

FISHMAN[®]

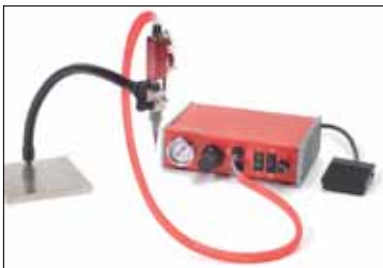


www.fishmancorp.com

CATALOG



Your guide to the complete line of Fishman dispensers, components and accessories.





For over 40 years, Fishman has been a major innovator and producer of high quality, reliable dispense systems for the application of assembly fluids. Whether you're applying thin or thick fluids, our application assistants can show you how to cut costs, improve product yields and reduce usage up to 75%. We guarantee results.

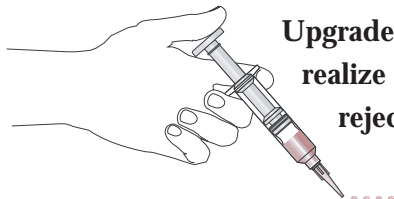
Pages 4-6 outlines the information you need to know in order to properly select a dispense system.

Page 7 gives you an overview of the dispense heads available for our AirPulse™ and AirFree™ systems. Apply the information from pages 7-26 to narrow your choice to a single dispense head. The remainder of the catalog provides information about the system options and helpful tools.

Our recommendation is that you call one of our application assistants to help sort the options. Our specialty is matching your specific application needs with the proper fluid delivery system to maximize your total cost savings.

Our doctrine is to view each customer as a partner. By owning the problem presented to us, we do not feel the job is done until we have solved the problem, contributing savings to your bottom line. Our comfort in making this statement comes from our no compromise approach to quality and service. We guarantee it!

We look forward to putting our words into action.



Upgrade from manual fluid applicators and realize a 75% savings through fewer rejects, an increase in throughput and a reduction in fluid use.

Table of Contents

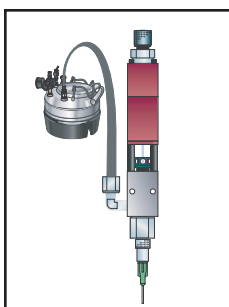
Fluid Compatibility	4	Hand Operated Tools: Plungers and Syringes	34
Viscosity Comparison Chart	5	AirPulse™ and AirFree™ Dispense Component Packages	35
Dot Size and Volume Chart	6	AirFree™ Dispense Component Packages	36
Repeatability	7	AirFree™ Static Dissipative Dispensing Components	37
Stainless Steel Chamber	8	AirPulse™ Dispense Component Packages	38
Typical Dispense System Setup	9	AirPulse™ Static Dissipative Dispensing Components	39
AirPulse™ Positive Displacement Systems	10	PosiLok™ Disposable Dispense Tip Packages	40
AirPulse™ Auger Valve Systems	12	PosiLok™ Dispense Tip Selection Charts	41
AirPulse™ Needle Valve Systems	13	Filling Your Syringe Reservoir	42
All Plastic Chamber	14	Difficult to Dispense Fluids	43
Typical Dispense System Setup	15	AirPulse™ Accessories	44
How to Achieve Absolute Process Control	16	AirFree™ Accessories	45
Vital Components of Our AirFree™ System	18	Valve Selector Reference Chart	46
AirFree™ Benchtop Dispensing Systems	19	Valve Specifications, Construction and Accessories	47
AirFree™ Benchtop Cyanoacrylate Dispensing Systems	20	Controllers	51
AirFree™ Fiber Optic Dispensing Systems	21	AirPulse™ 7400 Valve Controller	52
AirFree™ Integration Kits	22	AirPulse™ 7450 Valve Controller	53
Vital Components of Our AirPulse™ System	23	AirPulse™ 8450 Auger Valve Controller	54
AirPulse™ Dispensing Systems	24	Fluid Reservoirs and Cartridge Pressure Vessels	55
AirPulse™ Cartridge Systems	27	Dispense Valve Applications	56
AirFree™ and AirPulse™ Dispenser Kits	28	Designing the Best System	57
AirFree™ and AirPulse™ Features, Specs and Applications	29	Typical Dispense System Setup	58
Diaphragm Systems	30	Troubleshooting	59
AirPulse™ Diaphragm Systems	31	Customer Support	60
Hand Operated Tools: ADV3 Lever Actuated	32	Technical Assistance	61
Hand Operated Tools: Ditto™ and PosiLok™ Plunger	33	About Fishman	63

This manual may not be reproduced in any form. Fishman, AirFree, AirPulse, PosiLok, FreeFlow, SafeLok and DripFree are trademarks of Fishman Corporation. Teflon® is a registered trademark of DuPont Corporation.
©2007 Fishman Corporation

Fluid Compatibility

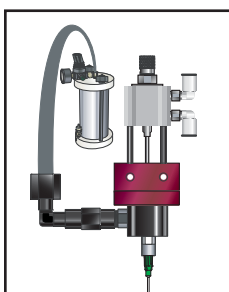
A good starting point is to determine the compatibility of your fluid with the dispensing system's fluid chamber. The three most common fluid chambers for benchtop and automated dispensing are stainless steel, teflon and all plastic.

- Review your fluid's technical data sheet to see if you are restricted from using any of the three materials.
- Review the bullets below to help you decide which chamber best fits your assembly application.



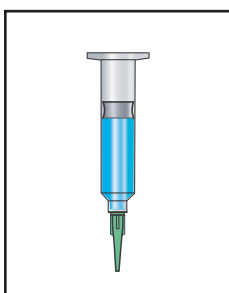
Stainless Steel Fluid Chamber Go to page 8.

- Silicone oils, accelerators, UV cure adhesives, marking oils, grease, epoxies.
- Reservoirs range from 1cc through 55 gallons.
- Fluid chambers require routine cleaning maintenance.
- Fluid chambers must be cleaned for assembly fluid changes.
- Fluid must be compatible with stainless steel.
- Designed for microdot to large volume handheld or automated dispensing.



Teflon Fluid Chamber Go to page 30.

- Cyanoacrylates, solvents, anaerobics, fluxes
- Reservoirs range from 1cc through 55 gallons.
- Fluid chambers require routine cleaning maintenance.
- Fluid chambers must be cleaned for assembly fluid changes.
- Teflon-lined fluid chamber for fluids that react with stainless steel.
- Designed for small dot to large volume handheld or automated dispensing.



All Plastic Fluid Chamber Go to page 14.

- For most assembly fluids.
- Fluid chamber/reservoirs range from 1cc through 55cc.
- Fluid chamber and reservoir are combined into one piece.
- 100% sealed fluid chamber, keeping harmful assembly fluids from contacting workers.
- Fluid chambers are disposable, eliminating the need for chemical cleaning agents.
- Reservoir/chamber (an inert, industrial certified, silicone free polypropylene) is resistant to most assembly fluids.
- When empty, the reservoir is a sealed container making disposal easy.
- Small, lightweight design is perfect for microdot to medium volume handheld or automated dispensing.

Viscosity Comparison Chart

Material

(*material is thixotropic)

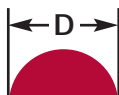
Viscosity

(centipoise)

Water @ 70°	.1
Kerosene	.10
Anti-Freeze or Ethylene Glycol	.15
Motor Oil SAE 10 or Corn Oil	.50 - 100
Motor Oil SAE 30 or Maple Syrup	.150 - 200
Motor Oil SAE 40 or Castor Oil	.250 - 500
Motor Oil SAE 60 or Glycerin	.1,000 - 2,000
Corn Syrup or Honey	.2,000 - 3,000
Blackstrap Molasses	.5,000 - 10,000
Chocolate Syrup	.10,000 - 25,000
Ketchup or Mustard*	.50,000 - 75,000
Tomato Paste or Peanut Butter*	.150,000 - 250,000
Shortening or Lard	.1,000,000 - 2,000,000
Caulking Compound	.5,000,000 - 10,000,000
Window Putty	.100,000,000

Dot Size and Volume Chart

V cc	0.00003		V cc	0.02950	
D	Inch	0.02	D	Inch	0.19
	mm	0.51		mm	4.83
V cc	0.00011		V cc	0.04573	
D	Inch	0.03	D	Inch	0.22
	mm	0.76		mm	5.59
V cc	0.00028		V cc	0.05913	
D	Inch	0.04	D	Inch	0.24
	mm	1.02		mm	6.60
V cc	0.00054		V cc	0.07527	
D	Inch	0.05	D	Inch	0.26
	mm	1.27		mm	6.60
V cc	0.00148		V cc	0.11583	
D	Inch	0.07	D	Inch	0.30
	mm	1.78		mm	7.62
V cc	0.00314		V cc	0.18394	
D	Inch	0.09	D	Inch	0.35
	mm	2.29		mm	8.89
V cc	0.00569		V cc	0.27457	
D	Inch	0.11	D	Inch	0.40
	mm	2.79		mm	10.16
V cc	0.00941		V cc	0.39094	
D	Inch	0.13	D	Inch	0.45
	mm	3.30		mm	11.43
V cc	0.01448		V cc	0.53627	
D	Inch	0.15	D	Inch	0.50
	mm	3.81		mm	12.70
V cc	0.02096		V cc	1.80990	
D	Inch	0.17	D	Inch	0.75
	mm	4.31		mm	19.05



Volume= $D^2 \times 0.5236/2^*$
 (*1/2 the volume of a sphere)

If you are not sure of your fluid chamber, then focus on the repeatability you need from one dispense to the next. By choosing the repeatability first, your fluid chamber is selected for you. After careful consideration, select the head that best fits your application.



AirPulse™ Positive Displacement Valve Repeatability: $\pm 2\%$

Fluid Density: Water to Paste
Fluid Chamber: Stainless Steel
Volume: 0.0001 - 4.5cc

Go to page 10.



AirPulse™ Auger Valve Repeatability: $\pm 3\%$

Fluid Density: Maple Syrup to Paste
Fluid Chamber: Stainless Steel
Volume: 0.0001 - 55cc

Go to page 12.



AirFree™ Positive Displacement Gun Repeatability: $\pm 5\%$

Fluid Density: Water to Lard
Fluid Chamber: All Plastic
Volume: 0.00023 - 30cc

Go to page 18.



AirPulse™ Needle Valve Repeatability: $\pm 6\%$

Fluid Density: Water to Thick Paste
Fluid Chamber: Stainless Steel
Volume: 0.0005 - Continuous

Go to page 13.



AirPulse™ Diaphragm Valve Repeatability: $\pm 10\%$

Fluid Density: Water to Thin Oil
Fluid Chamber: Teflon-Delrin
Volume: 0.001 - 1 liter

Go to page 30.



AirPulse™ Barrel/Cartridge Reservoir Repeatability: $\pm 30\%$

Fluid Density: Water to Lard
Fluid Chamber: All Plastic
Volume: 0.00003 - 55cc

Go to page 23.

Stainless Steel Chamber

Positive Displacement Systems

Repeatability $\pm 2\%$

Go to page 10



Auger Valve Systems

Repeatability $\pm 3\%$

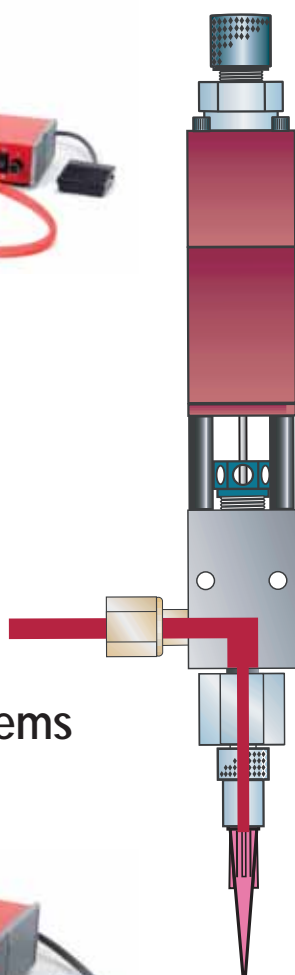
Go to page 12



Needle Valve Systems

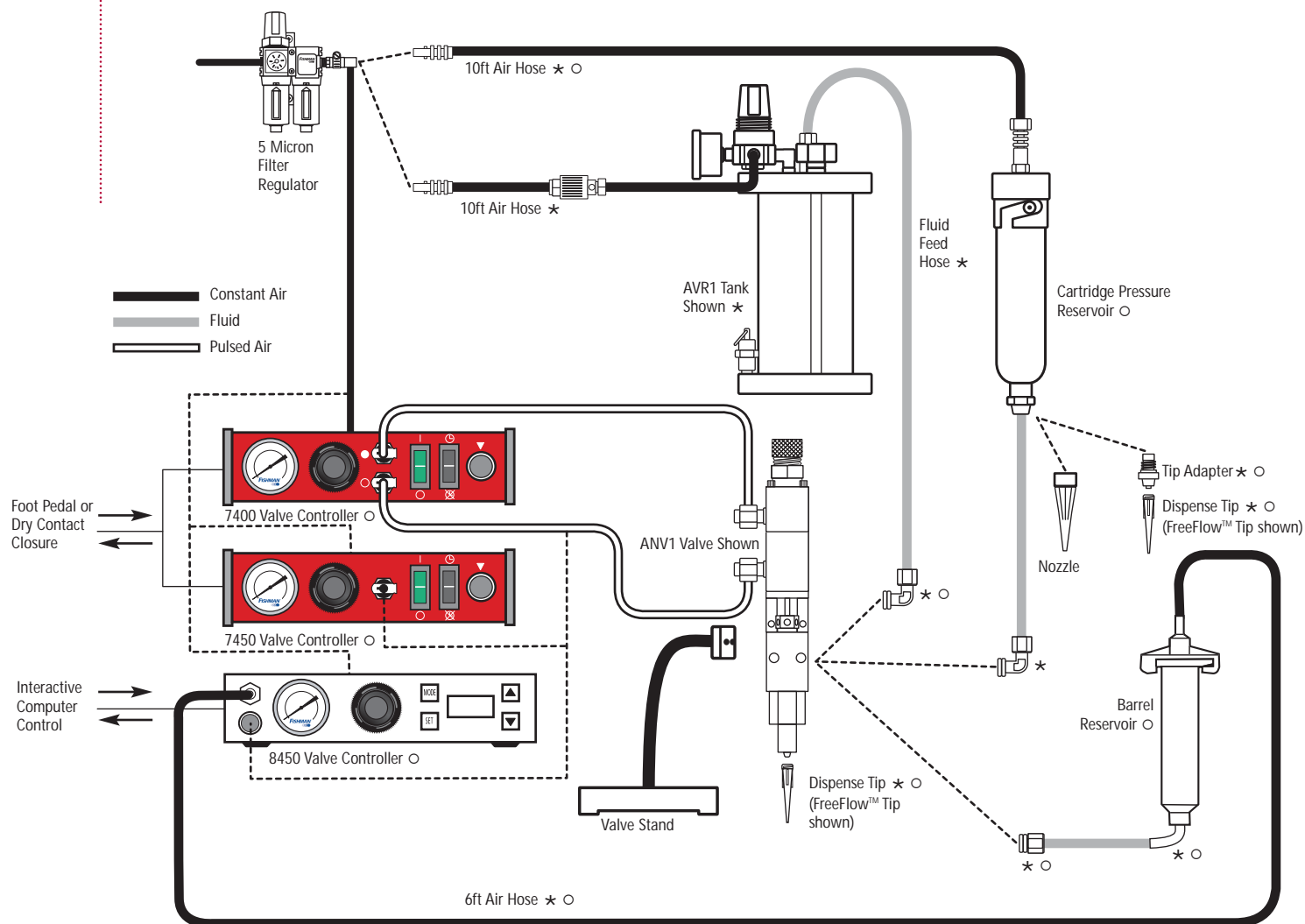
Repeatability $\pm 6\%$

Go to page 13



Typical Dispense System Setup

This schematic illustrates the basic components needed for a typical self-contained dispense valve system. Fishman trained application assistants can help you choose the right system for your application and ensure that all the components you need are shipped with your order.



★ Parts included with the dispense valve or fluid reservoir
 ○ Parts included with a dispense valve system

AirPulse™ Positive Displacement Systems

Features

- Divorced design prevents fluid contamination of the air cylinder
- Dispense volume can be modified by altering an adjustable stroke
- Stainless steel fluid section
- Lightweight aluminum air section

Description

The APD1 is an excellent solution for microdot or microbead dispensing, while utilizing a positive displacement metering system. The APD1 precisely measures a predetermined volume of fluid for highly repeatable results. This valve can be used in both handheld and automated applications by integrating the head with an X, Y, Z platform.

Specifications

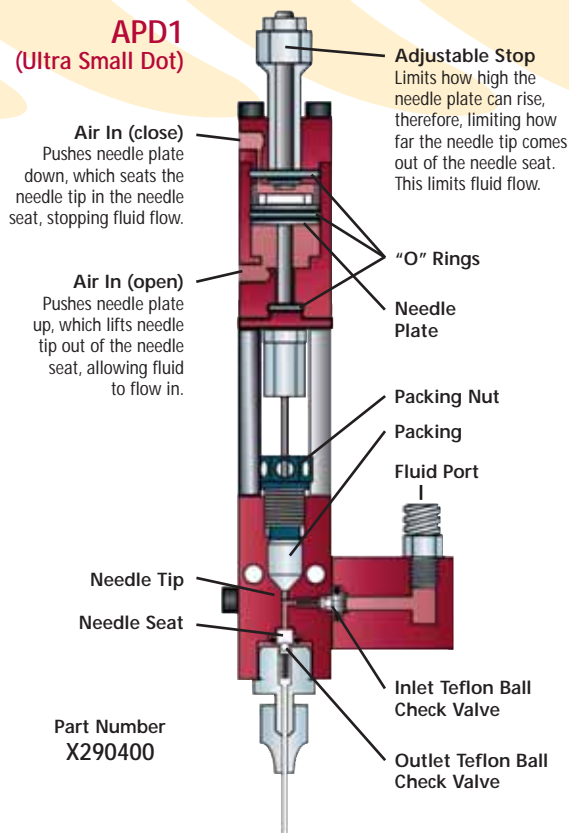
Size:	6.0 x 1.75in (152.4 x 44.5mm)
Weight:	12oz (340.19g)
Maximum Fluid Pressure:	400psi (22.57bar)
Dispense Volume:	0.0001 to 0.0022cc

Description

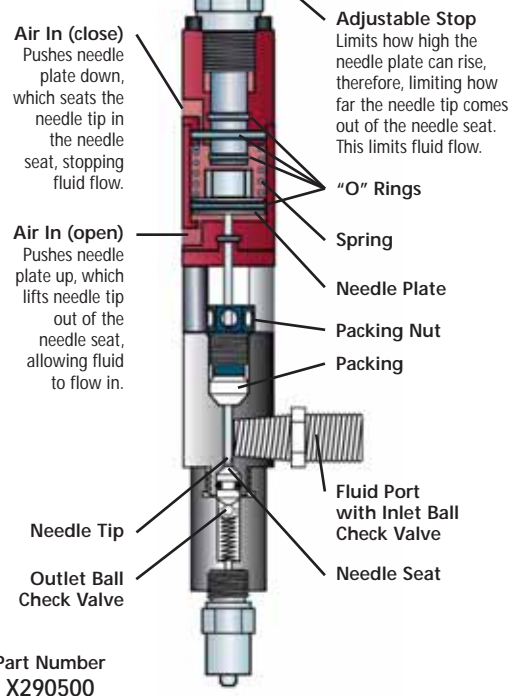
The APD2 is an excellent solution for small dot or small bead dispensing, while utilizing a positive displacement metering system. The APD2 precisely measures a predetermined volume of fluid for highly repeatable results. This valve can be used in both handheld and automated applications by integrating the head with an X, Y, Z platform.

