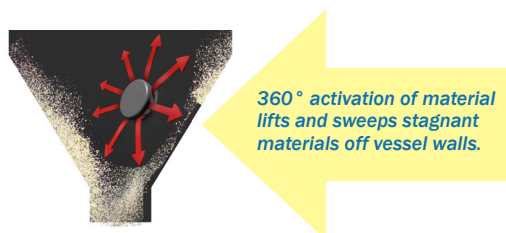


### USDA-Accepted AirSweep® Systems

**Cleans interior surfaces • Eliminates ratholes, bridging & material buildup**



*The AirSweep® material activation system delivers on-demand product flow, eliminates material buildup and enhances batch uniformity.*



*Ideal for applications requiring sanitary equipment or frequent cleaning.*

- Designed and fabricated according to sound sanitary design principles
- Flanged connections for quick installation or removal from mounting and process connections
- Quick and easy removal/disassembly with simple hand tools
- All surfaces resistant to corrosive products and cleaning/sanitizing chemicals
- Manufactured from high-grade 316 Stainless Steel for long service life
- Energy efficient – uses plant air

Each AirSweep nozzle directs a high-pressure, high-volume, 360-degree burst of compressed air or inert gas along the inside walls of process equipment or vessels, breaking friction to lift and sweep stalled material back into the flow stream. The patented nozzle design ensures an immediate reseal after each pulse to eliminate material feedback.

Sequenced pulsing of strategically-positioned AirSweep units activate bulk material to produce a first-in, first-out controlled flow.

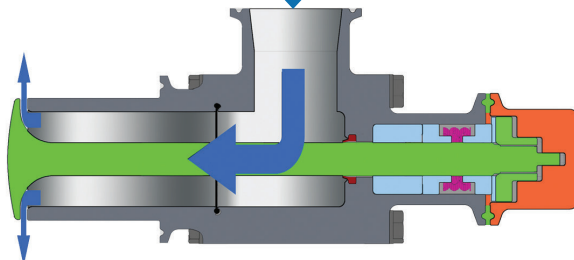
| Model    | Material Activation Area (diameter) | Approx. Air Consumption* |
|----------|-------------------------------------|--------------------------|
| USDA-135 | 4 feet (1.22 m)                     | 0.75 scf @ 80 psi        |
| USDA-185 | 6 feet (1.83 m)                     | 2.2 scf @ 90 psi         |

\*Average in 75 lb/ft³ material; 250 millisecond air pulse.

*Easily retrofits to spray dryers, mixers, silos, hoppers, ducts, blenders, troughs, sifters, chutes, cyclones or ANY bulk powder process requiring sanitary equipment.*



*Cleans interior vessel walls and is highly effective for flushing material from mixers, blenders, cyclones and spray dryers.*



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

# USDA-135 and USDA-185 Mounting Coupling Installation

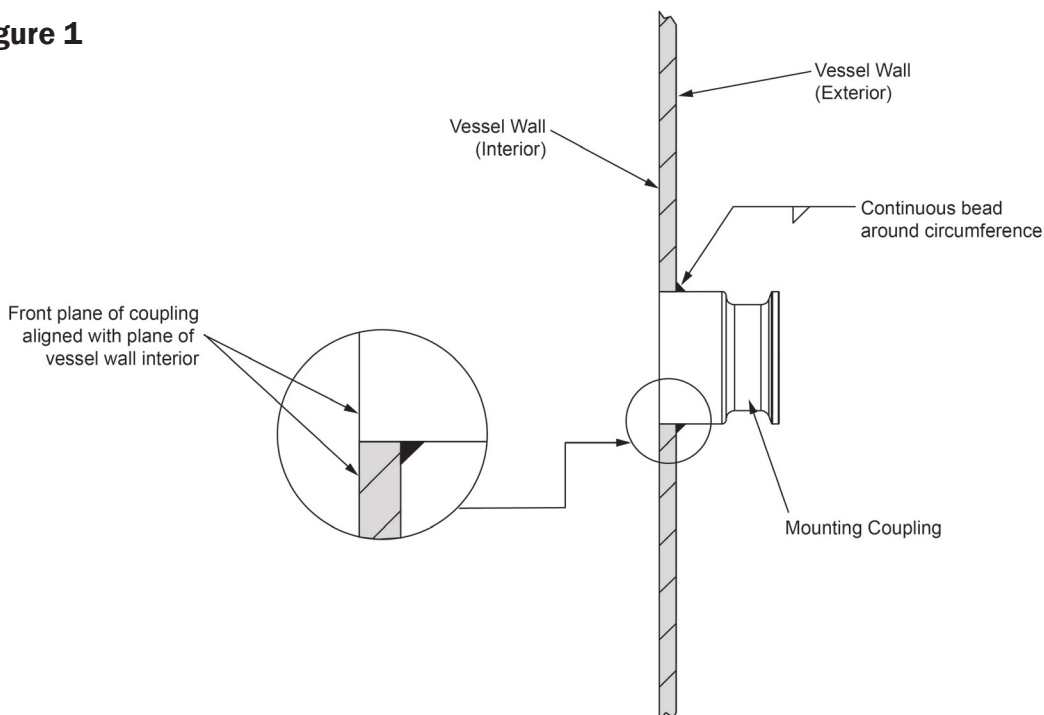
## USDA-135 Mounting Coupling Installation (Weld to vessel)

