

**AIRSWEEP USDA SANITARY PULSE VALVE**

*First pulse valve that meets standards for sanitary and high-hygiene applications*



**MINIMIZE CONTAMINATION RISKS • SIMPLIFY  
CLEANING • COMPLIES WITH INDUSTRY REGULATIONS**

The **1.5 Sanitary Pulse Valve**, constructed out of all FDA accepted materials, is designed to control the flow of compressed air or inert gas in industrial environments where USDA regulations are required. The Clean-Out-of-Place (COP) Sanitary Pulse Valve was intentionally designed to be easily disassembled and sanitized in accordance with the sanitary regulations imposed on the end users.

**Product Highlights**

**FEATURES**

- **Bodies:** Made of certified 316L Stainless Steel. Machined from solid bar stock. All internal surface finishes to Ra32 or better
- **Plunger/Wear Ring:** Made of FDA approved Polyetheretherketone (PEEK Plastic) with surface finishes of Ra32 or better
- **Seals:** Made of FDA approved Viton
- **Right Angle Porting:** Standard construction in top inlet and Side Outlet with Air Relief Port on other side
- **Tri-clamp connections:** Connect to your line with quick-clamp sanitary fittings
- **Spring Return:** 316L Stainless Steel Compression Spring
- **100% pressure and function tested**
- **Complete Traceability** to serialized units of all valve components

**APPROVALS**

- USDA United States Department of Agriculture Equipment for use in Dairy and Food processing.
- Patented globally

**WARRANTY**

- One million cycles on the Compression Spring and all O-Rings
- Three million cycles for all other parts
- Complimentary Compression Springs offered throughout the duration of the three million cycles

**OPERATION**

Normally closed single acting PEEK Plunger opens and closes with compressed air with the use of a remote on/off pilot valve. Spring return allows the valve to be mounted in any position. Valve requires filtered dry air, free from oil and particles.

**APPLICATIONS**

- Food, beverage, pharmaceutical, lithium, personal care, pet care, and other applications that require sanitary construction
- Utility, process and corrosive environmental applications where quick clamps connections are beneficial
- Compatible with various process vessels and plant gases, including sanitizing gases

**Contact us for a detailed AirSweep® System proposal, engineered specifically for your application.**

# USDA 1.5 TRI-CLAMP SANITARY PULSE VALVE SPECIFICATIONS

## CONSTRUCTION FEATURES

- **Body:** 316L Stainless Steel
- **Compression Spring:** 316L Stainless Steel
- **Plunger Assembly:** Polyetheretherketone (PEEK) and Viton (FDA Accepted Materials)

The USDA 1.5 SPV Series is a fully machined, high-performance pulse valve constructed from certified 316L Stainless Steel material. The valve is equipped with quick clamp sanitary fittings and a threaded exhaust port for simple installation. The construction of the valve makes it an ideal choice for food-grade applications.

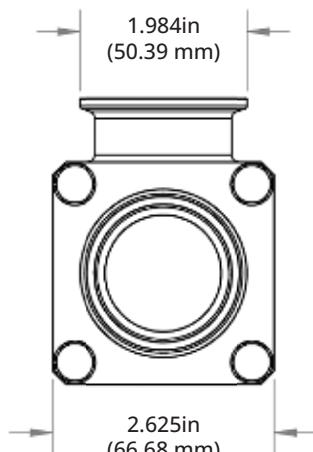
## PRESSURE RATING

Product Characteristics and Performance						
Nominal Port Size		Number of Plungers	Flow Coefficient*		Working Pressure PSI (Bar)	
inch	mm		CV	KV	MIN	MAX
1.5"	38.1	1	42	36.33	10 (.69)	150 (10.34)

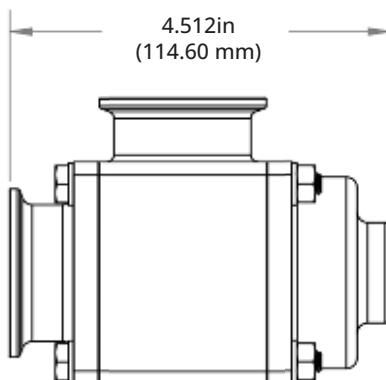
*\*Flow coefficient (Cv) is the amount of water (in gallons per minute) at 60°F that will flow through a fully open valve with a difference of 1 (one) PSI (0.069 Bar) between the inlet and the outlet.*