Specifications

Size:	6.375 x 0.75in (162.4 x 19.05mm)
Weight:	8oz (226.8g)
Maximum Fluid Pressure:	300psi (20.7bar)
Dispense Volume:	0.0015 to 0.0120cc



APD2 (Small Dot)



AirPulse™ Positive Displacement Systems

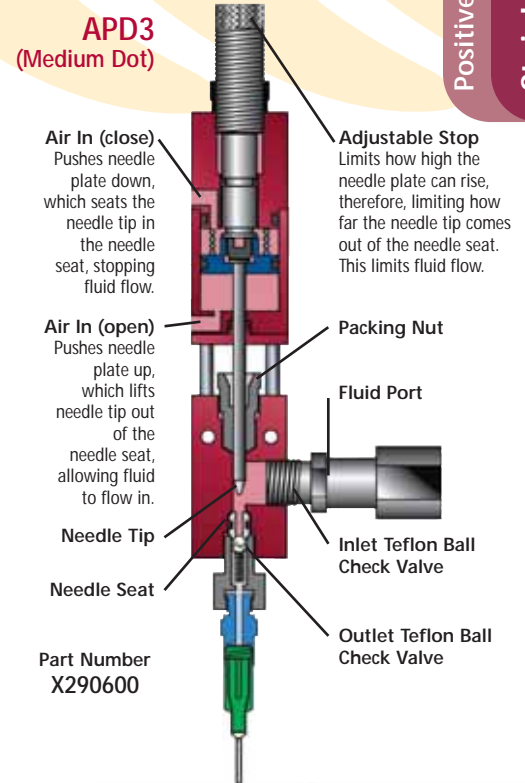
Positive Displacement +/-2%
Stainless Steel Chamber

Description

The APD3 is an excellent solution for medium dot or medium bead applications that require a positive displacement metering system. The APD3 precisely measures a predetermined volume of material for highly repeatable results. This valve can be used in both handheld and automated applications by integrating the head with any X, Y, Z platform.

Specifications

Size:	7.9 x 1.15in (203 x 29.2mm)
Weight:	8oz (226.5g)
Maximum Fluid Pressure:	300psi (20.7bar)
Dispense Volume:	0.010 to 0.145cc

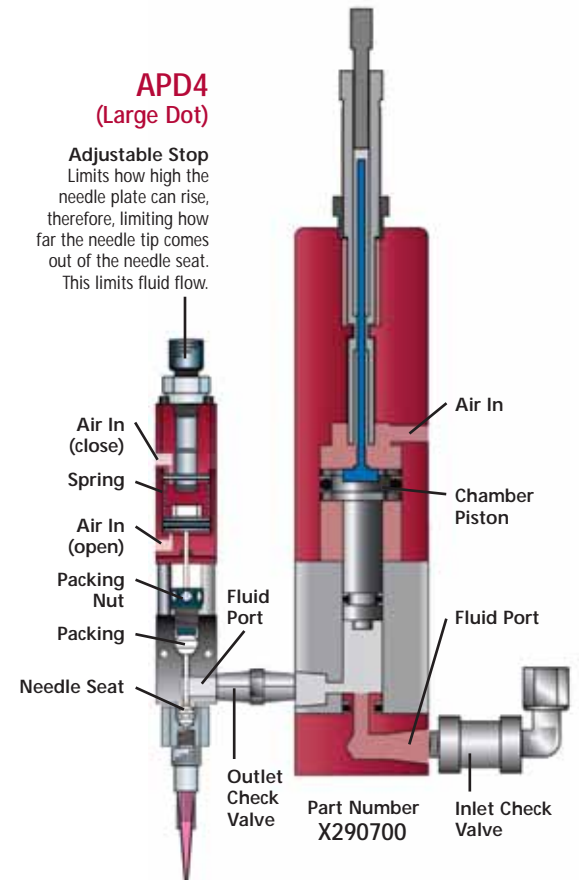


Description

The APD4 is an excellent solution for large dot, large bead or small volume potting applications while utilizing a positive displacement metering system. The APD4 precisely measures a predetermined volume of material for highly reliable results. This valve is designed for automated applications by integrating the head with any X, Y, Z platform.

Specifications

Size:	9.02 x 4.77in (229.1 x 121.2mm)
Weight:	48oz (1,360.7g)
Maximum Fluid Pressure:	1200psi (82.7bar)
Dispense Volume:	0.15 to 4.5cc





AirPulse™ Auger Valve Systems

AAV valves are the premier valves for dispensing all medium to high viscosity pastes, epoxies, and abrasives filled chemistries in ultra small dot or ultra small bead patterns to large dot or large bead patterns. A dedicated servo controller, the 8450, allows the operator to manage all functions of the AAV valves automated processes. The servo motor within the AAV operates at adjustable speeds that turn the auger to displace material.

Features

- 3, 5, 10, or 30cc syringe barrel holder
- Disposable feed tube for quick clean up
- 24VDC servo motor drive to provide displacement feedback
- Adjustable reverse motor motion provides clean shut offs

AAV1 (Ultra Small Dot) Part Numbers X240900-X270900

Specifications

Size:	5.5 x 2.725in (140 x 69mm)
Weight:	9oz (225.1g)
Maximum Fluid Pressure:	100psi (6.9bar)
Auger:	32 pitch stainless steel

AAV2 (Medium Dot) Part Numbers X241000-X271000

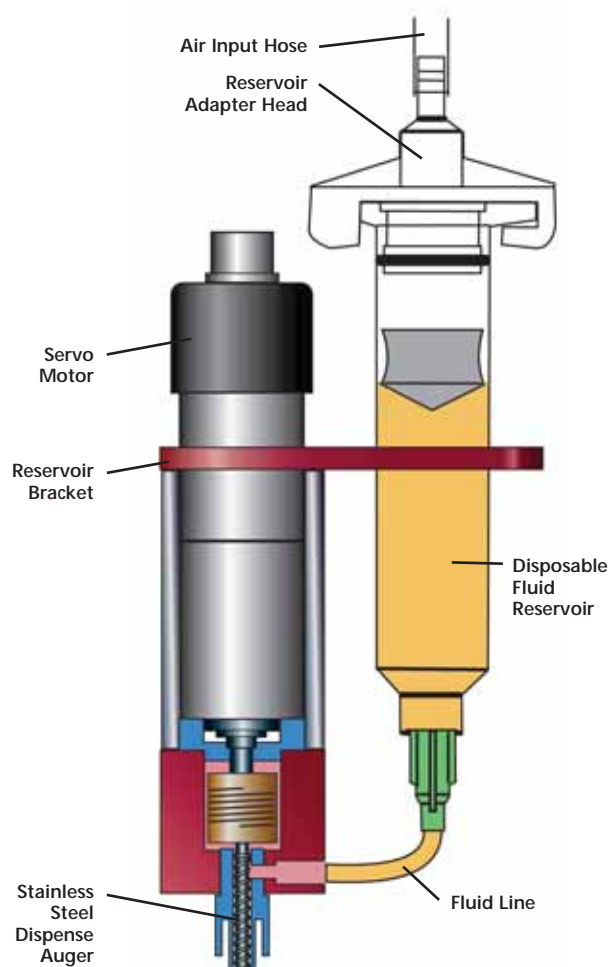
Specifications

Size:	5.5 x 2.725in (140 x 69mm)
Weight:	9oz (225.1g)
Maximum Fluid Pressure:	100psi (6.9bar)
Auger:	16 pitch stainless steel

AAV3 (Large Dot) Part Numbers X241100-X271100

Specifications

Size:	5.5 x 2.725in (140 x 69mm)
Weight:	9oz (225.1g)
Maximum Fluid Pressure:	100psi (6.9bar)
Auger:	8 pitch stainless steel





AirPulse™ Needle Valve Systems

The ANV valves are versatile dispensing valves for any single-component bead dot, potting or encapsulation project. Featuring a lightweight, compact design, the valves are ideal for both automated and handheld processes.

Front Closing +/-6%

Stainless Steel Chamber

Features

- Stainless steel fluid body for superior material compatibility
- Divorced valve design prevents material contamination of the air body
- Adjustable flow control
- Reversible valve seat
- Spring-assisted valve closure for reliable cycle stops
- Compatible with all luer lock dispense tip designs
- High pressure capability allows for consistent processing of viscous materials

ANV1 (Medium Dot) Part Number X290100

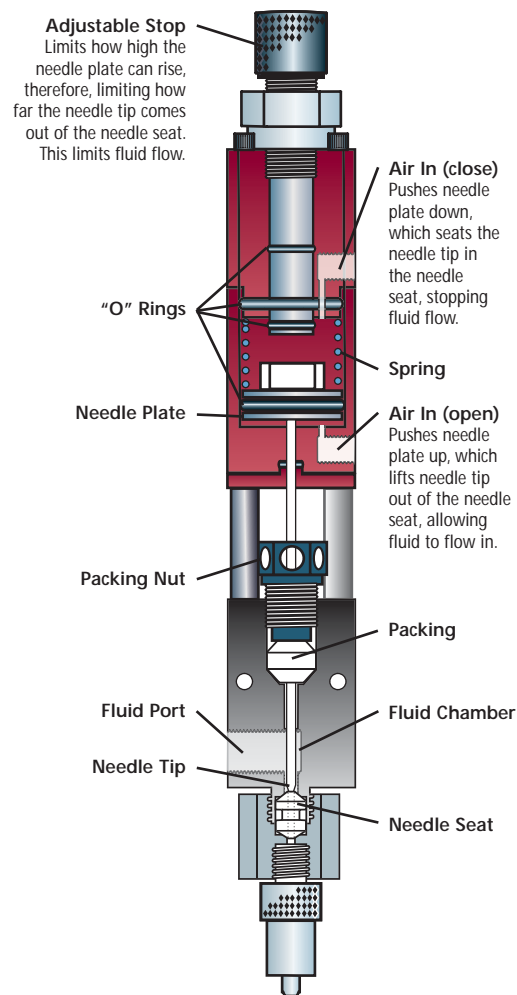
Specifications

Size:	6.0 x .75in (152.4 x 19.05mm)
Weight:	6oz (170.09g)
Maximum Fluid Pressure:	3500psi (241.3bar)
Fluid Inlet:	1/8in NPT female
Cycle Rate:	Exceeds 600 per minute

ANV2 (Large Dot) Part Number X290200

Specifications

Size:	7.9 x 1.115in (200.66 x 29.21mm)
Weight:	19oz (538.64g)
Maximum Fluid Pressure:	600psi (41bar)
Fluid Inlet:	1/4in NPT female
Cycle Rate:	Exceeds 600 per minute



All Plastic Chamber

AirFree™ Dispense System Barrel Reservoir

Repeatability +/-5%

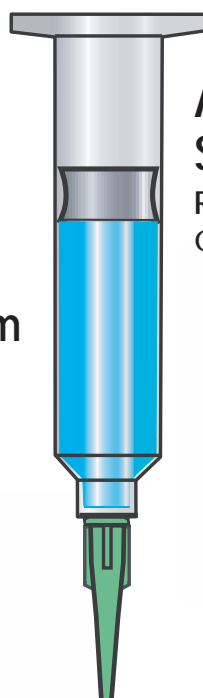
Go to page 19



AirPulse™ Dispense System Barrel Reservoir

Repeatability +/-30%

Go to page 24



AirPulse™ Dispense System Cartridge Reservoir

Repeatability +/-30%

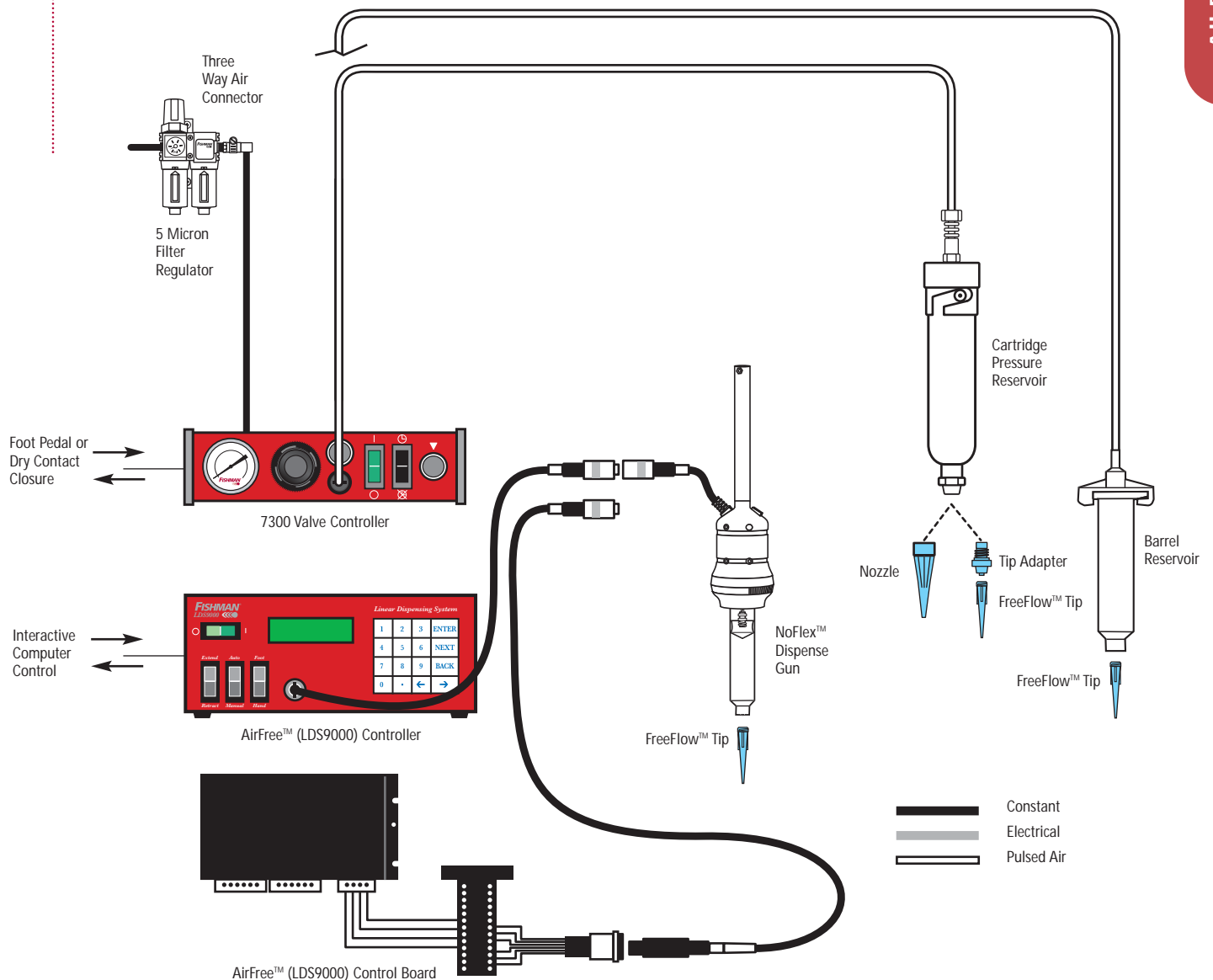
Go to page 27



Typical Dispense System Setup

This schematic illustrates the basic components needed for a typical self-contained or interactive dispense valve system. Fishman trained application assistants can help you choose the right system for your application and ensure that all the components you need are shipped with your order.

All Plastic Chamber

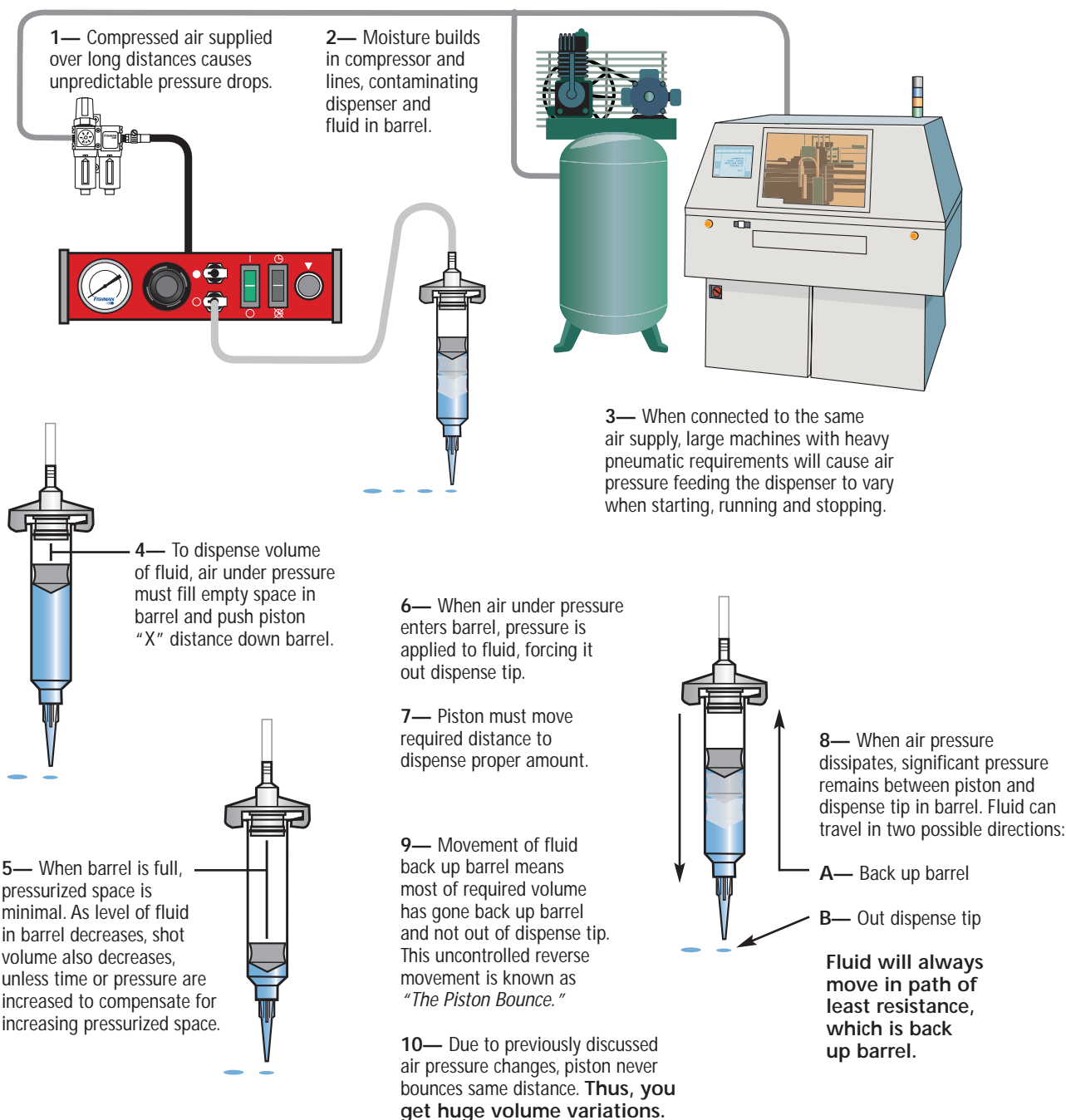


Notes: 5 Micron Filter Sold Separately

How to Achieve Absolute Process Control

From Station to Station, Plant to Plant, Country to Country

Why traditional air pressure systems are not the answer. For more than 30 years, manufacturers dispensing fluids from a plastic chamber (a.k.a. a barrel or syringe) have had to rely on air pressure to move the fluid through the chamber. With this type of system, however, repeatability is limited to about $\pm 30\%$ for the following reasons:

