

# INTEGRATED DEF MANAGEMENT SYSTEM

# INTEGRATED DEF MANAGEMENT SOLUTIONS

As the demand for diesel-based Selective Catalytic Reduction vehicles continues to rise, it's crucial for sites to optimize their diesel exhaust fluid (DEF) management systems.

Veeder-Root's portfolio of innovative solutions is specifically designed to meet the unique challenges associated with DEF, providing a complete solution for any retail or commercial site, combining:

**Superior Flow**  
**Recirculation Monitoring System**  
**Inventory Monitoring**

Integrating your site with Veeder-Root's all-inclusive DEF management system gives operators the power to fight back against:

**Erratic Leaks**  
**Messy Cleanups**  
**Weather-Induced Degradation**

*The global diesel exhaust fluid market is expected to grow from \$12 billion in 2017 to \$20.5 billion by 2023.<sup>1</sup>*

**\$20.5  
BILLION**  
by 2023



## **TLS-450PLUS** **Automatic Tank Gauge**

Integrate DEF management into the tank gauge console to manage an entire site's wetstock within one system.



## **Red Jacket CoreDEF** **Submersible Pump**

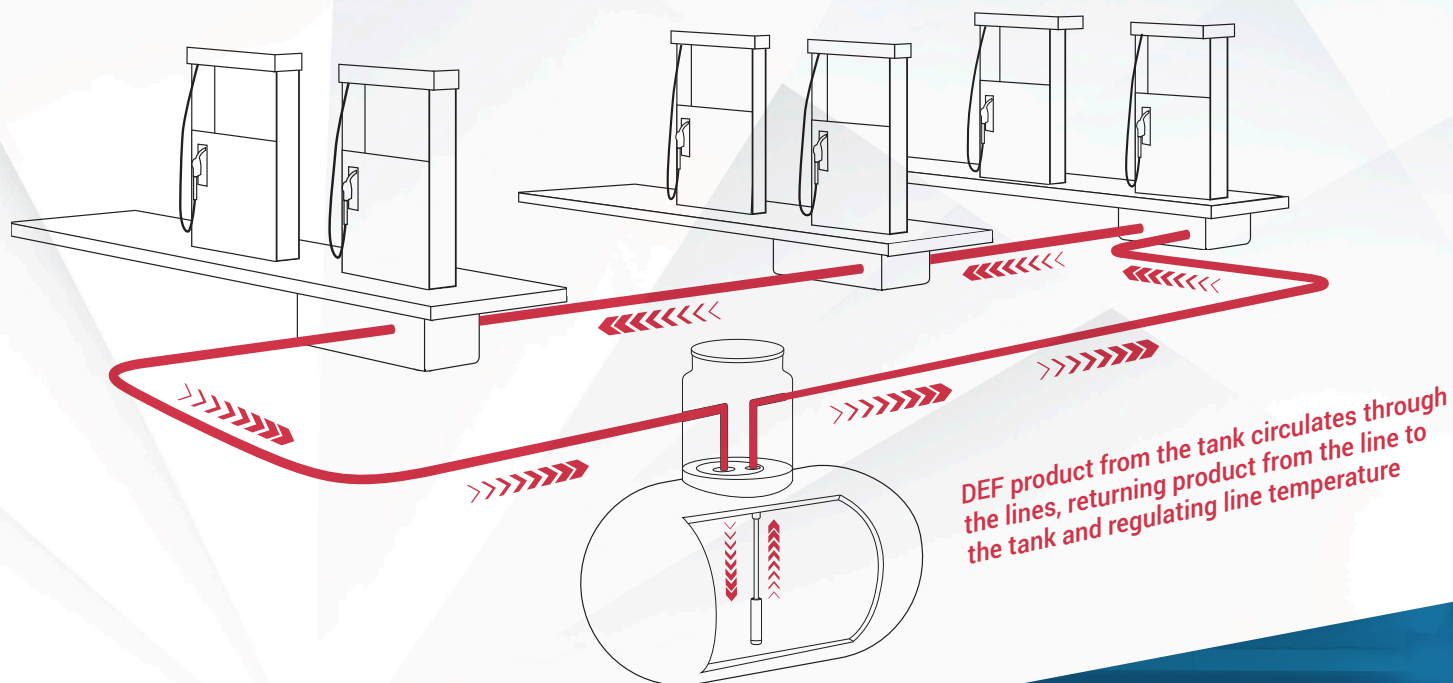
Fully automated DEF pumping system to improve inventory management and reduce site downtime.