**Recommended on-time range:** 50-500ms (Commonly used: 250ms)

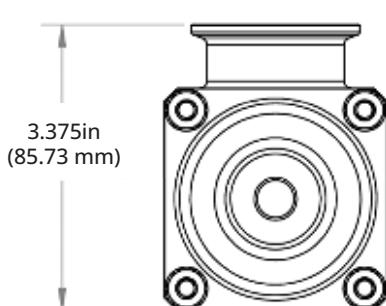
**Requires:** .52 Cv (.45 Kv) Pilot Valve



LEFT VIEW



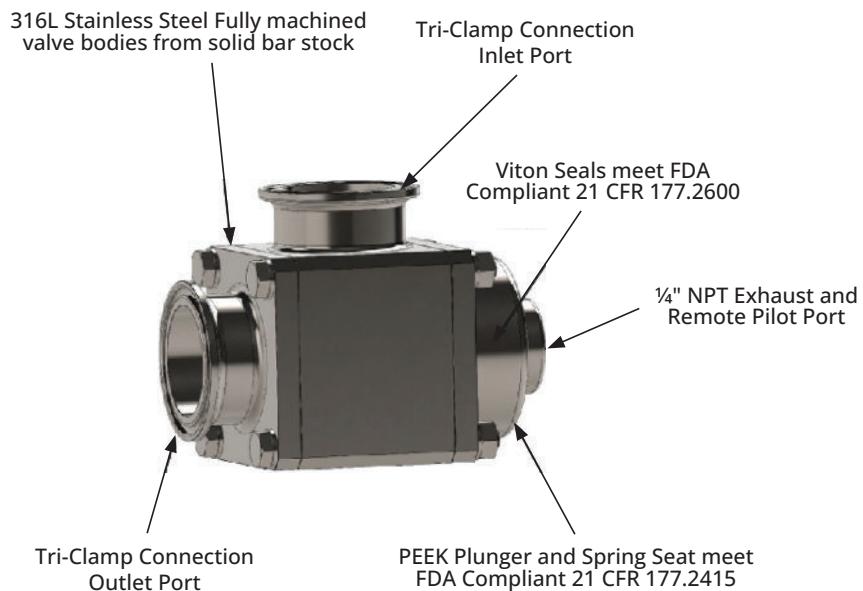
FRONT VIEW



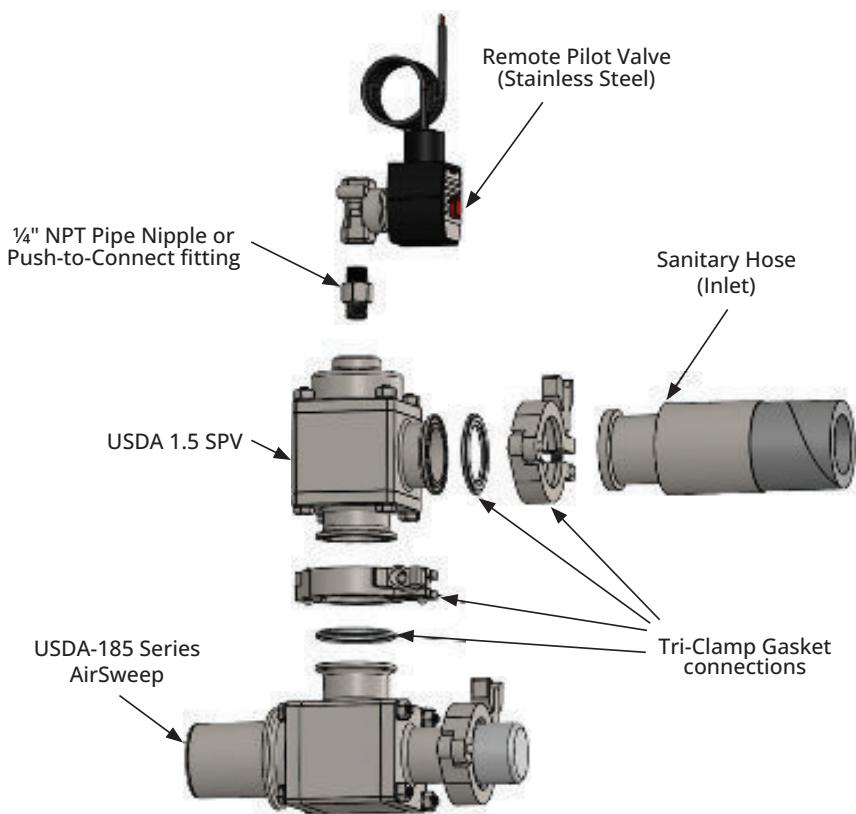
RIGHT VIEW

Contact us for a detailed AirSweep® System proposal, engineered specifically for your application.

## FEATURES

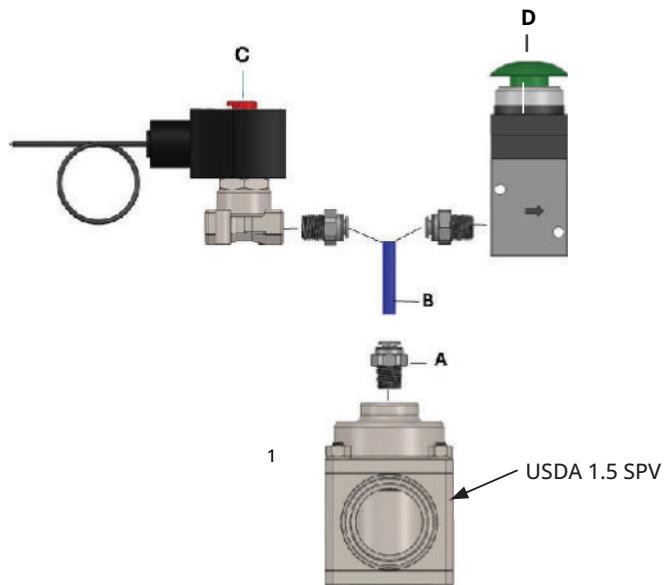


## DIRECT CONNECTION OPTION



Contact us for a detailed AirSweep® System proposal, engineered specifically for your application.

## REMOTE CONNECTION OPTIONS



Tube Size	A Push-to-Connect	B Tubing and Max Length	C Pilot Valve	D Manual Air Valve
1/4"	1/4" NPT x 1/4" Tube OD	1/4" OD x 11/64" ID 15' Max	.52 cv Rated	.52 cv Rated
3/8"	1/4" NPT x 3/8" Tube OD	3/8" OD x 9/32" ID 30' Max	.52 cv Rated	.52 cv Rated