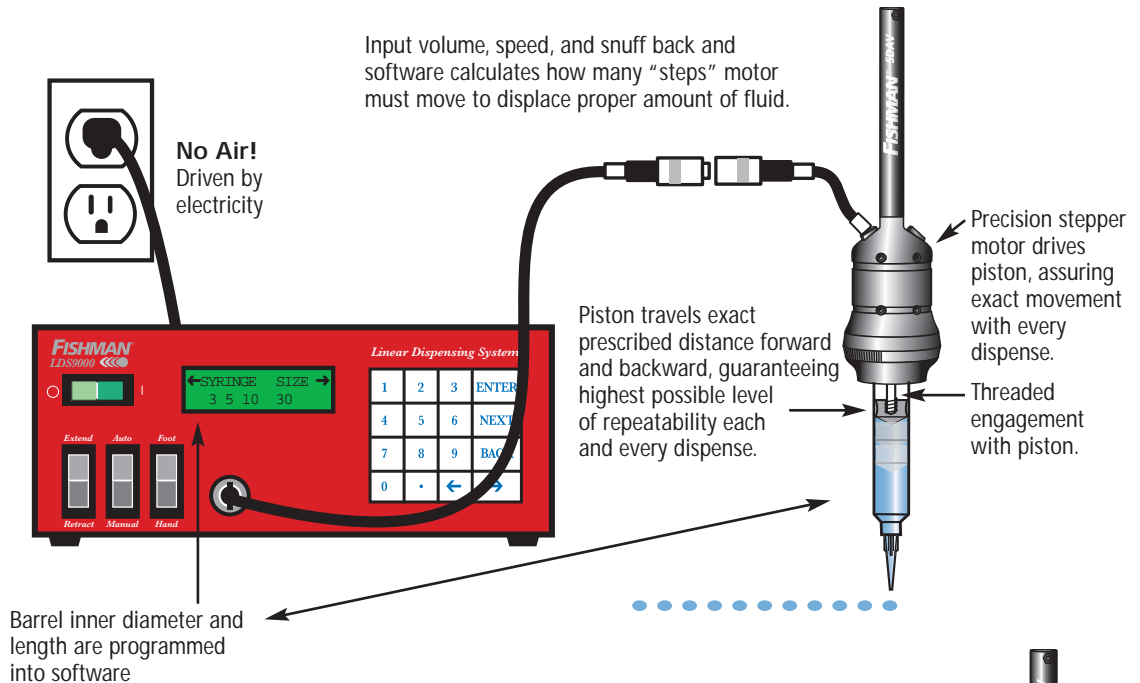


How to Achieve Absolute Process Control

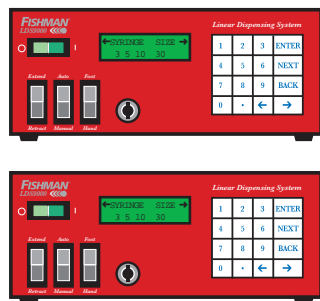
From Station to Station, Plant to Plant, Country to Country

AirFree™ Systems... the only way to ensure the exact amount dispensed.
Are you operating multiple workstations and need to make sure you dispense the *exact same amount* at each station? Hour after hour? Day after day?

Our patented LDS9000 dispense systems increase fluid dispense repeatability six times, from +/-30% for air pressure to +/-5%, whether the system is fully automated or used on a benchtop. Check these differences in how the LDS9000 dispenses fluid.

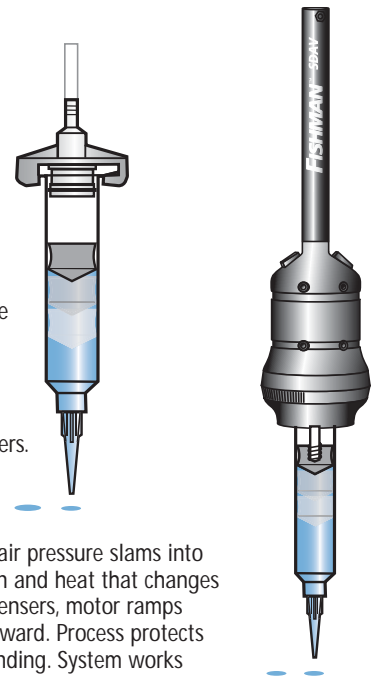


When using multiple AirFree™ dispensers, identical results will be achieved. Results with pneumatic-based dispensers will differ, due to pressure variations.



AirFree™ system can be set in U.S., and results will be exactly same as in China or anywhere else in world for prescribed settings.

AirFree™ systems dispense fluids with changing viscosities within specification at least three times longer than pneumatic-based dispensers.



With pneumatic-based systems, air pressure slams into fluid, which can cause separation and heat that changes formulations. With AirFree™ dispensers, motor ramps up slowly, gently easing fluid forward. Process protects formulations and integrity of bonding. System works exceptionally well with solder paste.

All Plastic Chamber



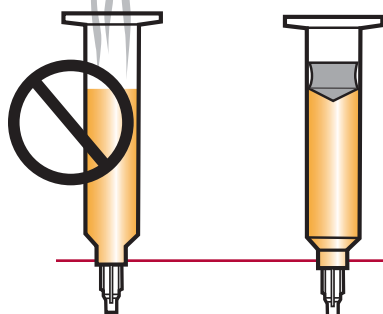
The Vital Components of Our AirFree™ System

Many users of assembly fluids are under the impression that all barrel reservoirs are the same. That assumption couldn't be further from the truth.

Fishman AirFree™ components are designed specifically for the application of assembly fluids. Zero draft barrels, precise interference fits between components and our patented PosiLok™ piston connection are a few of the critical criteria. The precision does not stop at design, but is carried through the molding process to complete the ideal barrel reservoir—a safer product guaranteed to reduce costs.

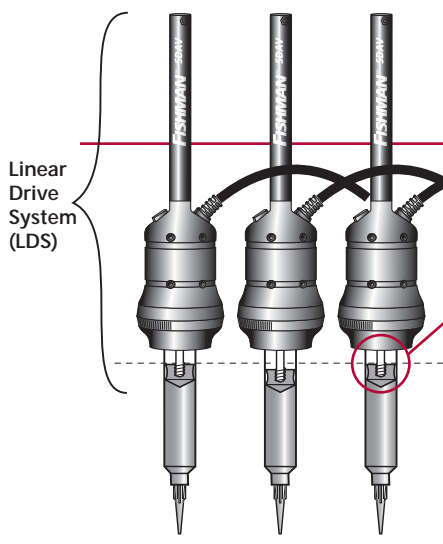
There is no comparison between typical pneumatic dispensing components and our AirFree™ components. The AirFree™ system dispenses a wide range of fluids with *positive displacement accuracy*, no ooze or dripping. Accurate fluid placement translates into fewer rejects, less fatigue, less waste and higher product yields.

Savings over traditional pneumatic applicators is typically 60-70%. Payback is typically 6 months or less.



■ No Fumes

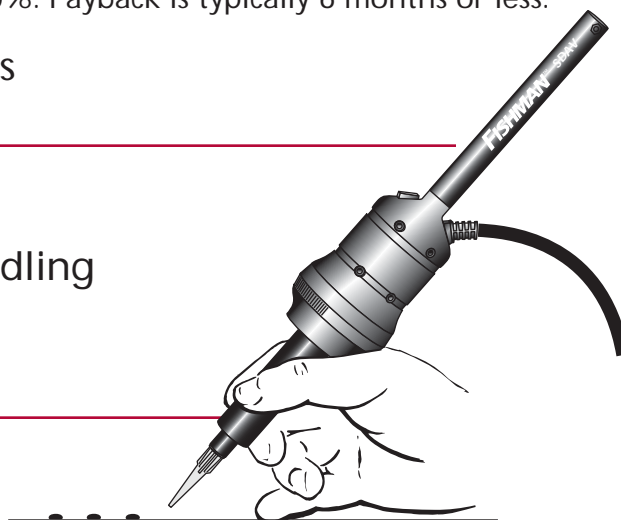
■ Safe Handling



■ The world's only true positive displacement from a disposable barrel reservoir

■ No Drips

■ +/-5% Repeatability



AirFree™ Benchtop Dispensing Systems

NoFlex™ Linear Drive Technology gives you the accurate and repeatable method of positive displacement you want without the headache of pneumatic systems. No need to flush chambers or valves. Formulations stay untouched in safe, silicone-free barrel reservoirs with this revolutionary new system. Change fluids or volumes with ease.

Unlike AirPulse™ machines, this intelligent dispensing system knows the barrel size, volume and the dispense rate. The result: process control that is unachievable with AirPulse™ systems. For application assistance, call 800-433-2115.

Features

- AirFree™ NoFlex™ Linear Drive System
- PosiLok™ piston connector
- 10 memory location
- For use with 3, 5, 10 or 30cc barrel reservoirs
- Inert all plastic reservoir
- 2 year warranty



AirFree™ System +/-5%

All Plastic Chamber

	Barrel Size	3cc	5cc	10cc	30cc
LDAV (Large Dot/ Any Viscosity)	Min. Vol. (cc):	0.00090	0.00158	0.00261	0.00514
	Min. Rate:	0.023	0.040	0.065	0.129
	Max Rate:	0.552	0.954	1.567	3.086
MDAV (Medium Dot/ Any Viscosity)	Min. Vol. (cc):	0.00045	0.00079	0.00131	0.00257
	Min. Rate:	0.011	0.020	0.033	0.064
	Max Rate:	0.267	0.477	0.783	1.543
SDAV (Small Dot/ Any Viscosity)	Min. Vol. (cc):	0.00023	0.00039	0.00065	0.00129
	Min. Rate:	0.006	0.010	0.016	0.032
	Max Rate:	0.138	0.238	0.392	0.771

Size: 7.63 x 8.75 x 3.5in (19.4 x 22.3 x 8.9cm)

Voltage: 100-240VAC

Meets CE, CSA, UL and GSA specifications

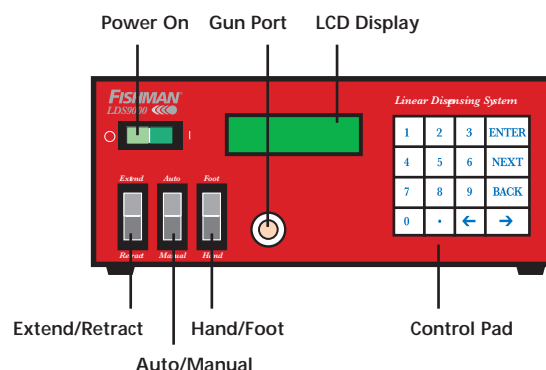
Models See page 22 for kits

3 or 5 foot Gun Cord Thin to Medium Fluids

3 or 5 foot Gun Cord Thick Fluids

Part Numbers

www.LDS9000.com



AirFree™ Benchtop Cyanoacrylate Dispensing Systems

The LDS9000 AirFree™ CA Linear Drive System removes unreliable moisture-filled air from the dispensing process by replacing air pressure with the LDS precision stepper motor and lead screw.

The CA is completely contained in the polypropylene barrel reservoir. Fishman PosiLok™ pistons and tip caps are specially treated with a non-contaminating release agent that inhibits bonding between the cyanoacrylates and polypropylene. For application assistance, call 800-433-2115.

Features

- AirFree™ NoFlex™ Linear Drive System
- PosiLok™ piston connector
- 10 memory location
- For use with 3, 5, 10 or 30 cc barrel reservoirs
- Specially treated all-plastic AirFree™ components
- 2 year warranty



	Barrel Size	3cc	5cc	10cc	30cc
LDAV (Large Dot/ Any Viscosity)	Min. Vol. (cc):	0.00090	0.00158	0.00261	0.00514
	Min. Rate:	0.023	0.040	0.065	0.129
	Max Rate:	0.552	0.954	1.567	3.086
MDAV (Medium Dot/ Any Viscosity)	Min. Vol. (cc):	0.00045	0.0079	0.00131	0.00257
	Min. Rate:	0.011	0.020	0.033	0.064
	Max Rate:	0.267	0.477	0.783	1.543
SDAV (Small Dot/ Any Viscosity)	Min. Vol. (cc):	0.00023	0.00039	0.00065	0.00129
	Min. Rate:	0.006	0.010	0.016	0.032
	Max Rate:	0.138	0.238	0.392	0.771

Size: 7.63 x 8.75 x 3.5in (19.4 x 22.3 x 8.9cm)

Voltage: 100-240VAC

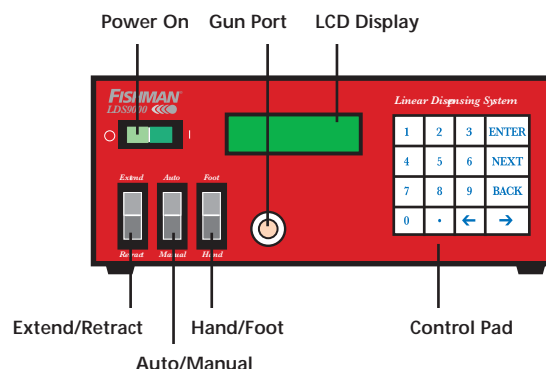
Meets CE, CSA, UL and GSA specifications

Models

3 or 5 foot Gun Cord Thin to Medium Fluids
3 or 5 foot Gun Cord Thick Fluids

Part Numbers

www.LDS9000.com



AirFree™ Fiber Optic Dispensing Systems

Exceptional for benchtop and fully automated dispensing of epoxies for bonding glass fiber to ceramic ferrules. The world's only AirFree™ dispenser eliminates the use of pneumatics as a drive system to dispense epoxy, increasing repeatability from +/- 30% to +/- 5%. Combine with industrial grade AirFree™ reservoirs and HiFlow™ dispense tips to achieve precise and repetitive dispense amounts without process adjustments. For application assistance, call 800-433-2115.

Features

- AirFree™ NoFlex™ Linear Drive System
- PosiLok™ piston connector
- 10 memory location
- For use with 3, 5 or 10 cc syringes
- Inert all-plastic fluid container
- 2 year warranty

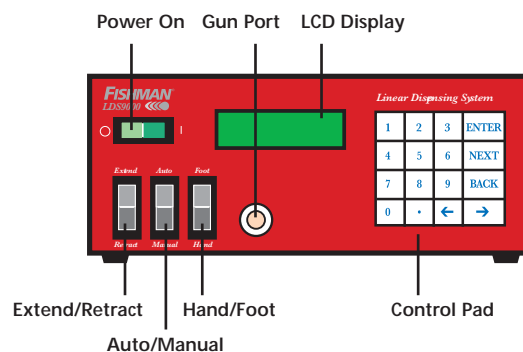
SDAV (Small Dot/Any Viscosity)

Barrel Size:	3cc	5cc	10cc
Min. Vol. (cc):	0.00023	0.00039	0.00065
Min. Rate:	0.006	0.010	0.016
Max Rate:	0.138	0.238	0.392

Size: 7.63 x 8.75 x 3.5in
(19.4 x 22.3 x 8.9cm)

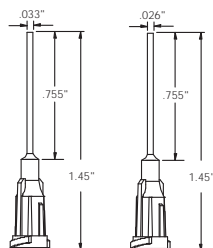
Voltage: 100-240VAC

Meets CE, CSA, UL and GSA specifications



AirFree™ System +/-5%

All Plastic Chamber



HiFlow™ Dispense Tips

Certified silicone-free, industrial grade dispense tips specifically designed to significantly increase fluid flow rate. The 3/4" (19.05mm) length is ideal for insertion into cylindrical connectors without impeding fluid flow to the fiber ferrule. When combined with the repeatability of the LDS9000 drive system, the HiFlow™ design delivers epoxy without overflow or fiber damage, maximizing bond strength and connector life.

Part Numbers

Dispensing System	D123511
Dispense Tips	Z5DA119 (19G)
	Z5DA120 (20G)

AirFree™ Integration Kits

System integrators who demand performance have found that eliminating unreliable air pressure with NoFlex™ Linear Drive (LDS) technology achieves the highest repeatability from a polypropylene reservoir.

The world's most repeatable, stable dispensing system has now become the most flexible. The integrator LDS9000 dispense gun features a 3 inch (76.2mm) gun cord with a quick connect coupler for easy attachment of a 5 foot (1.524m) detachable gun cable. The gun control board easily adapts to any standard PLC, giving the machine builder complete control over repeatable dispense amounts; and it easily mounts in any standard cabinet. For application assistance, call 800-433-2115.

