Teaching

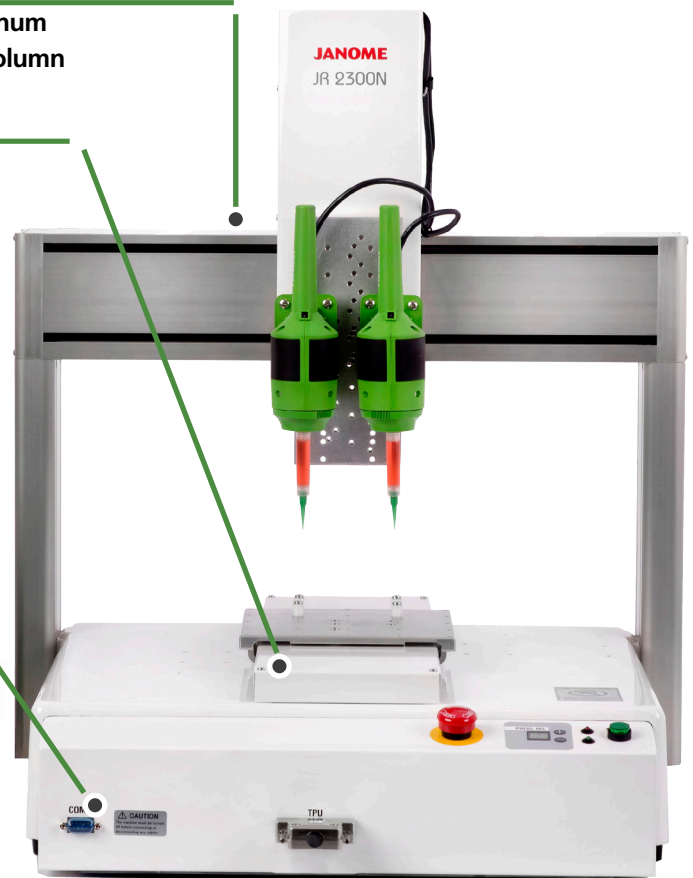
Using the JN C-Points software users can teach dates easily. It also has commands to operate particular jobs. Users can also create their own original software.

Enhanced Memory Capacity

Up to 255 programs (2.5 times that of the existing model)
and 30,000 points (increased 5-fold) can be stored as teaching data.

Simple Sequencer

The robot has a built-in simple sequencer which functions independently (it is not necessary to add more hardware in the case of simple PLC connection).



SmartDispenser® MDAV HIGH TORQUE BENCHTOP AUTOMATION SYSTEM

JANOME SPECIFICATIONS

(CL) Indicates Clean Room Compatible

Model ^{*1}		JR2203N (CL)	JR2303N	JR2403N	JR2503N	JR2603N
Operating Range	X · Y Axes (mm)	200x200	300x320	400x400	510x510	510x620
	Z Axis (mm)	50	100	150		
Maximum Portable Load	Workpiece(kg)	7	11			
	Tool(kg)	3.5	6			
Maximum Speed ^{*2} <PTP Movement>	X · Y Axes (mm/sec)	700	800			
	Z Axis (mm/sec)	250	320			
Maximum Speed ^{*2} <CP Movement>	X · Y · Z Axes Combined Speed(mm/sec)	500	800			
Repeatability ^{*3}	X Axis · Y Axis (mm)	±0.006	±0.007		±0.008	±0.008 (X Axis) ±0.01 (Y Axis)
	Z Axis (mm)	±0.006	±0.007		±0.008	±0.008
External Dimensions	WxDxH(mm) (excluding cables and protrusions)	320x387x540	560x529x649.5	584x629x799	676x731x799	788x731x799
Main Unit Weight(kg)		18	35	42	46	48

Model ^{*1}		JR2204N(CL)	JR2304N	JR2404N	JR2504N	JR2604N
Operating Range	X · Y Axes (mm)	200x200	300x320	400x400	510x510	510x620
	Z Axis (mm)	50	100	150		
	R Axis (°)	±360				
Maximum Portable Load	Workpiece(kg)	7	11			
	Tool(kg)	3.5	6			
Maximum Speed ^{*2} <PTP Movement>	X · Y Axes (mm/sec)	700	800			
	Z Axis (mm/sec)	250	320			
	R Axis (°/sec)	600	800			
Maximum Speed ^{*2} <CP Movement>	X · Y · Z Axes Combined Speed(mm/sec)	500	800			
Repeatability ^{*3}	X Axis · Y Axis (mm)	±0.01				
	Z Axis (mm)	±0.01				
	R Axis (°)	±0.008				
External Dimensions	WxDxH(mm) (excluding cables and protrusions)	320x387x655	560x529x840	584x629x890	676x731x890	788x731x890
Main Unit Weight(kg)		18	35	42	46	48

^{*1}2-axes models are also available. (Please contact us for further information.)

^{*2}Maximum speed cannot be achieved when the robot is bearing its maximum portable load.

^{*3}Repeatability does not guarantee absolute precision.

JANOME SPECIFICATIONS *CONTINUED...*

Drive Method	Pulse Motor
Control Method	PTP (Point to Point) control, CP (Continuous Path) control
Interpolation	3-dimensional linear and arc interpolation
Teaching Method	Remote teaching (JOG)/Manual Data Input (MDI)
Teaching System	<ul style="list-style-type: none"> Direct teaching using the optional teaching pendant Off-line teaching with JR C-Points software from a PC
Program Capacity	255 Programs
Data Capacity* ⁴	Up to 30,000 Points
External Interface	RS422 1ch (for teaching pendant) RS232C 1ch (for PC interface: COM1) RS232C 2ch (for external devices: COM2, COM3) (optional)
External Input/Output	I/O-SYS 16 Inputs, 16 Outputs I/O-1 (optional) 8 Inputs, 8 Outputs (including 4 relay outputs)
Simple PLC Function	100 programs (1,000 steps/program)
Power Source	AC90~1323V/AC180~250V (single phase)
Power Consumption	200W

*⁴ Point data capacity reduces as the total function data setting/point job data/sequencer data increases, due to the shared data storage area.

- CE compliant models are also available.
- Specifications may be modified without prior notice to improve product quality.

