



CONSERVATION OF RESOURCES

Fluid Conditioning Of Refuse Truck Fleet

Technical Application Bulletin

PROJECT BACKGROUND

DISCOVER

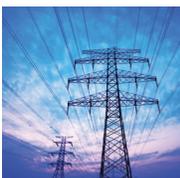


DIAGNOSE

- High ingestion of contamination due to operational environment and cylinder actuation.
- Frequent hydraulic system component failure, requiring replacement.
- Frequent complete fluid replacement.

- Design and implement solution for oil monitoring and maintenance program.
- Solution needed to be simple and user-friendly.
- Average existing fluid cleanliness ISO code of 20/18/15.
- Required fluid cleanliness ISO code of 18/15/13.
- Annual fluid replacement costs for 100 trucks accounting for approximately \$43,500 per year.

INDUSTRIES



DESIGN

What We Did: We developed an AMFS | Asset Management Filtration Station® in collaboration with the customer.

- Schroeder estimated that fluid life could be extended by at least a factor of two (2) with the Asset Management Filtration Station® and an efficient maintenance program put in place.
- Estimated annual fluid replacement cost savings for 100 trucks to be approximately \$43,500 per year.



DELIVER

- The Asset Management Filtration Station® and an efficient maintenance program were successfully implemented onto the 100 fleet trucks.
- The AMFS filtered precisely to the 18/15/13 ISO cleanliness requirement on every truck, recording the cleanliness data for each service for each truck.
- Yielded impressive fluid cost savings after the first and second years.

Refuse Truck	Without AMFS	With AMFS	Savings
Volume of Fluid per truck	70 gallons	70 gallons	-
Cost of Fluid	\$7.00 / gallon	\$7.00 / gallon	-
Fluid replacement cost	\$490.00 / truck	\$490.00 / truck	-
Quantity of trucks	100 units	100 units	-
Fluid replacement cost	\$49,000 / fleet	\$49,000 / fleet	-
Fluid replacement interval	6 months	18 months	+12 months
# of fluid replacements	2 / year	0.67 / year	+1.33 / year
Total cost	\$98,000 / year	\$32,830 / year	+\$65,170.00



CUSTOMER BENEFITS

- Fluid life extended from 6 months to 1.5 years
- Significant fluid cost savings
- Refuse truck availability increased by reducing system component damage
- Maintenance labor availability increased

FURTHER APPLICATION AREAS

- OEM roll-off cleanliness (e.g. first-fill fluid cleanliness certification on tractors)
- In-plant service
- Lubricant reclamation/recycling

ROI

Overall Cost-Savings After 1 Year



\$65.1K

Return On Investment After 1 Year



▲ 200%

Fluid Saved Per Year



9.3K gal.

Underlying values:

Overall fluid replacement cost w/o AMFS per year = \$490 per truck (100 total x 2 times a year) \$490 x 100 x 2 = \$98,000.00

Overall fluid replacement cost w/ AMFS per year = \$490 per truck (100 total x 0.67 times a year) \$490 x 100 x 0.67 = \$32,830.00

PRODUCT SPECS

AMFS | Asset Management Filtration Station®

Flow: 5 gpm (19 L/min)

Temp. Range: -20°F to 150°F

Viscosity: up to 1000 SUS (216 cSt)

Bypass Cracking: 30 psi (2 bar) x 2

Compatibility: All petroleum-based hydraulic fluid compatible with Viton®