Features

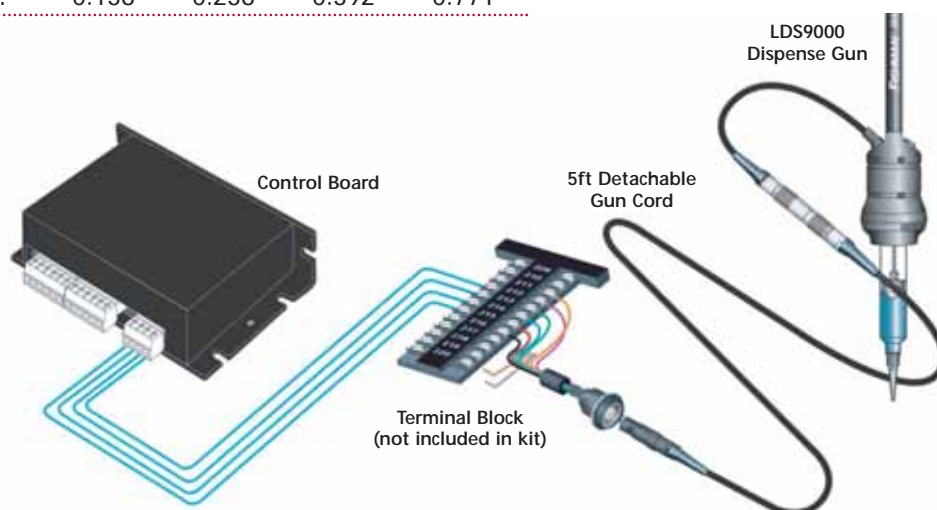
- Quick in-line gun detachment
- NoFlex™ allows in-line fluid adjustment
- Gun control board mounts in any standard cabinet
- Communicates with standard PLC technology
- PosiLok™ pistons provide quick on-off attachment of barrel reservoir
- Detachable gun cord makes gun changeover quick and easy
- Available with CA or fiber optic kits



	Barrel Size	3cc	5cc	10cc	30cc
LDAV (Large Dot/ Any Viscosity)	Min. Vol. (cc):	0.00090	0.00158	0.00261	0.00514
	Min. Rate:	0.023	0.040	0.065	0.129
	Max Rate:	0.552	0.954	1.567	3.086
MDAV (Medium Dot/ Any Viscosity)	Min. Vol. (cc):	0.00045	0.0079	0.00131	0.00257
	Min. Rate:	0.011	0.020	0.033	0.064
	Max Rate:	0.267	0.477	0.783	1.543
SDAV (Small Dot/ Any Viscosity)	Min. Vol. (cc):	0.00023	0.00039	0.00065	0.00129
	Min. Rate:	0.006	0.010	0.016	0.032
	Max Rate:	0.138	0.238	0.392	0.771

Part Numbers

www.LDS9000.com



The Vital Components of Our AirPulse™ System

Many users of assembly fluids are under the impression that all barrel reservoirs are the same. That assumption could not be further from the truth.

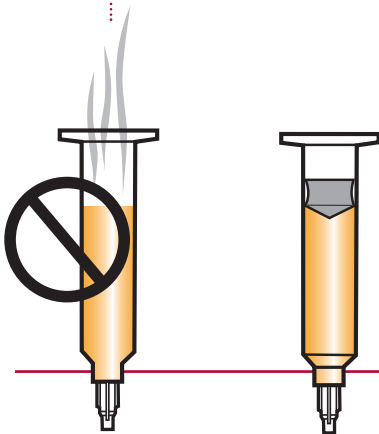
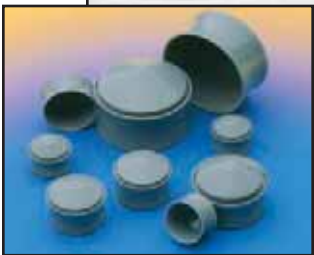
Fishman AirPulse™ components are designed specifically for the application of assembly fluids. Zero draft barrels, precise interference fits between components and industrial strength are a few of the critical criteria. The precision does not stop at design, but is carried through the molding process to complete the ideal barrel reservoir— a safer product guaranteed to reduce costs.

There is no comparison between squeezed bottles, typical hand syringes, other manual applicators, and our AirPulse™ components. The AirPulse™ system dispenses a wide range of fluids with no ooze or dripping. Accurate fluid placement translates into fewer rejects, less fatigue, less waste and higher product yields.

Savings over traditional manual applicators is typically 60-80%. Payback is typically 6 months or less.

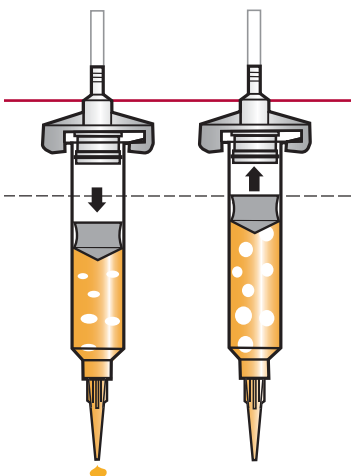
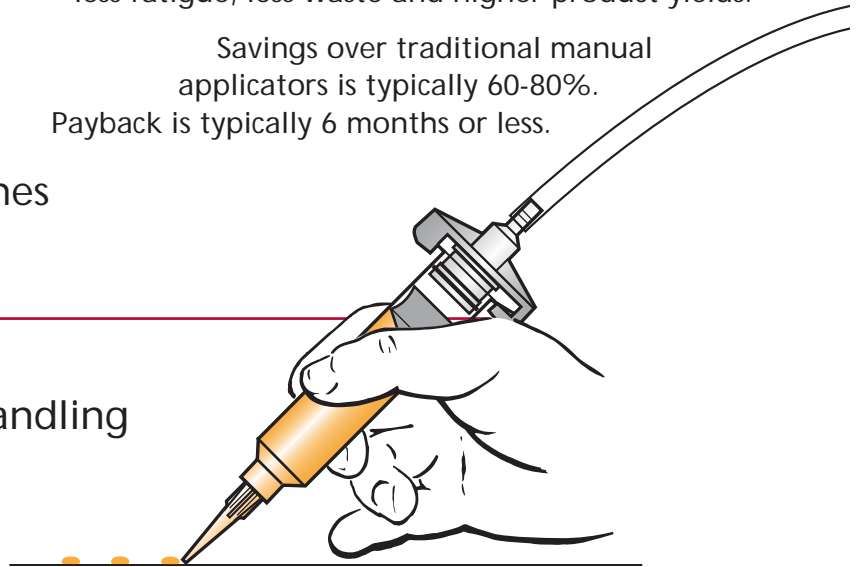
AirPulse™ System +/- 30%

All Plastic Chamber



■ No Fumes

■ Safe Handling



■ No Drips

■ +/-30% Repeatability

AirPulse™ Dispensing Systems

For more information on Fishman's dispensing capabilities, please contact one of our application assistants at 800-433-2115.

7100 - Manual System

Designed to dispense watery fluids to thick pastes, this versatile and easy to use dispenser features a digital timer for absolute consistency. The 7100 is a durable workhorse that will provide endless savings for your assembly process.

Features

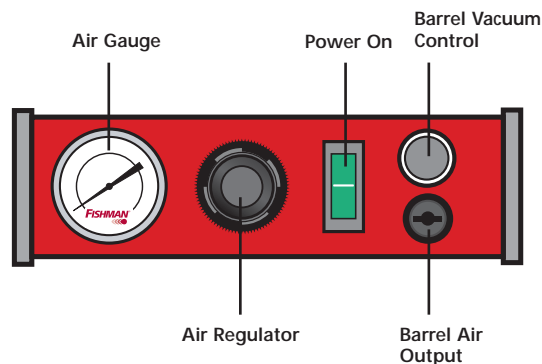
- Dispenses all assembly fluids
- Digital timer
- Vacuum control for thin fluids
- 10 year fault-free warranty

Specifications

Size: 8.625 x 5.94 x 2.63in
(21.9 x 15.08 x 6.68mm)
Air Input: 80-100psi (5.5-6.9bar)
Voltage: 90/120/220 VAC

Part Numbers

www.speedspecnow.com



AirPulse™ Dispensing Systems

For more information on Fishman's dispensing capabilities, please contact one of our application assistants at 800-433-2115.

7300 - Timed Deposits

Assemble parts on the benchtop with ease. Designed for fluid viscosities ranging from water to putty with reservoir sizes suitable for micro dot to medium dispense volumes. The 7300 features a timed dispense cycle with a single barrel reservoir.

Features

- Dispenses all assembly fluids
- Digital timer
- Vacuum control for thin fluids
- 10 year fault-free warranty

Specifications

Size: 8.625 x 5.94 x 2.63in
(21.9 x 15.08 x 6.68mm)

Air Input: 80-100psi (5.5-6.9bar)

Voltage: 90/120/220 VAC

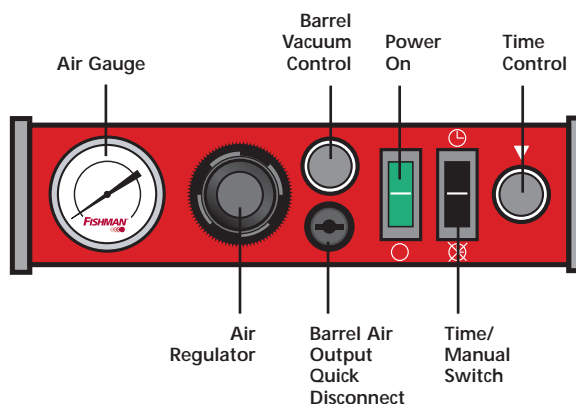
Part Numbers

www.speedspecnow.com



AirPulse™ System +/-30%

All Plastic Chamber



AirPulse™ Dispensing Systems

For more information on Fishman's dispensing capabilities, please contact one of our application assistants at 800-433-2115.

7500 - Pick and Place

When working with miniature components that require controlled dispensing, the 7500 features an adjustable vacuum pick and place wand, allowing placement of small components prior to bonding. Ideal for repair, rework, prototyping, small part placement and short run surface mount assembly. Both the wand and dispense syringe are foot pedal controlled, assuring steady placement during bonding. For use with watery fluids to thick pastes, this versatile and easy to use dispenser features a digital timer for absolute consistency.

Features

- Dispenses all assembly fluids
- Digital timer
- Vacuum control for thin fluids
- Vacuum pick-up wand for placement of micro components
- 10 year fault-free warranty

Specifications

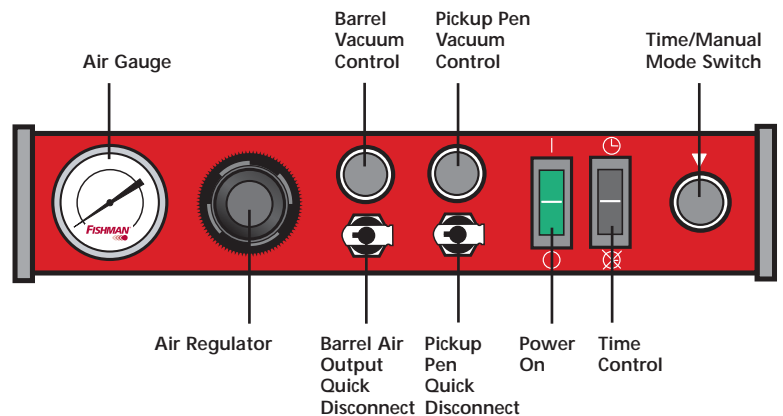
Size: 8.625 x 5.94 x 2.63in
(21.9 x 15.08 x 6.68mm)

Air Input: 80-100psi (5.5-6.9bar)

Voltage: 90/120/220 VAC

Part Numbers

www.speedspecnow.com





AirPulse™ Cartridge Pressure Vessel and Valve System

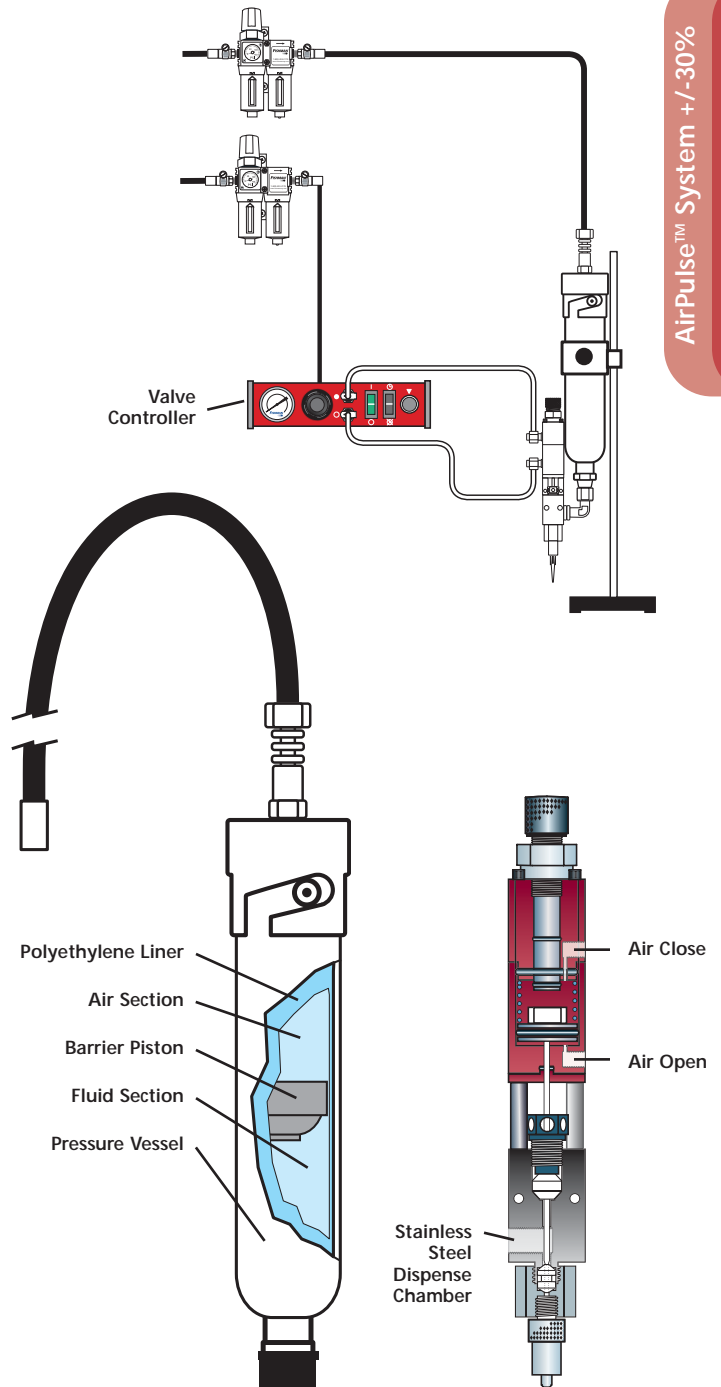
For more information on Fishman's dispensing capabilities, please contact one of our application assistants at 800-433-2115.

CPV&V

The cartridge pressure vessel systems are mini pressurized tanks with disposable polyethylene liners. These systems allow reservoirs to expand well beyond 50cc. The length of these reservoirs causes variations in dispensed amounts over time. However, when combined with a precision dispense valve, the dispense fluid is mechanically controlled at the point of dispense. The result is a highly repeatable dispense system that is clean and safe.

Features

- Disposable polyethylene cartridge liner for quick and easy clean up
- Reservoir is completely sealed, keeping harmful assembly fluids from contacting employees
- Chrome-plated steel dispense chamber for superior material compatibility
- Quick and easy set up
- Easily adjustable online
- Precise fluid deposit control
- Durable construction for the manufacturing environment
- Compatible with all luer lock dispense tips



AirFree™ and AirPulse™ Dispenser Kits

All Plastic Chamber

Dispense Starter Kit Contents	7000 Series					9000 Series (LDAV, MDAV, SDAV)		
	7100	7300/15	7300	7500/15	7500	3-10cc	30cc	3-30cc
Foot Pedal, Power Cord	NA	NA	NA	NA	NA	✓	✓	✓
Input Air Hose, Fittings, Foot Pedal, Power Cord	✓	✓	✓	✓	✓	NA	NA	NA
Manual	✓	✓	✓	✓	✓	✓	✓	✓
Test Fluid	NA	NA	NA	NA	NA	✓	✓	✓
Spatula	○	○	○	○	○	✓	✓	✓
Funnel	○	○	○	○	○	✓	✓	✓
Economy Needle Pack	✓	✓	✓	✓	✓	NA	NA	NA
Needle Kit	NA	NA	NA	NA	NA	✓	✓	✓
AirPulse Adapter Assemblies 3, 5, 10, 30cc - 1 each	✓	✓	✓	✓	✓	NA	NA	NA
AirPulse Adapter Assemblies 3cc and 10cc	NA	NA	NA	NA	NA	NA	NA	NA
AirPulse Adapter Assemblies 10cc only	NA	NA	NA	NA	NA	NA	NA	NA
AirPulse Barrel Reservoirs and Pistons: 3, 5, 10, 30cc - 2 ea	✓	✓	✓	✓	✓	NA	NA	NA
AirPulse 10cc System Barrel and Piston - 30 ea	✓	✓	✓	✓	✓	NA	NA	NA
AirPulse Barrel Reservoirs and Pistons: 3, 5, 10, 30cc - 6 ea	NA	NA	NA	NA	NA	✓	✓	✓
Five Micron Filter Regulator	○	○	○	○	○	NA	NA	NA
Five Micron Filter Regulator & Coalescing Filter	○	○	○	○	○	NA	NA	NA
AirPulse Barrel Stand	NA	✓	✓	✓	✓	NA	NA	NA
Vacuum Pickup Wand	NA	NA	NA	✓	✓	NA	NA	NA
Finger Switch	○	○	○	○	○	○	○	○
3-10cc Dispense Gun 3, 5, 10 Retaining Rings - 1 ea	NA	NA	NA	NA	NA	✓	NA	✓
30cc Dispense Gun 30cc Retaining Ring - 1	NA	NA	NA	NA	NA	NA	✓	✓
AirFree Barrel Stand	NA	NA	NA	NA	NA	✓	✓	✓

Legend: ✓ Included ○ Optional NA Not Applicable

AirFree™ and AirPulse™ Features, Specifications and Applications

All Plastic Chamber

Features	7000 Series			9000
	7100	7300	7500	LDS9000
Automatic Timed Cycle	NA	✓	✓	✓
Enter Dispense Amount by Volume	NA	NA	NA	✓
Positive Displacement from a Syringe (knows syringe size and volume required)	NA	NA	NA	✓
No Air Pressure Required	NA	NA	NA	✓
Repeatable Screw Driven Piston	NA	NA	NA	✓
Manual Control Override	NA	✓	✓	✓
Memory Locations	NA	NA	NA	10
I/O Interface	NA	NA	NA	✓
Programmable Teach Function	NA	NA	NA	NA
Digital Time Set	NA	NA	NA	✓
External Fine Tune Time Adjust (0-30 sec time range)	NA	✓	✓	NA
Barrel Vacuum	✓	✓	✓	✓
Vacuum Pickup Pen	NA	NA	✓	NA
Fault-Free Warranty Period (years)	2	2	10	2

Legend: ✓ Included NA Not Applicable

Specifications	7000 Series			9000 Series
	7100	7300	7500	LDS9000
Size	7.5 x 5.5 x 2.8in (19.1 x 14.0 x 7.0cm)	8.6 x 6.0 x 2.6in (21.9 x 15.1 x 6.7cm)	11.1 x 7.0 x 2.9in (28.3 x 17.8 x 7.3cm)	8.8 x 7.6 x 3.8in (22.2 x 19.4 x 9.5cm)
Weight	2lb, 11oz (1.21kg)	4lb, 7oz (2.01kg)	4lb, 13oz (2.18kg)	5lb, 15oz (2.70kg)
Power	100/120/220 VAC	110 or 220 VAC	115/230 VAC	100 to 240 VAC
Input Voltage	24 VDC	12VDC	12 VDC	5/12/24 VDC
Internal Voltage	24 VDC	12 VDC	12 VDC	5/12/24 VDC
Pedal Voltage	5 VDC	5 VDC	5 VDC	5 VDC
Air Input/Air Output	80-100psi (air input); 0-100 (air output)*			No air
Cycles/Minute	NA	>600/min	>600/min	D/A**
Time Range	NA	0.001 to 99.9 sec	0.001 to 99.9 sec	NA
Time Repeat	NA	+/-0.1%	+/-0.1%	NA