## **Iso-Chem Probe**

The Iso-Chem Probe Kit allows DEF measurement using the industry-leading Mag Plus Probe for accurate inventory and temperature readings.

# VEEDER-ROOT DEF RECIRCULATION SOLUTION



## TLS-450PLUS Automatic Tank Gauge

The DEF Recirculation Software Feature for TLS-450PLUS ATG monitors product temperature to manage DEF quality in extreme conditions.



## Red Jacket CoreDEF Submersible Pump

Custom pumping solutions available in 3/4 and 2 HP options provide a range of light-to-heavy-duty pumps.



## Iso-Chem Probe

Adapter kit that includes a stainless steel jacket which allows users to remove the probe shaft for easy maintenance without coming in contact with DEF.



# RED JACKET COREDEF STP

## *Providing Flexible Flow Performance*

The Red Jacket® CoreDEF™ Submersible Turbine Pumps set a higher standard for any diesel exhaust fluid (DEF) pumping infrastructure. The CoreDEF™ STP is an entirely customizable delivery system, designed to offer sites a complete solution to maximize value and minimize cost.

¾ HP and 2 HP options provide a range of light-to-heavy-duty power spanning all site applications

Quick Set® variable lengths promote hassle-free application-specific height options

The only adjustable pressure relief offering on the market to further improve the customer experience

Pre-assembly and factory leak testing included to ensure performance and reduce installation time to get you pumping sooner



## FEATURES

- Factory leak tested to ensure onsite performance
- Optimize flow and pressure for any dispenser
- Prevents excessive nozzle squeeze and spit back
- Satisfies ISO 22241 standard for DEF quality
- Durable stainless-steel construction
- Simple installation and easy access for service and adjustment
- Designed and engineered to prevent motor burnout
- Maintains line pressurization during idle periods for parity with petroleum operation
- Fits any storage tank ranging from 5.5' to 14'

# ADJUSTABLE AND FIXED PRESSURE RELIEF CONFIGURATIONS

## *Adjustable Pressure Relief Configuration*

The Adjustable Pressure Relief Configuration is exclusive to the Red Jacket CoreDEF STP and introduces post-installation flow adjustment to your DEF system. From within the sump, installers can now easily calibrate line pressure to optimize operation with even the most sensitive dispensing equipment.

Adjustable Pressure Relief also improves the customer experience by avoiding excessive nozzle squeeze and preventing nozzle spit back.

## *Fixed Pressure Relief Installation* *Not Pictured*

The CoreDEF system features a fixed pressure relief STP for simplifying your DEF system. Designed to maintain line pressure at 45PSI, all necessary components are included and pre-assembled in the column pipe to make for "drop-in" installation.





# DEF RECIRCULATION SOFTWARE FEATURE FOR TLS-450PLUS AUTOMATIC TANK GAUGE

Unlike fueling products, diesel exhaust fluid (DEF) is extremely temperature sensitive, and will freeze when exposed to temperatures below 12°F or break down in conditions above 86°F.

## Veeder-Root's DEF Recirculation Feature on the TLS-450PLUS ATG:

Integrates DEF management into tank gauge so an entire site's wetstock can be managed on one console

Utilizes a sensor to measure the temperature of the DEF fluid between the tank and dispensing system

Enables management of DEF quality in the most extreme environmental conditions

Capable of controlling automated heat trace piping or in-tank heating coils

In the event that line temperatures exceed or fall below the user-set acceptable temperature range, the DEF submersible turbine pump (STP) is triggered to recirculate the fluid.

Operators will also have the option to manually activate recirculation to prevent freezing in emergency situations.



# ISO-CHEM PROBE KIT

## *Reinforced Inventory Monitoring*

Veeder-Root's multi-use Media-Isolated Probe (ISO-Probe) Kit allows diesel exhaust fluid tank owners and operators to accurately measure inventory levels using an automatic tank gauge.