1. Cut hole in vessel wall. Recommended hole size of approximately 1/8" (3.175 mm) greater than diameter of coupling to allow coupling to pass through curved wall.  
For USDA-135 mounting coupling, recommended hole size is 2.109" (53.569 mm)  
For USDA-185 mounting coupling, recommended hole size is 2.641" (67.081 mm)
  2. Align coupling flush with inside of vessel wall and weld continuous bead to exterior of wall. \* (See Figure 1 below)
  3. Install clamp gasket to inside groove in mounting coupling flange.
  4. Push AirSweep fully into mounting coupling, ensuring clamp gasket is tightly sandwiched between AirSweep and mounting coupling. (See Figure 2 on page 12)
  5. Install tri-flange clamp around AirSweep and mounting coupling flange and finger-tighten until snug.
  6. Apply PTFE tape to adapter thread and thread solenoid valve onto adapter. Do not over-tighten.  
Do not use pipe dope or paste on threads, as this material may foul the solenoid valve.
  7. Install clamp gasket to inside groove in rear AirSweep flange.
  8. Position adapter flange to mate with rear AirSweep flange – with gasket sandwiched between the two parts.
  9. Install tri-flange clamp around rear flange and finger-tighten until snug. (See Figure 3 on page 12)
- Note:** On sharply curved vessel walls, front surface of mounting coupling may extend slightly into the vessel at top and bottom (12:00 & 6:00 positions), and should be flush at sides (3:00 & 9:00 positions).
- For maximum effectiveness, connection between adapter and solenoid valve should be direct, with no additional pipe nipples or fittings. When possible, use only the supplied adapter. If additional pipe length is required, do not exceed 12" (30.48 cm) between solenoid valve and AirSweep.

\* Welding procedure must be done properly to avoid warping of Mounting Coupling.

Welding should be done in accordance with the American Welding Society (AWS) standards as supported by ASME (American Society of Mechanical Engineers).

