



## SYSTEM AVAILABILITY

# Cold-Testing Diesel Fuel Coalescing Solution For Large Crane Manufacturer

### Technical Application Bulletin

#### PROJECT BACKGROUND

##### DISCOVER

- A Distributor of ours contacted us about a potential opportunity.
- The customer manufactures rough terrain cranes.
- The customer was experiencing fuel problems (i.e. Hard Start - High  $\Delta P$ , and shut-downs while in cold-testing).



##### DIAGNOSE

- Upon further evaluation, we noticed this customer was using a competitive solution.
- This solution was diagnosed as the cause of the testing failures, and cold-test downtimes.
- The filtration solution had leaking seals and was pulling air directly into the fuel system while in cold temperatures.

#### INDUSTRIES



#### DESIGN

**What We Did:** We offered our HDP | On-Board Diesel Coalescing Filter solution as a sample to prove our capabilities in cold-testing climates.

Upon testing our unit in the customer's harsh climate, we not only exceeded the performance of our competition, we also eliminated the air leak during cold operation, thus eliminating the periods of shutdown during this time.

The HDP solution comes equipped with a versatile Water-In-Fuel (WIF) sensor, and options for 12 or 24 VDC fuel heater, a hand-priming pump, and SAE -12 ORB porting.

We also offer the capabilities for private label branding, branding the filtration solution to reflect the customer and ensure absolute aftermarket protection.



## DELIVER

- Schroeder suggested and provided the customer with a prototype HDP 600 BC1 for testing and evaluating in the cold test chamber to best validate performance.
- To best meet the customer's narrow testing time frame, an "Arctic Package" prototype was developed within 1 week of inquiry.
- The unit tested and performed flawlessly in the cold test chamber. The prototype maintained the lowest differential pressures within desired specifications and was never a source of air ingress during the testing.
- Ultimately, Schroeder was the only vendor, including the engine manufacturer's fuel filter, that worked in the customers required environment.

Crane Trucks	Without HDP	With HDP	Savings
Aftermarket Element Sales	35% / year	100% / year	+65% / year
Element Profit (3,000 / 5 yrs.)	\$87,750 / year	\$135,000 / year	+\$47,250 / yr.
Aftermarket Element Profit	\$29.25 / element	\$45.00 / element	+\$15 / element



## CUSTOMER BENEFITS

- Manual or Fully Automatic water drain.
- Small envelope size offers greater flexibility in mounting locations.
- Low investment cost due to the economical design.

## FURTHER APPLICATION AREAS

- Construction OEMs:
- Cranes
- Excavator
- Loaders
- Agricultural OEMs:
- Tractors
- Sprayers
- Harvesters

## ROI

### Element Aftermarket



▲ 100%

### Aftermarket Element Sales Per 5 Year Period



\$47.2K

### Aftermarket Element Profit Per Element



\$15 / elem.

### Underlying values:

Aftermarket Element Sales = 35% of the business was initially returned to the customer before utilizing an HDP solution; private label branding an HDP solution ensures 100% of the aftermarket element sales are now returned

The 65% extra return resulted in an extra \$45K over 5 years.

## PRODUCT SPECS

### HDP-KF1-600-BC | On-Board Diesel Fuel Coalescing Filter

**Flow Rating:** up to 476 gph

**Operating Pressure:**

<14.5 psia, (<1 bar absolute)  
suction side application

**Temperature Range:**

-40°F to 194°F

**Nominal Voltage:**

24V DC (12V DC is optional for heater or water sensor)

**Weight of incl. Element:**

600 BC: 6.8 lbs. (3.1 kg)