*0 - 15psi output pressure for all 15 models **Depends on application - call for assistance

Applications	7000 Series					9000 Series		
	7100	7300/15	7300	7500/15	7500	LDAV	MDAV	SDAV
Thick Pastes	*	×	*	×	*	*	*	*
Thin Watery Fluids	●	*	●	*	●	*	*	*
Thin Cyanoacrylates	×	●	×	●	●	▲	▲	▲
Solder Paste	●	×	●	×	●	*	*	*
Pre-mixed and Frozen	×	×	×	×	×	*	*	*
Microdots	×	●	●	●	●	×	×	*
Bonding and Gluing	*	*	*	*	*	*	*	*
Potting and Filling	*	●	*	●	*	*	●	×
Beading and Striping	*	*	*	*	*	●	*	*

Legend: * Recommended ● Satisfactory ▲ LDS9000 CA System × Do not use

Diaphragm Systems

AirPulse™ Mountable Diaphragm System

Repeatability +/-10%

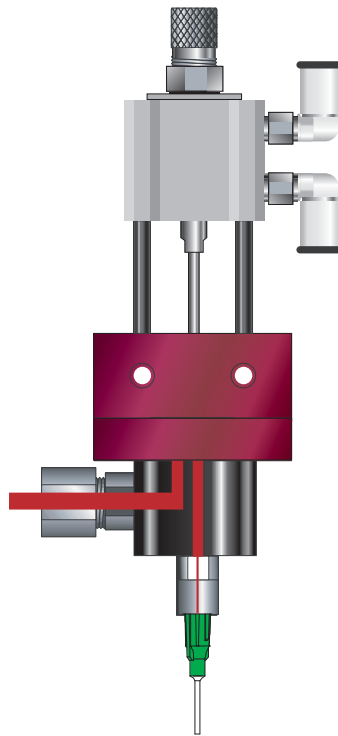
Go to page 31



AirPulse™ Handheld Lever Activated Diaphragm System

Repeatability +/-10%

Go to page 32

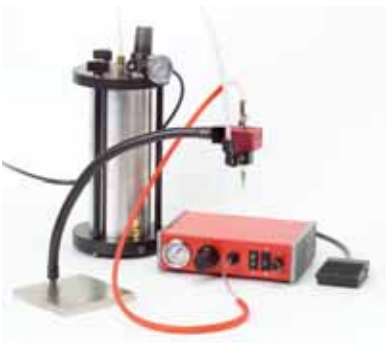


AirPulse™ Handheld Diaphragm System

Repeatability +/-10%

Go to page 31





AirPulse™ Diaphragm Systems

Diaphragm Valve Systems are ideal for cyanoacrylates and other low to medium viscosity fluids. ADV valves are excellent for dot, bead, and potting applications. The diaphragm series wetted parts feature a patented silicone disk with Teflon® film embedded on the wetted side. Each valve features a stroke adjuster for precise process control.

The volume dispensed depends on fluid pressure, fluid viscosity, flow adjustment and tip size. For application assistance, call 800-433-2115.

Features

- Patented silicone disk with Teflon® film embedded on the wetted side
- Stroke adjuster permits control over dispensed volumes
- Delrin® material body
- Compact design

Application

The ADV1 is specifically designed for automated dispensing of low viscosity fluids and is excellent for dots, beads and potting applications. Mount the valve to an automated dispense system using the two mounting ports.

Specifications

Size:	3.48 x 1.75in (34.8 x 44.5mm)
Weight:	9oz (255.2g)
Maximum Fluid Pressure:	60psi (4.14bar)
Mounting Ports:	M4 SCHS

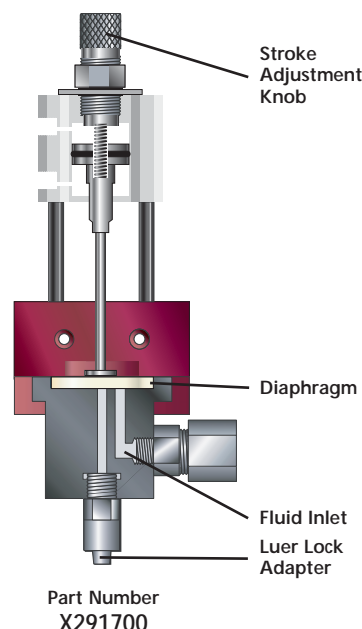
Application

The ADV2 is specifically designed for handheld dispensing of low viscosity fluids and is excellent for dots, beads and potting applications. Combine the valve with the 7450 valve controller, cutting costs while producing consistent assembly fluid deposits.

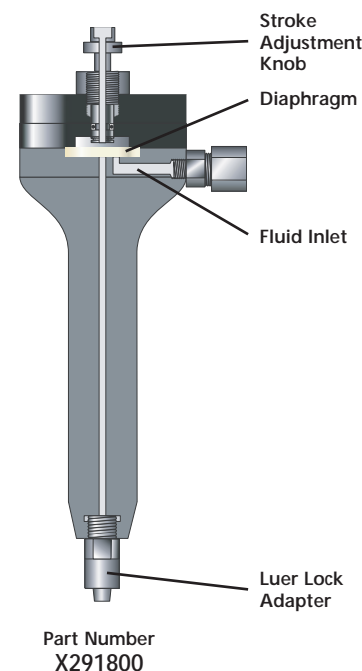
Specifications

Size:	5.6 x 1.75in (141.6 x 44.5mm)
Weight:	3.7oz (104.9g)
Maximum Fluid Pressure:	60psi (4.14bar)

ADV1 Mountable



ADV2 Handheld



Diaphragm +/-10%

Teflon Delrin



Hand Operated Tools

Hand operated tools are inexpensive methods that simplify fluid application in assembly, maintenance and field repair. For application assistance, call 800-433-2115.

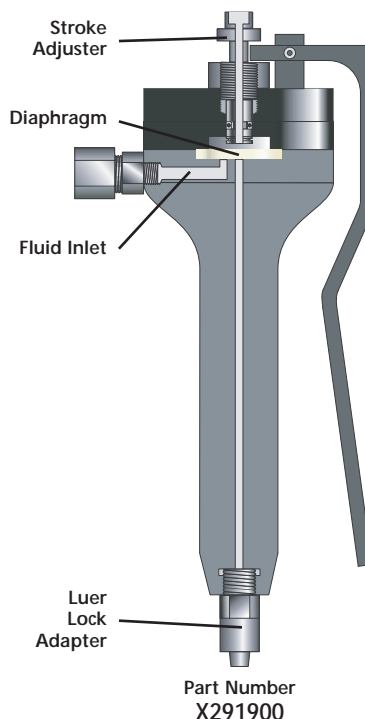
Application

The ADV3 possesses an operators friendly wand design for handheld solutions and is excellent for dot, bead and potting applications. Since the ADV3 is hand actuated, there is no need for a valve controller as the operator will determine dispense volumes. The ADV3 assures cost reduction while producing consistent assembly fluid deposits.

Specifications

Size: 6.3 x 1.75in (159.1 x 44.5mm)
 Weight: 4.8oz (136.08g)
 Maximum Fluid Pressure: 60psi (4.14bar)

ADV3 Lever Actuated



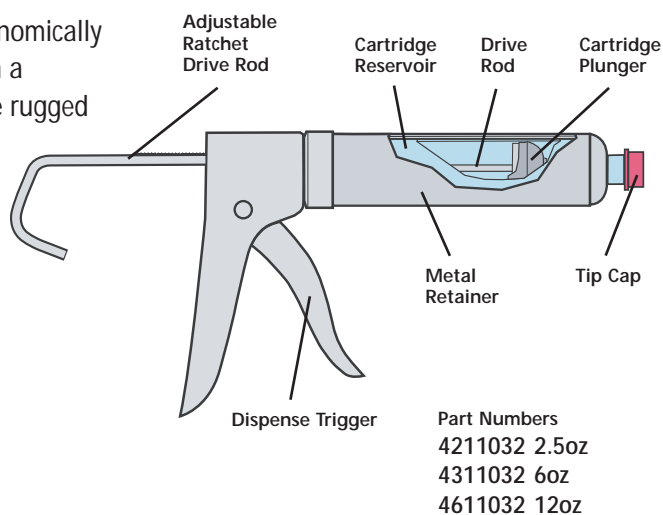
Application

Manual cartridge dispensing guns provide an ergonomically correct and efficient method to dispense fluid from a cartridge reservoir. These guns are designed for the rugged industrial manufacturing environments.

Specifications

Size: 4211032 - 2.5oz
 4311032 - 6oz
 4611032 - 12oz

Lever Actuated Dispense Gun





Hand Operated Tools

Ideal for performing "touch-up," prototyping or small secondary assembly operations on the shop floor. For application assistance, call 800-433-2115.

Application

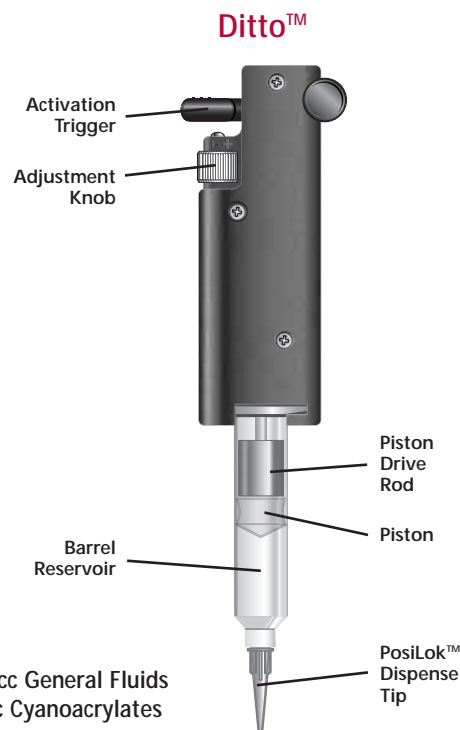
The precision-machined drive shaft is incrementally stepped by applying pressure to the activation trigger. Each step positively displaces a known amount of fluid from the dispense tip. Adjust dispense volume amounts by simply turning the volume control wheel located just below the trigger. The non-engageable plunger head seamlessly fits 3, 5 and 10cc AirFree™ reservoirs (3 and 10cc for CA). Designed for fluid viscosities ranging from water to syrup, with reservoir sizes suitable for small dot to medium volumes. Combine with an industrial grade silicone-free dispense tip to control dot size.

Specifications

Size: 5.01 x .869 x 1.57in
(127.25 x 22.07 x 39.88mm)

Weight: 2.88oz (81.75g)

Part Numbers
D253101 3, 5, 10cc General Fluids
D253201 3 & 10cc Cyanoacrylates



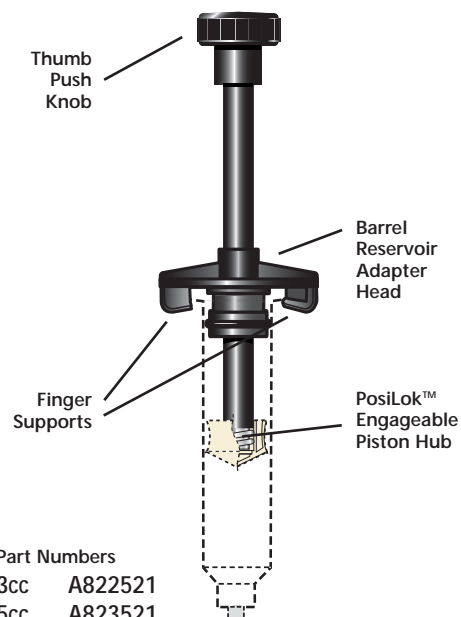
Application

The engageable barrel reservoir adapter head seamlessly fits 3, 5, 10 and 30cc AirFree™ reservoirs. Designed for fluid viscosities ranging from water to lard with reservoir sizes suitable for small dot to medium volumes. Applying pressure to the manual plunger allows you to control the PosiLok™ engageable piston hub and the piston allows for reverse motion, commonly used to stop post-dispense ooze, to be applied by pulling back on the rod. Combine with an industrial grade silicone-free dispense tip to control dot size.

Specifications

Size	Weight	Dimensions
3cc	11.5g	3.75 x 1.6in (79.76 x 40.64mm)
5cc	12g	3.14 x 1.6in (79.76 x 40.64mm)
10cc	14g	3.75 x 1.65in (95.25 x 41.91mm)
30cc	19g	4.75 x 2.1in (120.65 x 53.34mm)

PosiLok™ Hand Operated Plunger



Part Numbers
3cc A822521
5cc A823521
10cc A824521
30cc A826521



Hand Operated Tools

Hand operated tools are inexpensive methods that simplify fluid application in assembly, maintenance and field repair. For application assistance, call 800-433-2115.

Ideal for performing “touch-up,” prototyping or small secondary assembly operations on the shop floor. The plunger head seamlessly fits 3, 5, 10, and 30cc AirPulse™ reservoirs. Designed for fluid viscosities ranging from water to lard. Applying pressure to the manual plunger allows you to control the dispense volume.

Specifications

Size	Weight	Dimensions
3cc	11.4g	3.88 x 1.6in (98.55 x 40.64mm)
5cc	11.2g	3.26 x 1.6in (88.55 x 40.64mm)
10cc	13.7g	3.88 x 1.7in (99.57 x 43.18mm)
30cc	20.3g	4.88 x 2.1in (124.97 x 53.34mm)

Part Numbers	
A702521	3cc
A703521	5cc
A704521	10cc
A706521	30cc



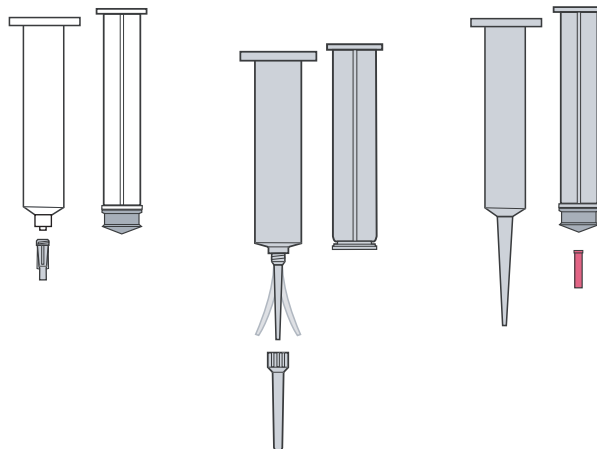
Hand Operated Plungers

Application

Luer Lock - Allows the user to select from a wide range of dispense tips.

Flexible Tip - Provides dispensing in difficult to access areas, while preventing scratching.

Tapered Tip - Provides a permanent ridged cone-shaped tip that may be manually cut back to increase flow.



Hand Operated Syringes

Luer Lock

Size	Clear	UV Amber	Opaque Black
1cc	A021050	N/A	A021020
3cc	A022151	A022191	A022121
5cc	A023151	A023191	A023121
10cc	A024151	A024191	A024121
20cc	A025252	N/A	A025222
30cc	A026151	A026191	A026121
55cc	A027252	A027191	A027222

Flexible Tip

Size	Opaque White
6cc	A333030
12cc	A334030
30cc	A336030

Taper Tip

Size	Opaque White	Clear
6cc	A213155	N/A
10cc	N/A	A214514
30cc	A216155	N/A



AirFree™ and AirPulse™ Dispense Component Packages

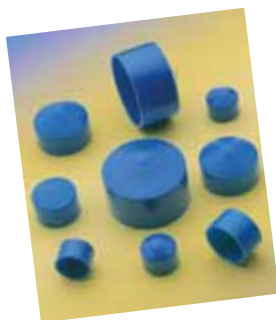
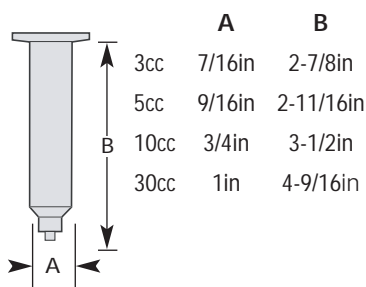
Benefits

- Silicone-free
- Industrial strength
- Disposable & clean
- No fluid comes in contact with the operator

Assurance

Fishman products are designed and manufactured for industrial use. Precision molded from top quality plastics, we guarantee our products will perform beyond expectations, when used to our specifications. All manufactured products are 100% silicone-free.

Barrel Dimensions



AirFree™ PosiLok™ Piston



- Patented PosiLok™ engageable thread locking system
- Precision molded, high friction PE piston seals the barrel for positive displacement dispensing

AirPulse™ DripFree™ Piston



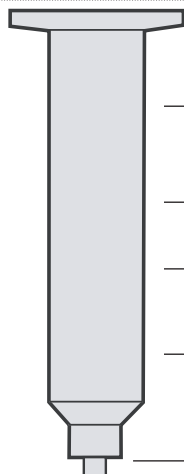
- Precision molded, low friction PE piston ensures drip free dispensing

AirPulse™ StraightWall™ Piston



- Straight wall piston prevents tunneling and oozing

Barrel



- Industrial strength design ensures minimal flexing — zero pressure loss
- Thick wall design averts bursting and cracking
- Designed with a zero degree internal taper
- Available in clear, black for visible light cure, and amber for UV cure
- Thick wall, standard luer lock sleeve for maximum engagement with dispense tips and caps

Tapered Tip



- SureLok™ thread design maximizing the strength of attachment to the barrel
- Gradual taper removes restrictions, reducing internal pressure and assuring free flow

FlexiTip™



- Ergonomic design for easy attachment
- Flexible polypropylene tubing is inert and prevents scratching

Stainless Steel Tip



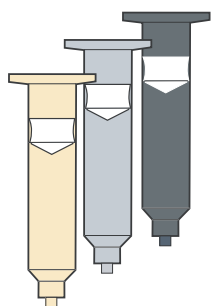
- Positive stop design guarantees close tolerance of tip length
- Polished burr-free stainless steel for free flow of fluids



Barrels sealed in an anti-static bag
keeping part clean

AirFree™ Dispense Component Packages

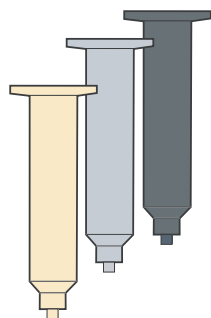
Prepackaged for ease of use, inventory control and easy reordering. AirFree™ dispense components ensure smooth and consistent dispensing of assembly fluids. For application assistance, call 800-433-2115.



Barrels and Pistons

Available in: Clear for regular fluids; Black for visible light cure fluids; Yellow for UV cure fluids. Each package contains the same amount of barrels and PosiLok™ engageable pistons.

Size	Clear	UV Amber	Opaque Black	CA	Qty Per Box
3cc	O122051	O122061	O122071	O502051	50
5cc	O123131	O123141	O123151	O503131	40
10cc	O124171	O124181	O124191	O504131	30
30cc	O126211	O126221	O126231	O506131	20



Barrels without Pistons

Available in: Clear for regular fluids; Black for visible light cure fluids; Yellow for UV cure fluids.