## TECHNICAL SPECIFICATIONS

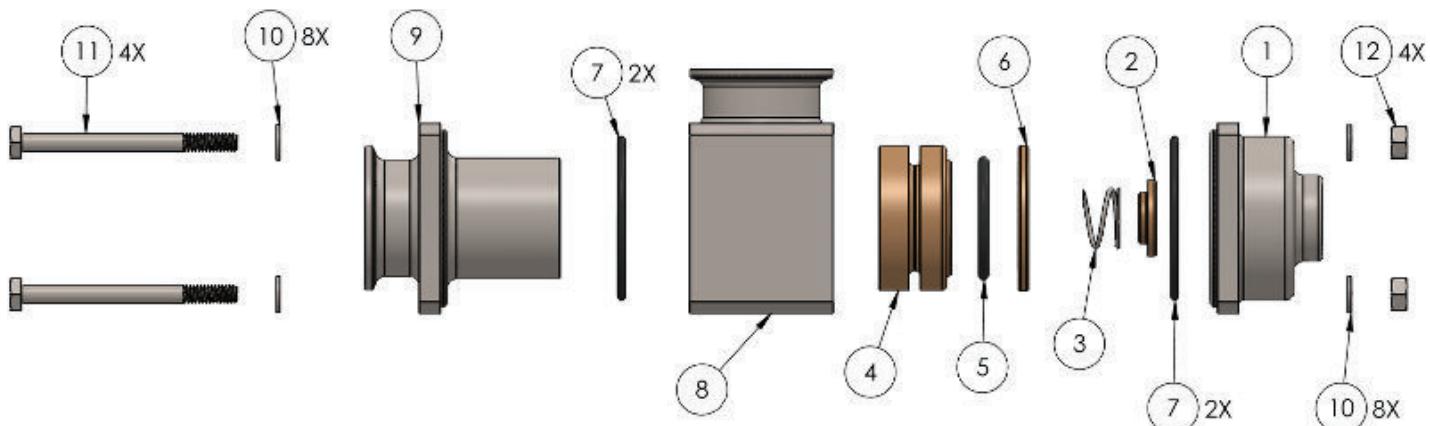
- **Valve Function:** Air Pulse
- **Valve Type:** Plunger
- **For use in contact with:** Food & Beverage, Pharmaceutical, USDA, Lithium
- **Connection Type:** Tube
- **Connection Style:** Quick Clamp
- **For Tube OD:** 1 1/2" (38.1mm)
- **Flange OD:** 1.984" (50.393mm)
- **Pipe Size:** 1 1/2" (38.1mm)
- **Remote Pilot Connection:** 1/4" NPT
- **Activation:** Remote Pilot .54 cv (.47 Kv) (min)
- **Flow Coefficient:** .52 Cv (.45 Kv)
- **Max Pressure:** 150 PSI (10.34 Bar)
- **Minimum Pressure:** 10 PSI (.69 Bar)
- **Temperature:** 0-250° F (-17.78°-121.11°C)
- **Body Materials:** 316L Stainless Steel
- **Seal Materials:** Viton
- **Plunger Materials:** PEEK (Polyetheretherketone)
- **Spring Material:** 316L Stainless Steel
- **Port Shape:** Right Angle
- **Interior Smoothness:** 32 Ra (or better)
- **Exterior Smoothness:** 32 Ra (or better)
- **Environment:** USDA, Sanitary
- **Specifications Met:** FDA Compliant 21 CFR 177.2415, FDA Compliant 21 CFR 177.2600
- **Weight:** 3.93 lbs (1.78kg)
- **Torque Specifications (4 Bolts):** 78.8 in-lbs. (8.90Nm) (Reference item #11 on page 5).

Specifications subject to change without notice.

Contact us for a detailed AirSweep® System proposal, engineered specifically for your application.

# BILL OF MATERIALS

Item No.	Description	Material	Qty.
1	1.5 Sanitary Plunger Body	316L Stainless Steel	1
2	1.5 Sanitary Spring Seat	Polyetheretherketone (PEEK)	1
3	Compression Spring	316L Stainless Steel	1
4	1.5 Sanitary Plunger	Polyetheretherketone (PEEK)	1
5	O-RING -221	Viton	1
6	1.5 Sanitary Plunger Ring	Polyetheretherketone (PEEK )	1
7	O-RING -137	Viton	2
8	1.5 Sanitary Center Body	316L Stainless Steel	1
9	1.5 Sanitary Outlet Body	316L Stainless Steel	1
10	Stainless Steel Washer	316L Stainless Steel	8
11	Stainless Steel Hex Head Screw	316L Stainless Steel	4
12	Stainless Steel Hex Nut	316L Stainless Steel	4



Mass = 3.93.lbs (1.78 kg)

