



PROCESS RELIABILITY

Extended Warranty Claim Validation For Agricultural OEM

Technical Application Bulletin

PROJECT BACKGROUND

DISCOVER



DIAGNOSE

- A major agricultural OEM manufacturing both cotton pickers and cotton sprayers.
- Familiar with Schroeder through the use of another unit at a different plant location.
- Needed a solution to best accommodate Roll-off Cleanliness on their pickers and sprayers during final product testing.

- Needed a filtration unit, capable of handling the 25 gallon reservoir of the cotton sprayer.
- The customer was determined that they needed a 100% customized solution.
- Upon partnering with Schroeder Industries, it was determined that a variation of Schroeder's HFS-BC could be used for the sprayer's 25 gallon reservoir to ensure certified clean results of the sprayers upon shipment.

INDUSTRIES



DESIGN

What We Did: We sent our already existing HFS-BC through our Engineering Team for fit, form and function on the OEM's cotton sprayer. The new design would have to meet the following requirements:

Course of action

1. The HFS-BC motor was to be powered by the cotton sprayer itself.
2. The original motor was to be replaced with a 12 V DC motor with a 6 gpm flow rate.
3. A cleanliness target of 18/16/13 needed to be met for their hydraulic oil.
4. Flat faced Quick Disconnects (size 16) were incorporated onto the unit, as they will connect directly to SAE12 fittings in the manifold on the sprayer.
5. Frameless design to sit on the cotton sprayer walkway next to the reservoir while testing all hydraulic components.
6. Remove the handle and base plate, leaving the L-shaped bracket holding the filters and the motor.
7. Customer plans on designing their own frame in the future to connect directly to the sprayer machine with Schroeder's HY-TRAX® option to monitor cleanliness.



DELIVER

- The major agricultural OEM received 5 prototype HFS-BC units from Schroeder to incorporate on their cotton sprayers during hydraulic component operation testing.
- After initial testing, the HFS-BC units operated above their expectations.
- The target ISO cleanliness level of 18/16/13 was met.
- Based on their previous method of cleaning their system, it would take around 60-90 minutes to clean out the cotton sprayers to the desired ISO cleanliness rating. With the new HFS-BC unit, the sprayers were cleaned to the desired ISO cleanliness rating in 45 minutes during testing.
- The agricultural OEM can now certify that their cotton sprayers will leave the plant with clean oil in their hydraulic system to reduce warranty claims from customers. Since the initial inquiry of the HFS-BC with a 12 V DC motor, the customer has purchased 10 units in total to use for testing.

Cotton Sprayer	Without HFS-BC	With HFS-BC	Savings
Target ISO Code	Above 18/16/13	Below 18/16/13	Certified
Dirt Holding (DHC)	36.8 gm. / element	49 gm. / element	25% More
Equipment Testing Time	60 Minutes	45 Minutes	- 15 Minutes



CUSTOMER BENEFITS

- Compact size, easily transported
- Cartridge elements have higher dirt holding capacity
- 12 V DC power allows for system power to be drawn directly from the heavy machinery

FURTHER APPLICATION AREAS

- Transferring fluids from drums to system reservoirs
- Filtering new fluid before being put into service
- Cleaning up hydraulic systems before being put into service

ROI

Target ISO code



18/16/13

Dirt Holding Capacity



▲ 25%

Equipment Testing Time



- 15 Mins.

Underlying values:

Dirt Holding Capacity = 36.8 gm. before HFS-BC; 49 gm. after = 25% more

Equipment Testing Time = 60 mins. before HFS-BC; 45 after = -15 minute testing time

PRODUCT SPECS

HFS-BC | Handy Filter Systems Basic Cart

Flow Rating: 4 gpm

Max. Viscosity: 1,600 SUS

House Pressure: 30 psig @ 150°F

Fluid Temperature:

25°F to 150°F

Material:

Element Case: Aluminum

Weight:

Single Housing: 40 lbs.

Dual Housing: 44 lbs.

Backpack Version: 39 lbs.

(Does not include the weight of hose/wands)