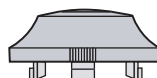
Size	Clear Amber	UV Black	Opaque	Qty Per Box
3cc	O012051	O012061	O012071	50
5cc	O013131	O013141	O013151	40
10cc	O014171	O014181	O014191	30
30cc	O016211	O016221	O016231	20



PosiLok™ Pistons

Polyethylene pistons seal the dispense chamber containing fluid and fumes. A sturdy PosiLok™ connection with the lead screw, this high interference piston makes positive displacement from a syringe possible.

Size	Clear	Opaque Black	Qty Per Box
3cc	O112051	O112071	50
5cc	O113131	O113151	40
10cc	O114171	O114191	30
30cc	O116211	O116231	20

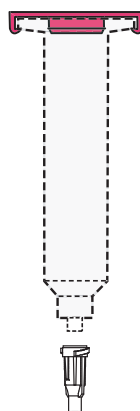


SureLok™ Retaining Rings

The unique multi-legged design firmly locks the barrel into place eliminating any possibility of pressure loss during dispense.

Size	Retaining Ring	Qty Per Box
3cc	O312291	1
5cc	O313291	1
10cc	O314291	1
30cc	O316291	1

PosiLok™
End Cap



Tip Cap

Sealing Caps

Pressure fit caps for contaminant proof sealing.

End Cap Size	End Cap	Qty Per Box
3cc	O272051	50
5cc	O273131	40
10cc	O274171	30
30cc	O276211	20

PosiLok™ Tip Cap

White Cap	Black Cap	CA	Qty Per Box
O050051	O050071	O520071	50



AirFree™ Static Dissipative Dispensing Components

A specially formulated carbon additive dissipates static electricity. Produced silicone-free, this unique package is ideal for an ESD-safe environment. For application assistance, call 800-433-2115.

Barrel/Piston Kits

Each kit contains an equal number of barrels and pistons.

Size	Part Number	Color	Qty/Bx
3cc	O122081	Black	50
10cc	O124201	Black	30

Barrel Reservoirs

ESD Safe, industrial grade barrel reservoirs molded silicone free.

Size	Part Number	Color	Qty/Bx
3cc	O012081	Black	50
10cc	O014201	Black	30

PosiLok™ Polyethylene Pistons

Size	Part Number	Color	Qty/Bx
3cc	O112051	Clear	50
10cc	O114171	Clear	30

Note: These are standard Fishman PosiLok™ pistons (clear) and are acceptable for use with static dissipative components.

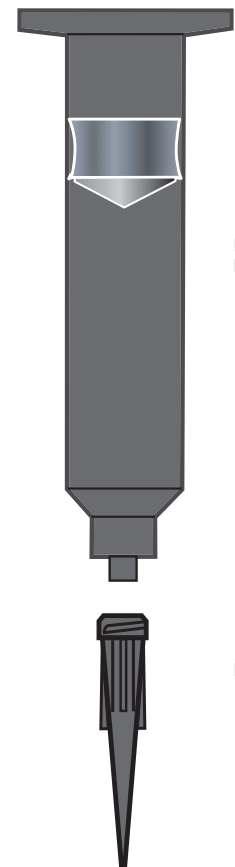
FreeFlow™ Polyethylene Tapered Tips

Size	I.D.	Part Number	Color	Qty/Bx
18G	0.033	Z725118	Black	50
20G	0.023	Z725120	Black	50
22G	0.016	Z725122	Black	50

ESD Evaluation Kit

Each kit contains two barrel reservoirs, two barrel pistons, two each 18, 20 and 25 gauge tapered tips.

Size	Part Number	Color	Qty/Bx
3cc	O962961	Black	1 set
10cc	O964961	Black	1 set



ESD Polyethylene Barrel Reservoir

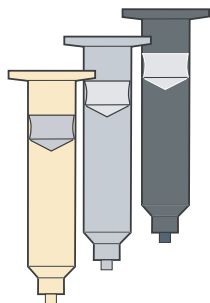
ESD Tapered Tip



Barrels sealed in an anti-static bag keeping part clean

AirPulse™ Dispense Component Packages

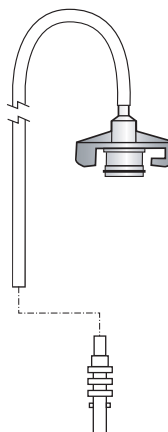
Pre-packaged for ease of use, inventory control and easy reordering. AirPulse™ dispense components ensure smooth and consistent dispensing of assembly fluids. For application assistance, call 800-433-2115.



Barrels and Pistons

Available in: Clear for regular fluids; Black for visible light cure fluids; Amber for UV cure fluids. Each package contains the same amount of barrels and DripFree™ pistons.

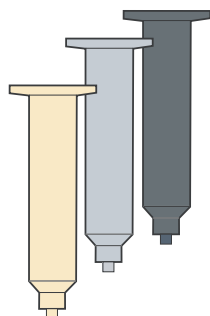
Size	Clear	UV Amber	Opaque Black	Qty Per Box
3cc	O102051	O102061	O102071	50
5cc	O103131	O103141	O103151	40
10cc	O104171	O104181	O104191	30
30cc	O106211	O106221	O106231	20
55cc	O107471	O107481	O107491	15



Barrel Adapter Assemblies

Polypropylene, one piece adapter provides attachment of barrel reservoir to dispensing system. Assembly includes 1/8in polyurethane tubing, quick connect, and four spare O-rings. Available with TwistLock quick connector.

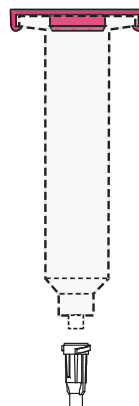
Size	3 ft Hose	6 ft Hose	3 ft Hose w/Inline Filter
3cc	O282291	O292291	O302291
5cc	O283291	O293291	O302291
10cc	O284291	O294291	O304291
30cc/55cc	O286291	O296291	O306291



Barrels without Pistons

Available in: Clear for regular fluids; Black for visible light cure fluids; Amber for UV cure fluids.

Size	Clear	UV Amber	Opaque Black	Qty Per Box
3cc	O012051	O012061	O012071	50
5cc	O013131	O013141	O013151	40
10cc	O014171	O014181	O014191	30
30cc	O016211	O016221	O016231	20
55cc	O017471	O017481	O017491	15



Sealing Caps

Pressure fit caps for contaminant proof sealing.

End Cap Size	End Cap	Qty Per Pack
3cc	O272051	50
5cc	O273131	40
10cc	O274171	30
30cc	O276211	20
55cc	O277471	15

PosiLok™ Tip Cap

White Cap	Black Cap	Qty Per Pack
O050051	O050071	50

DripFree™ and StraightWall™ Barrels Pistons

Polyethylene pistons contain fluid and fumes while providing consistent force, eliminating dripping or oozing.

Size	DripFree™	StraightWall™	Qty Per Box
3cc	O022051	O032051	50
5cc	O023131	O033131	40
10cc	O024171	O034171	30
30cc	O026211	O036211	20
55cc	O027473	N/A	15





AirPulse™ Static Dissipative Dispensing Components

A specially formulated carbon additive dissipates static electricity. Produced silicone-free, this unique package is ideal for an ESD-safe environment. For application assistance, call 800-433-2115.

Barrel/Piston Kits

ESD Safe, industrial grade barrel reservoirs molded silicone-free.

Size	Part Number	Color	Qty/Bx
3cc	O102081	Black	50
10cc	O104201	Black	30

Barrel Reservoirs

Size	Part Number	Color	Qty/Bx
3cc	O012081	Grey	50
10cc	O014201	Grey	30

DripFree™ Polyethylene Pistons

Size	Part Number	Color	Qty/Bx
3cc	O022051	Grey	50
10cc	O024171	Grey	30

Note: These are standard Fishman DripFree™ pistons (grey) and are acceptable for use with static dissipative components.

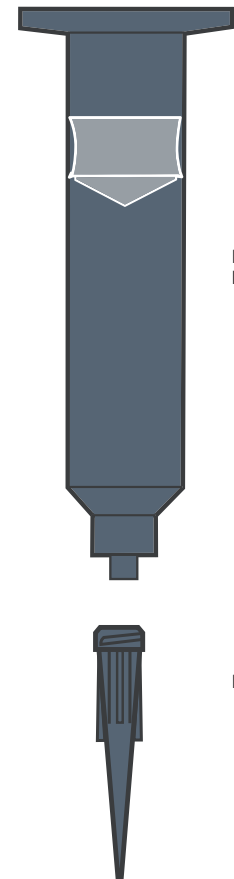
FreeFlow™ Polyethylene Tapered Tips

Size	I.D.	Part Number	Color	Qty/Bx
18G	0.033	Z725118	Black	50
20G	0.023	Z725120	Black	50
22G	0.016	Z725122	Black	50

ESD Evaluation Kit

Each kit contains two barrel reservoirs, two barrel pistons, two each 18, 20 and 25 gauge tapered tips.

Size	Part Number	Color	Qty/Bx
3cc	O972961	Black	1 Set
10cc	O974961	Black	1 Set



ESD Polyethylene Barrel Reservoir

ESD Tapered Tip



PosiLok™ Disposable Dispense Tip Packages

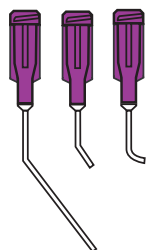
The dispense tip helps define the deposit shape and the performance of your dispenser. Whether using an AirFree™ or AirPulse™ dispenser, any dispense tip will attach to your dispense component. For application assistance, call 800-433-2115.



Perfectly Straight Stainless Steel

PosiLok™ polypropylene hub with **passivated polished 304 stainless steel** tubing cut burr-free.

Gauge	0.25in long	0.5in long	1in long	1.5in long
14G	Z511114	Z512114	Z513114	Z514114
15G	Z511115	Z512115	Z513115	Z514115
16G	Z511116	Z512116	Z513116	Z514116
18G	Z511118	Z512118	Z513118	Z514118
19G	Z511119	Z512119	Z513119	Z514119
20G	Z511120	Z512120	Z513120	Z514120
21G	Z511121	Z512121	Z513121	Z514121
22G	Z511122	Z512122	Z513122	Z514122
23G	Z511123	Z512123	Z513123	Z514123
25G	Z511125	Z512125	Z513125	Z514125
27G	Z511127	Z512127	Z513127	Z514127
30G	Z511130	Z512130	N/A	N/A
32G	Z511132	N/A	N/A	N/A



Precisely Bent Stainless Steel

PosiLok™ polypropylene hub with passivated polished 304 stainless steel tubing cut burr-free. **Bent at 45 and 90 degree angles.**

Gauge	0.5in long 45° Angle	0.5in long 90° Angle	1.5in long 45° Angle
14G	Z562114	Z572114	Z564114
15G	Z562115	Z572115	-
16G	Z562116	Z572116	-
18G	Z562118	Z572118	Z564118
19G	Z562119	Z572119	-
20G	Z562120	Z572120	-
21G	Z562121	Z572121	Z564121
22G	Z562122	Z572122	-
23G	Z562123	Z572123	-
25G	Z562125	Z572125	-
27G	Z562127	Z572127	-
30G	Z562130	-	-



Microdot

PosiLok™ polypropylene hub with passivated polished 304 stainless steel tubing cut burr-free. **Small gauge** designed for microdot dispensing.

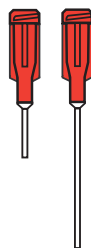
Gauge	0.25in long	0.31in long	Hub Color
27G	Z511127	Z518127	Clear
30G	Z511130	Z518130	Lavender
32G	Z511132	-	Yellow



Tapered FreeFlow™

Precision taper allows fluid to flow without restriction, reducing stringing and ooze. Polyethylene molded with UV light block. These tips feature the PosiLok™ hub.

Gauge	Flexible	Rigid
14G	Z520114	Z580114
16G	Z520116	Z580116
18G	Z520118	Z580118
20G	Z520120	Z580120
22G	Z520122	Z580122
25G	Z520125	Z580125



Straight but Flexible

Soft polypropylene burr and flash free tips assure accurate deposit control. Recommended for use with fluids that react with metals or to prevent scratching.

Gauge	0.5in long	1.5in long
15G	Z532115	Z534115
18G	Z532118	Z534118
20G	Z532120	Z534120
25G	Z532125	Z534125



UV Light Shield

One piece shield slides over the tip blocking light from penetrating the PosiLok™ polypropylene hub. Fits on the end of the syringe ideal for **UV and light sensitive adhesives.**

Barrel Size	Part #	Color
5cc	O993971	Black
3,10-55cc	O999971	Black



Teflon® Lined

Teflon® burr and flash free tips assure accurate deposit control. Recommended for use with fluids that **react or bond with metals** such as cyanoacrylates. Prevent scratching.

ID	0.5in long	Color
0.020"	Z592121	Grey
0.006"	Z592125	Pink



Thick Paste

PosiLok™ polypropylene hub with passivated polished 304 stainless steel tubing cut burr-free. **0.25in length** designed for filled or thick pastes.

Gauge	0.25in long
14G	Z5D1114
15G	Z5D1115
16G	Z5D1116

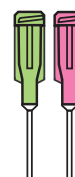
*Special inner diameter - call for sizes



Fine Surface

PosiLok™ polypropylene hub with passivated polished 304 stainless steel tubing cut burr-free. **Chamfered** tip reduces surface tension allowing easy deposit of fluid on fine surfaces.

Gauge	0.5in long
18G	Z552118
23G	Z552123
25G	Z552125



HiFlow™ Fiber Optic

PosiLok™ polypropylene hub with passivated polished 304 stainless steel tubing cut burr-free. Ideal for insertion into cylindrical connectors without impeding fluid flow.

Gauge	0.75in long
19G (HF)	Z5DA119
20G (HF)	Z5DA120

Note: All stainless steel tips are **passivated polished 304 stainless steel**



PosiLok™ Dispense Tip Selection Charts

Selecting the appropriate dispense tip for your assembly fluid and application optimizes the performance of your dispensing system.

Fluids	Stainless Steel Tip	Tapered Tip	FlexiTip™	Teflon® Lined Tip
Adhesives	*	*	*	*
Anaerobics	•	*	*	•
Conformal Coatings	•	*	•	X
Cyanoacrylates	•	*	*	*
Gel cyanoacrylates	•	*	*	•
Epoxies	*	*	*	X
Greases	*	*	*	X
Light-cure adhesives	•	X	•	X
Oils	*	•	*	•
Paints	*	•	*	X
Sealants	•	*	•	X
Solder Creams/Braze pastes	*	*	•	X
Solder Masks	*	*	•	X
Solvents	X	*	*	*
UV-cure adhesives	•	*	•	•

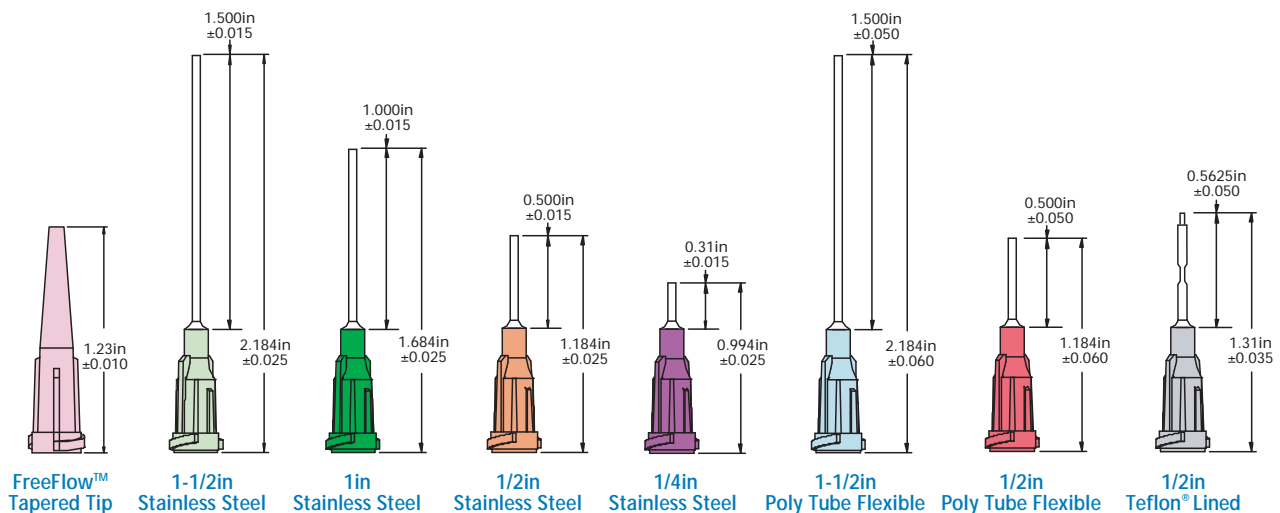
* Recommended • Satisfactory X Do not use

Applications	Stainless Steel Tip	Tapered Tip	FlexiTip™	Teflon® Lined Tip
Low viscosity fluids	*	•	*	*
Particle filled pastes	*	*	•	X
Microdots	*	X	•	•
Metal reactive fluid	X	*	*	*
Dispensing into crevasses	*	•	*	•
Spreading/smearing	•	*	*	•
Fast curing glues	•	*	*	*
Beading	*	*	*	•
Sensitive surfaces-avoid scratching	•	*	*	*

* Recommended • Satisfactory X Do not use

Color	Gauge	ID Size in	ID Size mm	OD Size in	OD Size mm
White	14G	0.063	1.60	0.083	2.11
Amber	15G	0.052	1.32	0.072	1.83
Dk. Purple	16G	0.047	1.19	0.065	1.65
Green	18G	0.033	0.84	0.050	1.27
Lt. Green	19G	0.027	0.69	0.042	1.07
Pink	20G	0.023	0.58	0.036	0.91
Purple	21G	0.020	0.51	0.032	0.81
Blue	22G	0.016	0.41	0.028	0.71
Orange	23G	0.013	0.33	0.025	0.64
Red	25G	0.010	0.25	0.020	0.51
Clear	27G	0.008	0.20	0.016	0.41
Lavender	30G	0.006	0.15	0.012	0.31
Yellow	32G	0.004	0.10	0.009	0.23

Applications



Filling Your Syringe Reservoir

Trapped air pockets in your reservoir, whether a syringe or cartridge, will dramatically impact the repeatability of your dispense system.

To produce perfectly AirFree™ syringes you have five options. Make your choice by reviewing the information provided and choose the appropriate system for your application.



Pourable Fluids Direct From Bottle

Purchase pourable fluids such as solvents, anaerobics and cyanoacrylates in large containers and utilize C463611 reservoir filling system to reduce filling costs.

Reservoir Sizes: 1 liter, 5 liter



Nonpourable Fluids Semco® Style Cartridge

Purchase nonpourable fluids, such as sealants, greases and vinyl adhesives that come prepackaged in a cartridge. The C350001 reservoir filling system will provide a simple filling solution.

Reservoir Sizes: 2.5, 6, 12, 20 and 32oz



Nonpourable Fluids Caulk Style Cartridge

Purchase nonpourable fluids, such as sealants, greases and vinyl adhesives that come prepackaged in a cartridge. The C400001 reservoir filling system will provide a simple filling solution.