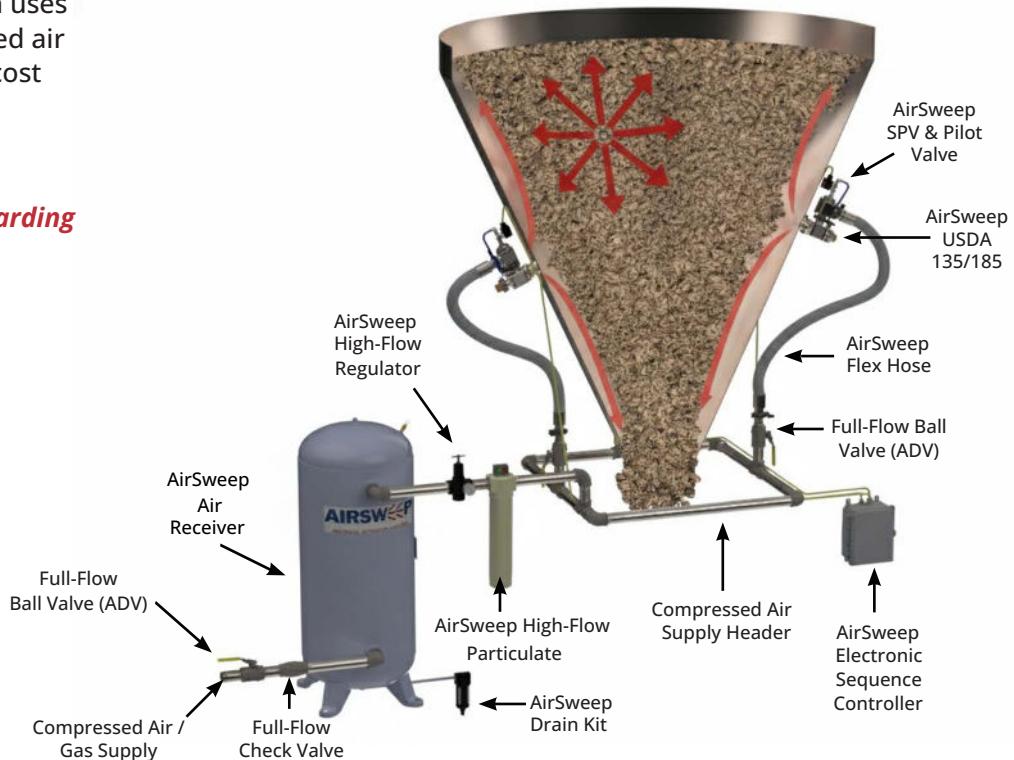
Contact us for a detailed AirSweep® System proposal, engineered specifically for your application.

## TYPICAL AIRSWEEP® SYSTEM

**The AirSweep USDA SPV can be integrated into the AirSweep System for a complete sanitary solution.**

The average AirSweep System uses less than 10 cfm of compressed air or gas, making it energy and cost efficient.

**If you have any questions regarding the AirSweep System, call 860-928-6551, or email us at [Sales@AirSweep.com](mailto:Sales@AirSweep.com)**



### Typical AirSweep System Components

<b>AirSweep SPV</b>	Model USDA 1.5 SPV coupled with Pilot Valve to activate the Pulse Valve (Delivers rapid, high-volume pulse of compressed air/gas to the AirSweep)
<b>AirSweep USDA 135/185</b>	Model USDA 135/185 (ATEX Rated)
<b>Flex Hose Assembly</b>	Connects the solenoid valve to hard-piped header loop
<b>Full-flow Ball Valve</b>	Isolation valve for individual AirSweep Valve Assemblies. The use of auto drain valves (ADV) is highly recommended in pneumatic applications for safety and OSHA compliance
<b>High-flow Particulate Filter</b>	Point-of-use particulate filtration enhances life of system components by removal of in-line contaminants
<b>60-gallon Air Receiver</b>	Compressed air reservoir ensures instantaneous volume for system (Additional sizes in stock and available upon request)
<b>High-flow Regulator</b>	Regulates compressed air supply within 60-80 PSI (4.14-5.52 Bar) for proper AirSweep operation
<b>Full-flow Check Valve</b>	Ensures one-way flow to the system
<b>Full-flow Ball Valve</b>	System shut-off
<b>Electronic Sequence Controller</b>	Controls sequenced pulsing of AirSweep system; adjustable for any process (NEMA 4X and NEMA 7/9 enclosed timers are in stock.)

**Important Note:** For safety and future flexibility during installation and maintenance, we recommend instituting the use of unions as needed (also available for purchase).

**Contact us for a detailed AirSweep® System proposal, engineered specifically for your application.**