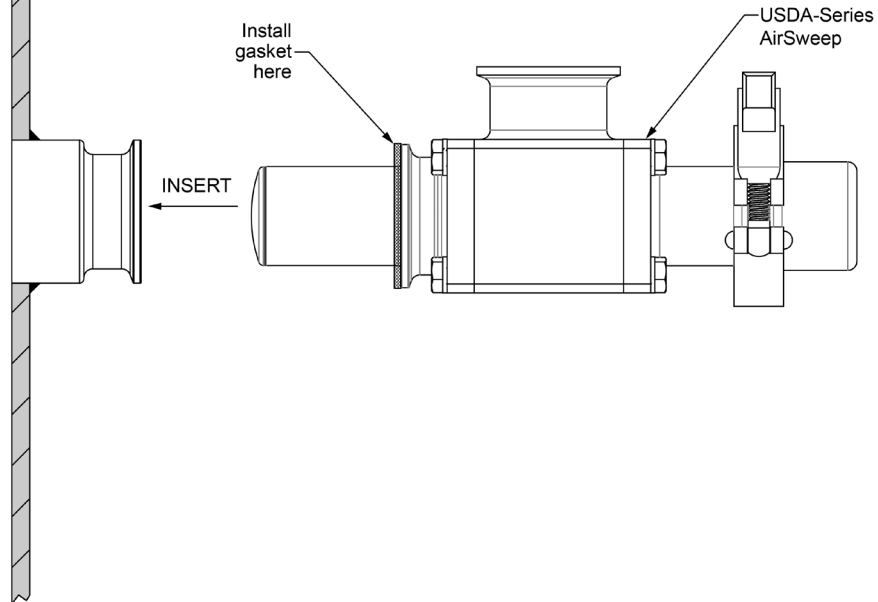
Figure 1



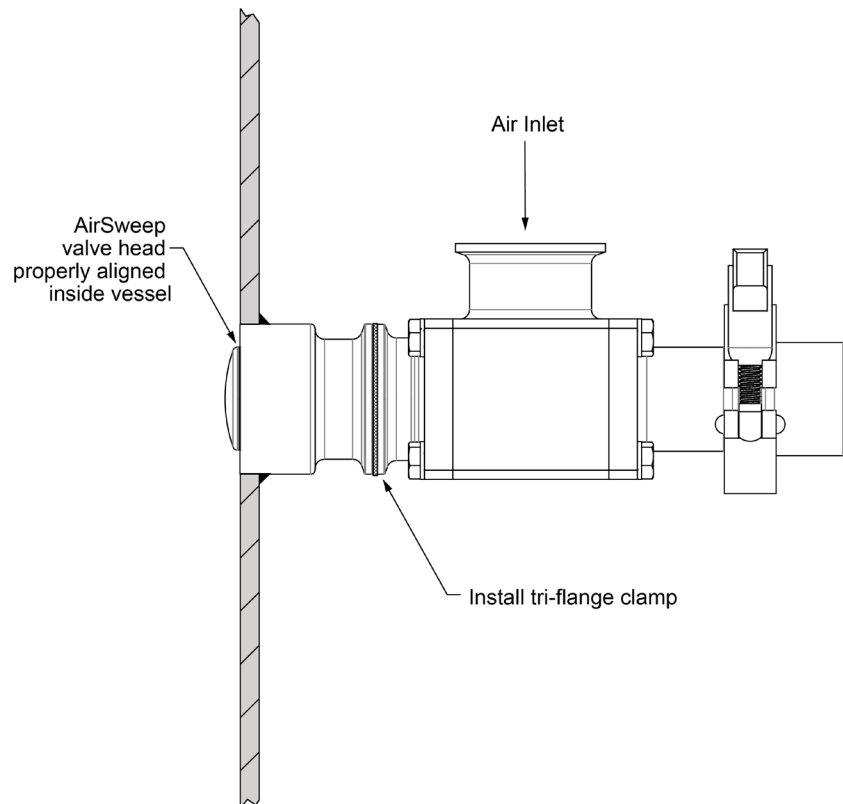
# USDA-135 and USDA-185

## Mounting Coupling Installation *(continued)*

**Figure 2**



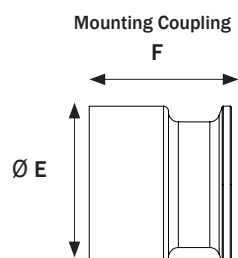
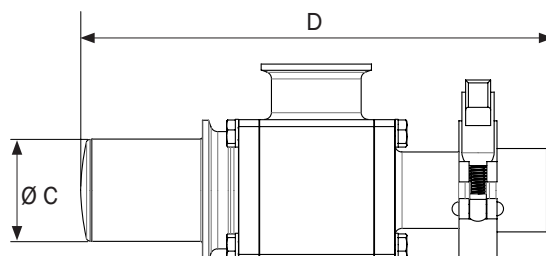
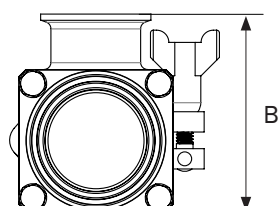
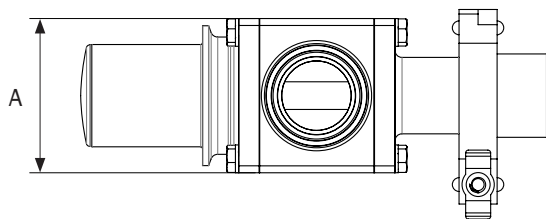
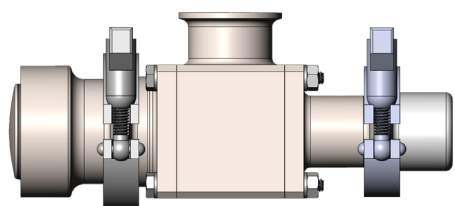
**Figure 3**



# Specifications

Specifications subject to change without notice.

## USDA-135 and USDA-185



|          | Main Unit          |                    |                    |                     | Mounting Coupling  |                    |                      |
|----------|--------------------|--------------------|--------------------|---------------------|--------------------|--------------------|----------------------|
| Model    | A                  | B                  | Ø C                | D                   | Ø E                | F                  | Weight               |
| USDA-135 | 2.35"<br>(5.97 cm) | 3.12"<br>(7.92 cm) | 1.37"<br>(3.48 cm) | 8.37"<br>(21.26 cm) | 1.98"<br>(5.04 cm) | 1.77"<br>(4.50 cm) | 6.25 lb<br>(2.83 kg) |
| USDA-185 | 2.78"<br>(7.05 cm) | 3.54"<br>(8.99 cm) | 1.84"<br>(4.67 cm) | 8.50"<br>(21.59 cm) | 2.52"<br>(6.39 cm) | 1.89"<br>(4.80 cm) | 8.19 lb<br>(3.71 kg) |

## Typical AirSweep® System

**A typical AirSweep® material activation system consists of strategically-located AirSweeps, high-flow solenoid valves, electronic sequence controller and air receiver.**

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

No damage, vibration, stress or wear to container walls.

More efficient than fluidizers, AirSweeps fit in many fluidizer mounting holes.

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



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