Reservoir Sizes: 10.6oz



Nonpourable Fluids 5 Liter Reservoir

Purchase nonpourable fluids, such as sealants, greases and vinyl adhesives that come prepackaged in a cartridge. The C463711 reservoir filling system will provide a simple filling solution.

Reservoir Sizes: 5 liter

Professionally Filled Contract with a packager to professionally fill your fluids using state-of-the-art filling equipment to produce airfree syringes! If you would like us to assist you in finding a packager, please contact us.

Difficult to Dispense Fluids

Our precision components are easy to set up and will dispense most assembly fluids.

AirPulse™ dispenses with a repeatability of +/- 30%.

AirFree™ dispenses with a repeatability of +/-5%.

General rules to consider:

	AirPulse™	AirFree™
Small Deposits •	Small tips, low pressure and short pulse time	1/4in length tips, SDAV LT system and minimal reverse motion
Large Deposits ●	Larger tips, higher pressure and longer time	Larger FreeFlow™ tapered tips LDAV LT system and minimal reverse motion
Watery Fluids ●	Small tips, low pressure and time as required	1/4in length tips, LT system and minimal reverse motion
Thick Fluids ●	Tapered tips, higher pressure and time as required	FreeFlow™ tapered tips, HT system as required and minimal reverse motion

Fluids that are more difficult to dispense require our unique components.

	AirPulse™	AirFree™
Anaerobics	Clear 10cc barrel with gray DripFree™ piston	Clear 10cc barrel with PosiLok™ piston
Cyanoacrylates	Use AirFree™	Precision molded PosiLok™ CA pistons with Teflon®-lined tips for low viscosity CA to eliminate clogging, FreeFlow™ tapered tips for gel CA, and polypropylene FlexiTips™ when flexibility is required
Light Cure	Opaque black barrels, gray DripFree™ pistons, and tip shields (0993971 or 0999971) that fit over the tip hub	Opaque black barrels, PosiLok™ pistons, and tip shields (0993971 or 0999971) that fit over the tip hub
Sealants/Pastes	Any size barrel with blue StraightWall™ piston. To prevent too much bounce, use gray DripFree™ piston. FreeFlow™ tapered tips provide efficient, consistent dispensing.	Any size barrel with a PosiLok™ piston. FreeFlow™ tapered tips provide efficient, consistent dispensing.
UV Cure	Amber barrels (UV block), gray DripFree™ pistons, and FreeFlow™ tapered tips (UV block). Use tip shields (0993971 or 0999971) that fit over the hubs for other tips.	Amber barrels (UV block), PosiLok™ pistons, and FreeFlow™ tapered tips (UV block). Use tip shields (0993971 or 0999971) that fit over the hubs for other tips.

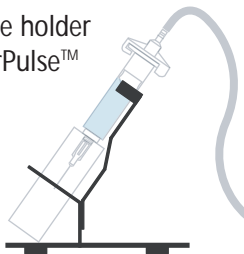
For further assistance with any questions or for Fishman's recommendations for your application, call 1-800-433-2115.

AirPulse™ Accessories

Optional accessories boost productivity, safety and efficiency.

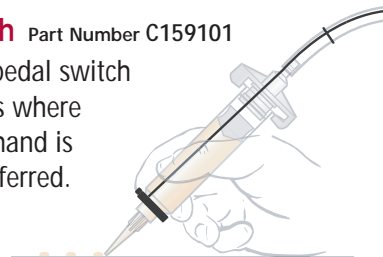
Barrel Stand Part Number C003901

A convenient, stable holder for any Fishman AirPulse™ barrel reservoir.



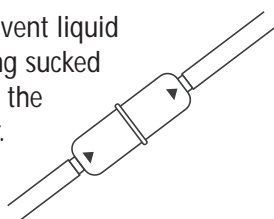
Finger Switch Part Number C159101

Replaces foot pedal switch for applications where dispensing by hand is required or preferred.



Liquid Filter Trap Part Number T100170

Helps prevent liquid from being sucked back into the dispenser.



Needle Kit Part Number E800001

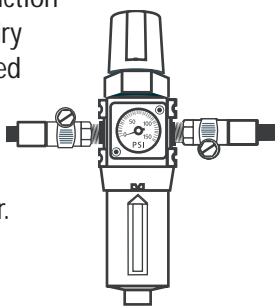
Several samples of various needles and dispense tips.

Also includes DripFree™ and StraightWall™ pistons, end caps, and luer-to-luer adapters



Five Micron Coalescing Filter Part Number C420001

Provides your production area with a clean, dry filtered and stabilized air supply for consistent operation of your 7000 dispenser.



Regulator Part Number C430001

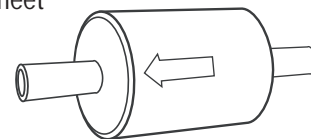
Part Number C430001

Designed specifically for dispensing cyanoacrylates, this regulator incorporates a coalescing filter that removes liquid aerosols from the air supply.

Clean Room Filter Muffler Part Number C140001

Part Number C140001

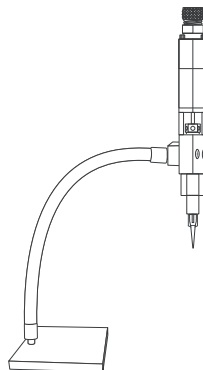
Attaches to the 7000 series dispenser's exhaust port to filter exhaust air to meet Fed 209-B requirements (0.5 micron particulates). Especially designed for clean environments.



Valve Stand Part Number X380001

Part Number X380001

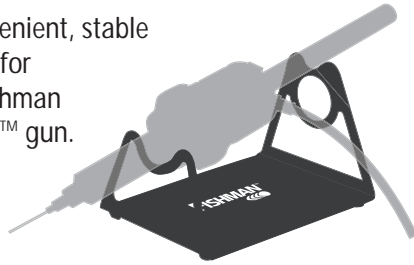
A convenient, stable holder for any Fishman AirPulse™ valve.



Optional accessories boost productivity, safety and efficiency.

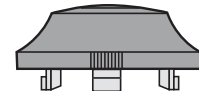
Gun Stand Part Number D600001

A convenient, stable holder for any Fishman AirFree™ gun.



Gun Retaining Ring

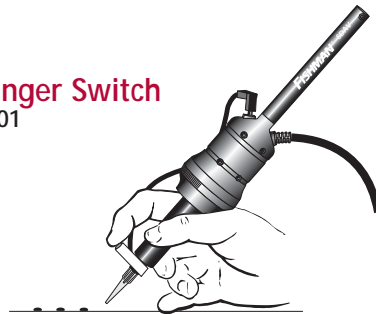
Part Numbers
 0312291 3cc
 0313291 5cc
 0314291 10cc
 0316291 30cc



Unique multi-legged design firmly locks the barrel into place, eliminating any possibility of pressure loss during dispense.

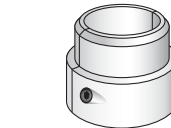
Luer Mount Finger Switch

Part Number D343301



Piston Stabilizer

Part Number
 Y010101 5cc
 Y020101 10cc
 Y030101 30cc



Increases repeatability, stops piston deflection and keeps piston from cocking during high pressure dispensing.

Barrel Mount Finger Switch

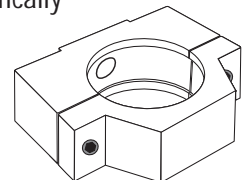
Part Number D343401



Ergonomic finger switches that allow the operator to actuate the dispense cycle with the press of a finger.

Gun Mounting Bracket Part Number Y200001

Mounting bracket specifically designed to attach any LDS9000 dispense gun to XYZ automated dispense stations.

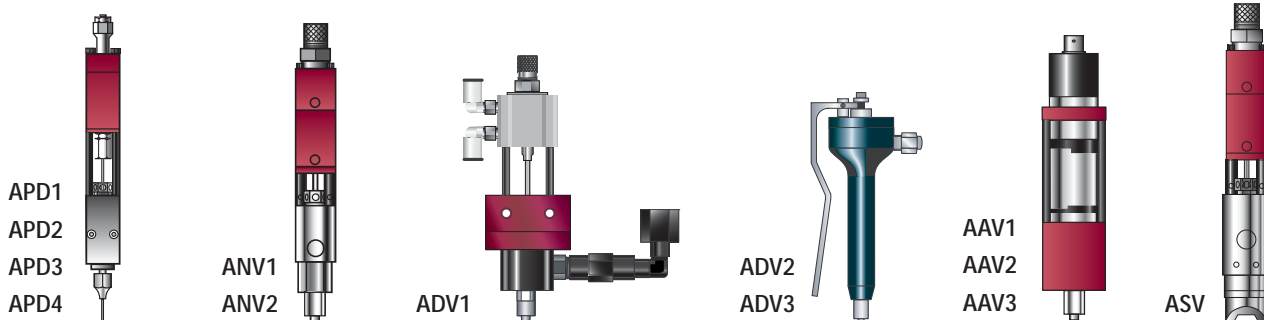






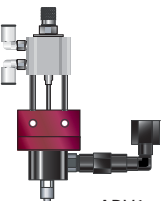
Valve Selector Reference Chart

Use this cross-reference chart to help you select the best valve dispensing system for your particular application requirements.









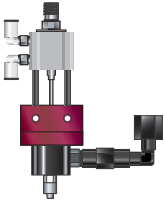



Fluid Type	Deposit Type					
	Microdots	Dots	Potting/ Encapsulating	Lines/ Stripes	Filling/ Packaging	Spray
Accelerators	APD1	ADV1	—	ANV1	ADV1	ASV
Activators	APD1	ADV1	—	ANV1	ADV1	ASV
Alcohol	APD1	ADV1	—	ANV1	ADV1	ASV
Anaerobics	APD1	ADV1	—	ADV1	ANV2	—
Conformal Coatings	ANV1	ADV1	ADV1	ADV1	ANV2	ASV
Copper Braze Paste	—	ANV1	—	ANV1	ANV2	—
Cyanoacrylates	ADV1	ADV1	—	ADV1	ANV2	—
Electrolytes	ANV1	ADV1	—	—	ADV1	ASV
Epoxies	ANV1	ADV1	ANV1	ANV1	ANV2	—
Fluxes, liquid	ANV1	ADV1	—	ADV1	ANV2	ASV
Fluxes, paste	ANV1	ANV1	—	ANV1	ANV2	—
Greases						
low pressure (to 100 psi)	APD1	ANV1	—	ANV2	ANV2	ASV
medium pressure (to 300 psi)	APD1	ANV1	—	ANV2	ANV2	ASV
high pressure (to 2500 psi)	—	ANV1	—	ANV1	ANV1	—
Inks	APD1	ADV1	—	ANV1	ANV2	ASV
Oils	ADV1	—	ANV1	—	ANV2	ASV
Paints	APD1	ADV1	—	ANV1	ANV2	ASV
Reagents	APD1	ADV1	—	ANV1	ADV1	ASV
RTV/Sealants						
low pressure (to 100 psi)	APD1	ANV1	ANV1	ANV1	ANV2	—
medium pressure (to 300 psi)	APD1	ANV1	ANV2	—	ANV2	—
high pressure (to 2500 psi)	—	ANV1	ANV1	ANV1	ANV1	—
Solder Resists	—	ANV1	—	ANV1	ANV2	—
Solvents	ANV1	ADV1	—	ANV1	ADV1	ASV
Solder Pastes	AAV1	AAV2	—	AAV3	—	—
UV-cure & light-cure	ANV1	ADV1	ADV1	ADV1	ANV2	—
UV-cure with anaerobic	ADV1	ADV1	ADV1	ADV1	ANV2	—
Water	ANV1	ADV1	—	ANV1	ADV1	ASV
White Glue	—	ANV1	—	ANV1	ANV2	—



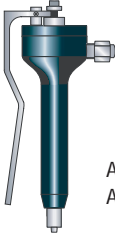


Valve Specifications, Construction and Accessories

Valves	Size and Weight	Connections	Wetted Parts	Actuator Cylinder	Adjustable Open Stroke
 <p>APD1 APD2 APD3 APD4</p>	<p>APD1: 6.0 x 1.75in (152.4 x 44.5mm) 12oz (340.19g)</p> <p>APD2: 6.375 x 0.75in (162.4 x 19.05mm) 8oz (226.8g)</p> <p>APD3: 7.993 x 1.15in (203 x 29.2mm) 8oz (226.5g)</p> <p>APD4: 9.02 x 4.77in (229.11 x 126.16mm) 48oz (1,360.7g)</p>	<p>Fluid Inlet: 1/8in NPT Female</p> <p>Fluid Outlet: Male Luer Lock</p> <p>Mounting: 0.165 Clear Thru Hole</p>	Fluid Chamber, Needle Seat, Tip Adapter	Aluminum	Yes
 <p>ANV1 ANV2</p>	<p>ANV1: 6.0 x 0.75in (152 x 19mm) 6oz (170.1g)</p> <p>ANV2: 7.9 x 1.15in (201 x 29.21mm) 19oz (539g)</p>	<p>ANV1: Fluid Inlet 1/8in NPT Female</p> <p>ANV2: Fluid Inlet 1/4in NPT Female</p> <p>ANV1 & ANV2: Fluid Outlet: Male Luer Lock Mounting: 0.165 Clear Through Hole</p>	Fluid Chamber, Needle Seat, Tip Adapter	Aluminum	Yes
 <p>ADV1</p>	<p>ADV1: 3.48 x 1.75in (88.4 x 44.5mm) 9oz (255.2g)</p>	<p>Fluid Inlet 1/8in NPT Female</p> <p>Fluid Outlet: Male Luer Lock</p> <p>Mounting: 0.75 Clear Thru Hole</p>	Fluid Chamber, Diaphragm, Tip Adapter	Aluminum	Yes

Valve Specifications, Construction and Accessories

Valves	Cycle Rate	Maximum Fluid Pressure	Fluid Inlet Fittings (must be ordered separately)
 <p>APD1 APD2 APD3 APD4</p>	Exceeds 600/minute	<p>APD1: 400 psi (27.57 bar)</p> <p>APD2: 300 psi (20.7 bar)</p> <p>APD3: 300 psi (20.7 bar)</p> <p>APD4: 1,200 psi (82.7 bar)</p>	 Polypro Black, 1/4in OD Tube Part Number X590000  Polypro Black, 3/8in OD Tube Part Number X480000  Polypro Black, 1/4in OD Tube Part Number X420000
 <p>ANV2 ANV1</p>	Exceeds 600/minute	<p>ANV1: 3,500 psi (241.3 bar))</p> <p>ANV2: 600 psi (41 bar)</p>	 Polypro Black, 1/4in OD Tube Part Number X590000  Polypro Black, 3/8in OD Tube Part Number X480000  Polypro Black, 1/4in OD Tube Part Number X420000
 <p>ADV1</p>	Exceeds 600/minute	60 psi (4.14 bar)	 Polypro Black, 1/4in OD Tube Part Number X590000  Polypro Black, 3/8in OD Tube Part Number X480000  Polypro Black, 1/4in OD Tube Part Number X420000

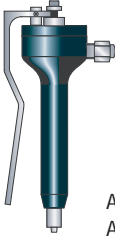









Valve Specifications, Construction and Accessories

Valves	Size and Weight	Connections	Wetted Parts	Actuator Cylinder	Adjustable Open Stroke
 <p>ADV2 ADV3</p>	<p>ADV2: 6.0 x 1.75in (152.4 x 44.5mm) 12oz (340.19g)</p> <p>ADV3: 6.375in x 0.75in (162.4 x 19.05mm) 8oz (226.8g)</p>	<p>Fluid Inlet: 1/8in NPT Female</p> <p>Fluid Outlet: Male Luer Lock</p> <p>Mounting: Handheld</p>	Fluid Chamber, Diaphragm, Tip Adapter	Aluminum	"By Eye"
 <p>AAV1 AAV2 AAV3</p>	<p>AAV1: 5.5 x 2.725in (140 x 69mm) 9oz (255.1g)</p> <p>AAV2: 5.5 x 2.725in (140 x 69mm) 9oz (255.1g)</p> <p>AAV3: 5.5 x 2.725in (140 x 69mm) 9oz (255.1g)</p>	<p>Fluid Inlet 1/8in NPT Female</p> <p>Fluid Inlet Male Luer Lock</p> <p>Mounting: 0.165 Clear Thru Hole</p>	Fluid Chamber, Auger, Tip Adapter	24 VDC Servo	No
 <p>ASV1</p>	<p>ASV1: 5.8 x 0.866in (147 x 22mm) 9oz (255.2g)</p>	<p>Fluid Inlet 1/8in NPT Female</p> <p>Fluid Outlet: Spray Head</p> <p>Mounting: 0.165 Clear Thru Hole</p>	Fluid Chamber, Needle Seat, Tip Adapter	Aluminum	Yes

Specifications & Construction

Valve Systems

Valve Specifications, Construction and Accessories

Valves	Cycle Rate	Maximum Fluid Pressure	Fluid Inlet Fittings (must be ordered separately)
 <p>ADV2 ADV3</p>	Exceeds 600/minute	60 psi (4.14 bar)	 Polypro Black, 1/4in OD Tube Part Number X590000  Polypro Black, 3/8in OD Tube Part Number X480000  Polypro Black, 1/4in OD Tube Part Number X420000
 <p>AAV1 AAV2 AAV3</p>	Exceeds 400/minute	100 psi (6.9 bar)	 Auger Feed Tube Part Number X540000
 <p>ADV1</p>	Exceeds 600/minute	3,500 psi (241.3 bar)	 Polypro Black, 1/4in OD Tube Part Number X590000  Polypro Black, 3/8in OD Tube Part Number X480000  Polypro Black, 1/4in OD Tube Part Number X420000

AirPulse™ 7400 Valve Controller

Go to Page 52



AirPulse™ 7450 Valve Controller

Go to Page 53



AirPulse™ 8450 Valve Controller

Go to Page 54





AirPulse™ 7400 Valve Controller



The 7400 valve controller, when combined with a dispense valve, controls the dispense volume, where it is needed, at the dispense valve. Use the 7400 with the positive displacement (APD), spray (ASV), diaphragm (ADV1) and needle (ANV) dispense valves. The result: variables such as volumetric displacement and fluid dynamics are drastically reduced to the point of elimination. Dispense time control is set via the control panel. Momentary input of 5VDC via a dry contact closure activates the dispense cycle. The 7400 is trouble-free, guaranteeing endless savings for your assembly process. For best results, specify one 7400 valve controller for each dispense valve. For application assistance, call 800-433-2115.