Armored with anti-corrosive, stainless steel tubing

Highly-accurate Magnetostrictive measurement technology

Easy maintenance with isolated stainless steel jacket that protects probe and user from contact with diesel exhaust fluid

Flawless inventory measurement, with five-point temperature sensing

Promotes and enables optimal operation with the TLS-450PLUS

## FEATURES

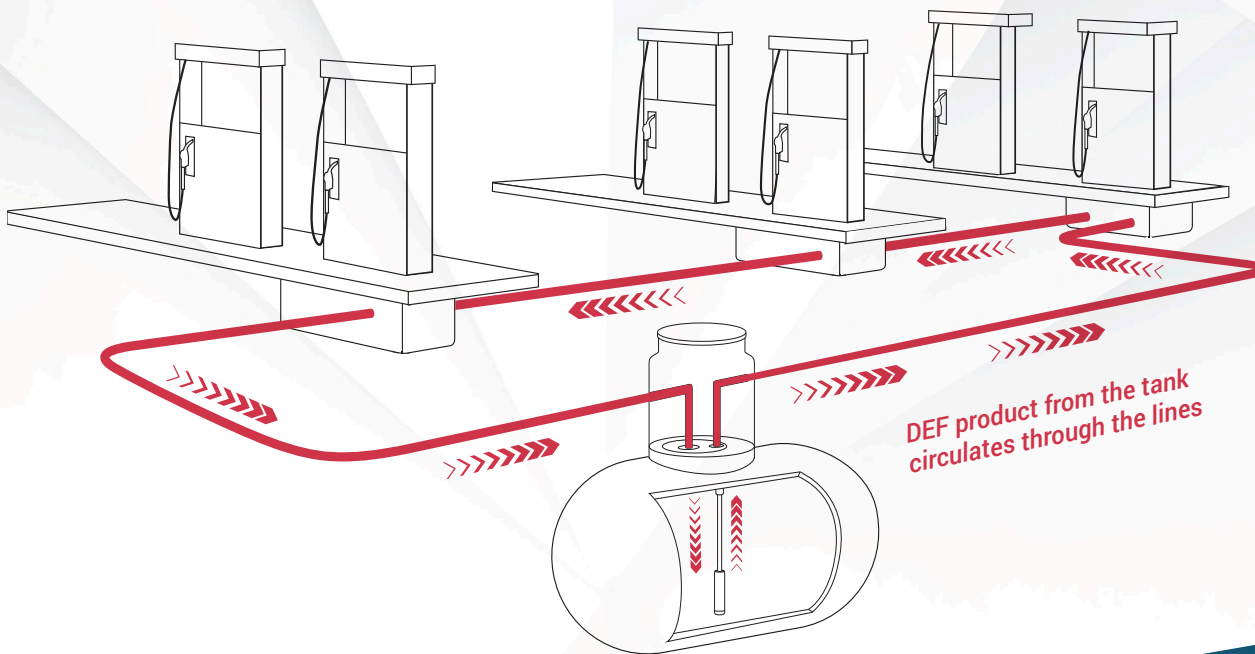
- Highly accurate, trouble-free performance
- Meets appropriate UST and AST application requirements
- Non-corrosive, stainless steel tubing
- Works for a wide spectrum of alternative fluids and pressurized environments
- Offers an operating temperature range of  $-40^{\circ}\text{C}$  to  $+70^{\circ}\text{C}$



# STREAMLINE YOUR DEF MANAGEMENT WITH INTEGRATED SOLUTIONS

## *Maintain the quality of stored DEF*

Maintaining viable DEF product relies on regulating its temperature throughout the dispensing system. Veeder-Root's suite of products fully integrate together to help you manage your DEF fluid and maintain its quality



1

A sensor in the dispenser pan notifies the TLS-450PLUS ATG if the DEF product temperature in the line is too high or too low.

2

The ATG activates the CoreDEF STP to begin recirculation and also enables supplemental line or tank heating systems if necessary.

3

DEF product from the tank circulates through the lines, returning fluid from the line to the tank, regulating line temperature and ensuring DEF product quality.

4

The sensor notifies the TLS-450PLUS ATG when the temperature is acceptable, turning off the CoreDEF STP recirculation.