Specifications

Input Voltage: 90-120 VAC
220 VAC

Control Unit Size:
10.13 x 5.94 x 2.63in
25.7 x 15.08 x 6.68cm

Weight: 3.7lb
1.68kg

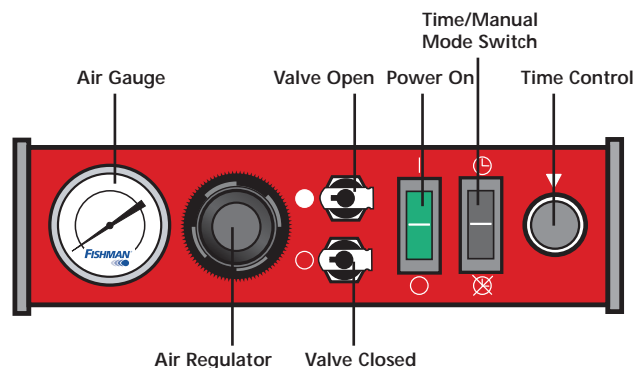
- Digitally timed for precise metering
- 10 year fault-free warranty
- Air open air closed actuation
- High speed solenoid
- Manual or timed dispensing

Models

7400 controller with power cord, foot pedal

7450 for use with ADV valve series

8650 for use with ASV valve series



AirPulse™ 7450 Valve Controller



The 7450 valve controller, when combined with a dispense valve, controls the dispense volume, where it is needed, at the dispense valve. Use the 7450 with the diaphragm (ADV2 and ADV3) dispense valves. The result: variables such as volumetric displacement and fluid dynamics are drastically reduced to the point of elimination. Dispense time control is set via the control panel. Momentary input of 5VDC via a dry contact closure or a host computer activates the dispense cycle. The 7450 is trouble-free, guaranteeing endless savings for your assembly process. For best results, specify one 7450 valve controller for each dispense valve. For application assistance, call 800-433-2115.

Controllers
Valve Systems

Specifications

Input Voltage: 90-120 VAC
220 VAC

Control Unit Size:
10.13 x 5.94 x 2.63in
25.7 x 15.08 x 6.68cm

Weight: 3.7lb
1.68kg

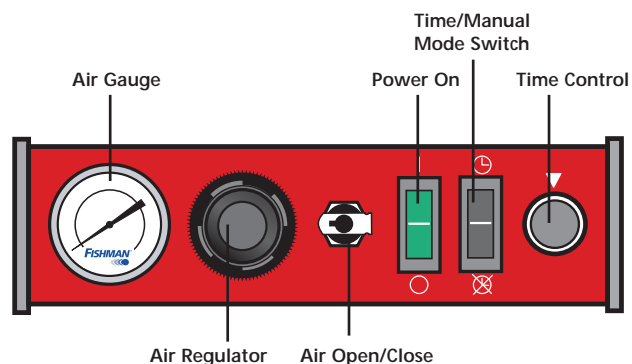
- Digitally timed for precise metering
- 10 year fault-free warranty
- Air open air closed actuation
- High speed solenoid
- Manual or timed dispensing

Models

7400 controller with power cord, foot pedal

7450 for use with ADV valve series

8650 for use with ASV valve series





AirPulse™ 8450 Auger Valve Controller



The 8450 valve controller, when combined with a dispense valve will provide dispense repeatability up to $\pm 3\%$. Use the 8450 with the auger (AAV) dispense valves.

The 8450 can be operated in automatic or manual modes, utilizing a foot pedal. The servo motor speed is programmable to alter dispensing parameters. An adjustable reverse time feature provides consistent valve shut offs. The 8450 also contains an air port and gauge to provide back pressure to the material syringe.

The 8450 is trouble-free, guaranteeing endless savings for our assembly process. Each valve requires a controller. For application assistance, call 800-433-2115.

Specifications

Time Range: 0.01 sec – 99 hr 99 min

Resolution: 0.01 sec

Timing Accuracy: $\pm 0.03\%$

Input Voltage: 120-220V, 50-60 hz

Models	Voltage	Power Cord
AAC1	110V-Three Prong	C280011
AAC2	220V-Three Prong	C280021
AAC3	220V-Two Prong	C280031

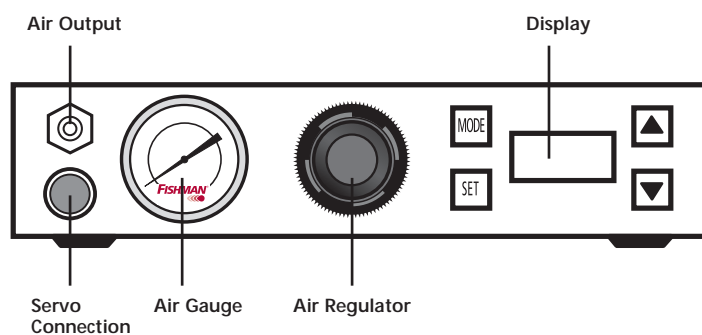
Spare Parts and Other Valves

Fishman also offers the following options to augment your programming capabilities:

X290900 AirPulse™ ultra small dot auger valve

X291000 AirPulse™ medium dot auger valve

X291100 AirPulse™ large dot auger valve



Fluid Reservoirs Cartridge Pressure Vessels

Fluid Reservoirs

An important contributor to the performance of your valve system is the fluid reservoir. Fishman tanks are supplied with a precision pressure regulator, air hose, air input hose and all the necessary fittings.

A polyethylene liner is available for the AVR1. Simply pour your fluid into the removable polyethylene liner or place your fluid container into the tank. The removable polyethylene liner makes maintenance clean, easy and fast.

The precision regulator is available in 0-15 and 0-100 psi, depending on your material viscosity.

CPV&V

The cartridge pressure vessel systems are mini pressurized tanks with disposable polyethylene liners. These systems allow reservoirs to expand well beyond 50cc. The length of these reservoirs causes variations in dispensed amounts over time. However, when combined with a precision dispense valve, the dispense fluid is mechanically controlled at the point of dispense. The result is a highly repeatable dispense system that is clean and safe.



AVR2



AVR1



CPV&V

Accessories
Valve Systems

Tank Specifications

Model:	AVR1	AVR2	CPV
Tank Body:	Aluminum	304 Stainless Steel	Plated Steel
Inside Diameter:	6in (152.4mm)	9in (228.6mm)	Size Dependent
Inside Depth:	6.88in (174.75mm)	6.63in (168.40mm)	Size Dependent
Replaceable Liner:	Polyethylene	Polyethylene	Polyethylene
Liner Capacity:	0.95 liter	3.8 liter	2.5oz to 32oz
Overall Width:	6in (152.4mm)	9in (228.6mm)	Size Dependent
Overall Height:	11.75in (298.45mm)	10.13in (237.3mm)	Size Dependent
Regulator and Gauge:	100psi (6.9bar)	100psi (6.9bar)	100psi (6.9bar)
Maximum Operating Pressure:	100psi (6.9bar)	100psi (6.9bar)	100psi (6.9bar)
Part Number:	M250721	M260721	Size Dependent

All necessary fittings and feed tubing are included with each reservoir.

Dispense Valve Applications

Increased productivity is the end result when Fishman Dispense Valves are used in manual fluid applications. By implementing Fishman Dispense Valves and replacing inferior, unreliable valves, your production could gain significant savings in reduced downtime and maintenance, more exact dispense control, reduced materials usage and improved machine design flexibility.

Call Fishman today to discuss your fluid dispense applications, or visit the new *SpeedSpec™* section of our website at www.fishmancorp.com



Adhesives

- Cyanoacrylates including medical and cosmetics applications
- Epoxies for electronics and automotive applications
- UV curable adhesives for needle assemblies
- Solvents for welding plastics

Sealants

- RTV including automotive and electronics manufacturing
- Thread sealants and lock fluids for set screws
- Potting compounds and encapsulants
- Lacquer sealers

Lubricants

- Sprayed lubrication during manufacturing
- Drops and beads of lubricant prior to packaging
- Spraying cleaners or surface treating fluids

Marking

- Applying color codes
- Ink cartridge filling
- Solvent cleaners or surface treatments
- Tamperproof sealing dots

Specialty Uses

- Application of antiseptic fluids
- Filling small volume packages such as medicines
- Applying brazing pastes and masking fluids
- Low viscosity solder flux

Fishman has built a reputation for providing dispensing systems that work even in challenging industrial environments. To get started, call for application assistance or visit our website at www.fishmancorp.com.

Designing the Best System

Fishman Dispense Systems are designed to accurately dispense a very broad range of fluids. To get the most of your system, choose components that ideally match the fluid you will be dispensing. For the best results, you will need the following information:



The Fluid

Is the fluid to be dispensed watery (low viscosity) or high viscosity like gel or paste? Will the fluid react with air, moisture or other materials? Is the material compatible with all the components, particularly the wetted seals of the dispensing system?

The Application

Will you be dispensing small precise dots, repeatable beads or large volumes? How important is repeatability? Often, precision of large volume dispensing, for example, is improved using two or more steps. What about the fluid's tendency to drip? For many fluids, particularly watery fluids, specifying retract flow will prevent part contamination from drips.



The Control System

For repeatable results, the dispensing valve cycle must be precisely controlled. Using a stand-alone interactive controller is often preferred to a computer-based solution, because it allows for rapid set-up and adjustments without the need to make programming changes. Eliminating system lag by keeping the air controls close to the dispensing valve will also improve repeatability.

The Fluid Reservoir

For optimum precision and efficiency, the fluid reservoir needs to be sized to optimize run times, located for easy refilling or cleaning, and constructed from materials that do not interact or contaminate the dispensing fluid.

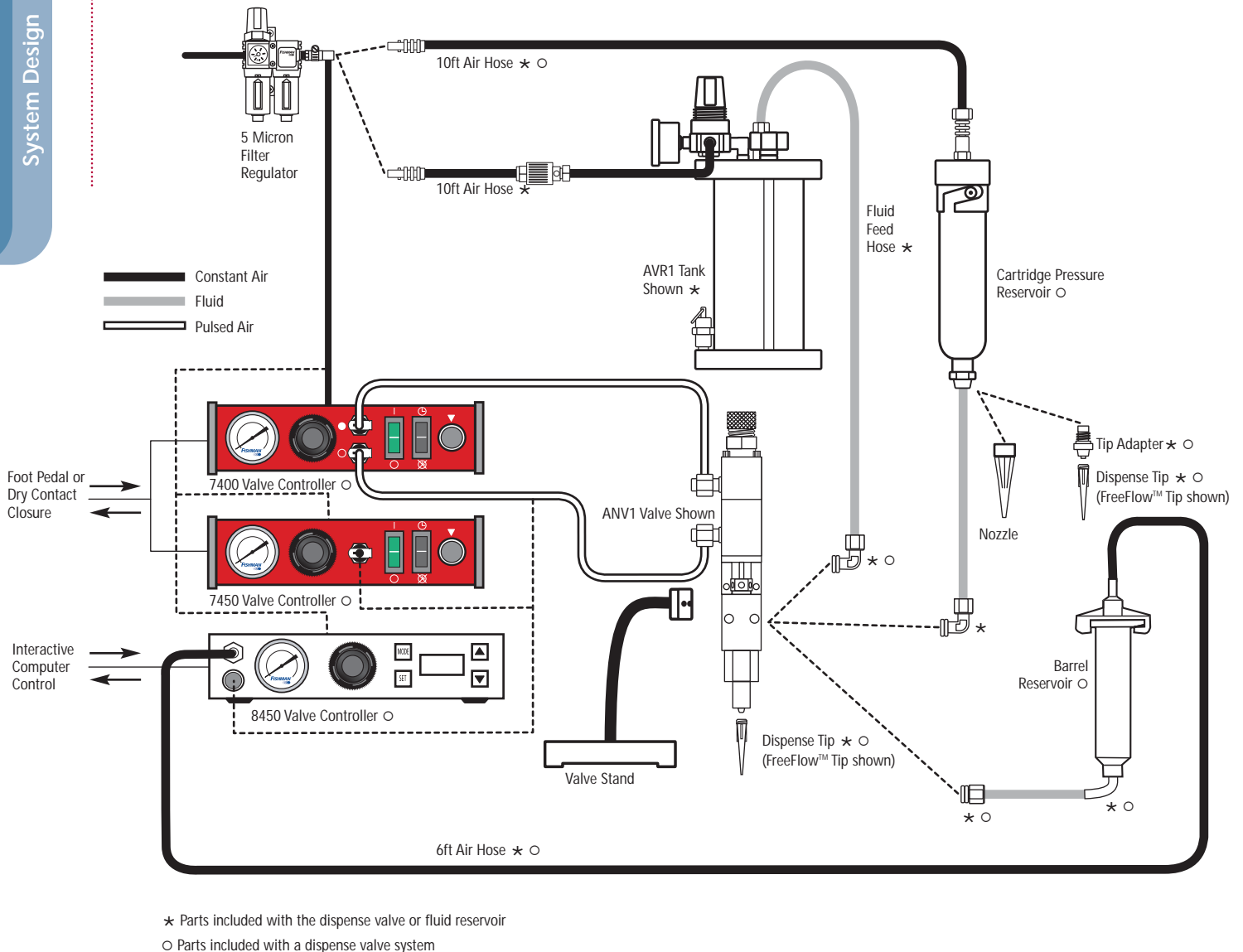
Your Supplier

With a properly configured system, your set-up and operations will go smoothly and reliably from the very first try. When you need replacement parts, you will be able to get them quickly. That's what Fishman is all about. Whether you are just starting out or have been using a system for years, no one in the industry provides the support that we do.

To get the best system for your job, visit our website www.fishmancorp.com and *SpeedSpec™* your system online or give our technical support staff a call. From set-up to next day delivery, you can rely on Fishman to be there when you need us.

Typical Dispense System Setup

This schematic illustrates the basic components needed for a typical self-contained or interactive dispense valve system. Fishman trained application assistants can help you choose the right system for your application and ensure that all the components you need are shipped with your order.



Troubleshooting

A lot of planning and experience goes into setting up a new automatic dispensing system application. Fishman will guide you all the way: in choosing the right equipment for the job; helping you with the set-up, so that each operation happens reliably and repeatably; and being ready to help with spare parts. Advice is just a call away.



The Valve

Choosing the right valve is the best way to avoid problems later. Watery thin fluids flow readily, but tend to drip; pastes need a more rigid system for good flow control. Air bubbles in the fluid can reduce precision.

Sample size can also dictate which valve system to choose, particularly for precision dispensing of microdots or for package filling applications.

We will help you choose the best system for your needs.

The Layout

Fishman dispensing systems are intended to be used in industrial environments. Mount them where you need them. Pick a spot where the air lines and fluid lines can be kept short for greater control. Avoid putting stress on valve fittings or putting kinks in your tubing. And remember that the machine needs to be accessible for cleaning and maintenance; the reservoir needs to be convenient for filling.

The Operation

Choose the right tip for your fluid. The large array of tip styles has grown through the years in response to specific industrial needs – we can help you find the tip that has already been proven to work for applications like yours.

Use a good air supply. keep it clean and stable. Most cycle problems are solved with a well-regulated air supply.

Maintenance

Fishman systems can go for a long time with nothing more than keeping the equipment clean. Seals are designed for long life, but are easily replaceable when needed. When other maintenance is required, our instructions are clear and understandable. If parts are needed, we can have them to you, usually within 24 hours.

Fishman has the experience and the selection to provide you with an automatic dispensing system that is ideally suited to your particular job requirements. And we will work with you, right from the start to be sure you get what you need, you get the performance from the system that you wanted, and that you keep it going dot after dot, bead after bead, year after year.

Customer Support...

800-433-2115	Toll free U.S. and Canada
508-435-2119	Fax your order
www.fishmancorp.com	Visit our website for complete product information, literature, trade show info or to see what's new
sales@fishmancorp.com	Email your order
espanol@fishmancorp.com	Email in Spanish
customersupport@fishmancorp.com	Customer Support
technical@fishmancorp.com	Technical Support
info@fishmancorp.com	General assistance and information

Contact Us...

Ellen Sora Inside Sales Representative esora@fishmancorp.com	...for new application recommendations, expert technical assistance or information and options for special projects.
Dianne Paul Customer Service Representative dpaul@fishmancorp.com	...with questions about processing your order, for help with customer assistance needs or for efficient delivery solutions.
Scott Beebe President sbeebe@fishmancorp.com	...with compliments, comments, complaints, or suggestions. Our goal is to earn your trust and fulfill your needs with superior products.

Fishman...

Shipments Fishman stands committed to filling your dispensing requirements promptly, with expert technical assistance to help you place your order. Our products are available through our efficient, global distribution system, and for your convenience we can arrange a 12-month blanket order to ensure you always have the components you need.

The Fishman Promise We promise that our products will operate to your complete satisfaction. We strive for the highest standards regarding quality, workmanship and attention to detail.

If for any reason you feel that you are not satisfied with our products or support, I extend the offer to write or call me personally. Our interest is to build partnerships through understanding your needs and incorporating them into our products and services. Your trust in Fishman is our ultimate reward.



Scott Beebe, President

Technical Assistance

All Fishman dispense components are designed and manufactured for safe dispensing in industrial environments. All products are built to the highest quality standards to ensure precise, repeatable fluid application. Fishman valves are lightweight, versatile, efficient in any position and require minimal maintenance. No matter what your application is, Fishman valves and controllers provide consistent, reliable performance, allow you to manage an automated or handheld valve system for optimum productivity and results. Our 47 years of experience can provide you with recommendations and solutions to your assembly challenges. Contact Fishman's application assistance team at 1-800-433-2115, fax us at 1-508-435-2119 or mail the form below to: Fishman Corporation, 192 South Street, Hopkinton, MA 01748.

Fishman technical assistance is ready to provide you with any help you might need. To get the best recommendations for your application, please provide the following information by phone, fax or mail:

■ What material will you dispense? _____

■ Describe the type and amount of deposit you need. _____

■ What capacity reservoir do you need? (the number of deposits per hour) _____

■ What is the end result you are looking for? _____

■ Do you have any special requirements? _____

Name _____ Title _____

Company _____ Best Time to Call _____

Phone _____ Ext _____ Fax _____

Email _____



About Fishman

Since 1958... Fishman has been dedicated to manufacturing quality products with the highest regard to customer service and on time deliveries.

Our commitment to building first class manufacturing tools and state-of-the-art assembly systems demonstrate our resolute commitment to quality, design and cost effectiveness.

Our mission is simply put...

Our mission is to improve fluid dispensing through specialty packaging and process improving delivery systems. Through installation of the delivery system, we will expand our share of the specialty package market. We believe in a company-wide commitment to total quality, in which we measure our success through the satisfaction of each and every customer.

The Fishman Warranty...

One Year Limited Warranty

Fishman Corporation (Fishman) warrants its product to be free from defects in materials and workmanship for a period of one year from the date of purchase.

Under this warranty, Fishman will repair or replace any defective part or, at its own option, the complete valve regardless of fault. To obtain service under warranty, product must be returned, freight prepaid, to Fishman.

Before use, the customer must determine the suitability of the product for their intended use and therefore customer assumes all risk and liability connected with product's use.

At no time under any circumstance shall any liability or obligation of Fishman arising from the warranty exceed the purchase price of the dispenser.

Except as provided herein, Fishman makes no warranties, express or implied, including warranties of merchantability and fitness for a particular purpose. In no event will Fishman be liable for direct, indirect, special, incidental, or consequential damages arising out of use of this product.





Fishman Corporation
192 South Street
Hopkinton, MA 01748
800-433-2115 Fax 508-435-2119
www.fishmancorp.com

