

# **2023 Edition - Vol 2**

# **Portable Fluid Condition**

# **Monitoring**

# **Application Guide**



A must-have resource for those interested in real-time fluid condition information as it pertains to maintenance decisions.

# SCHROEDER INDUSTRIES: PORTABLE FLUID

## Overview

Schroeder Industries believes in gathering real-time fluid condition information to make informed maintenance decisions. Our solutions help accomplish this by measuring various fluid contamination variables in real-time that reflect a fluid's condition without having to be permanently installed. These include the FCU1000 series, and the Schroeder Pro: Total Fluid Life and Total Fluid Health series portable fluid condition monitoring solutions.

**FCU1310** - measures the essential contamination variables, including solid contamination, water contamination, and temperature.



**Schroeder Pro: Total Fluid Condition (TFC)** - Uses digital imaging shape-recognition technology to differentiate between air bubbles, solid

contaminants, and additives. Measures and differentiates particle contamination, relative water content, and temperature.



**Schroeder Pro: Total Fluid Health (TFH)** - holistically analyses used fluid condition, sorts solid contaminants and air bubbles into specific categories (fatigue wear, sliding wear, cutting wear, and fibers), and facilitates root-cause investigation.

## Application Guidelines

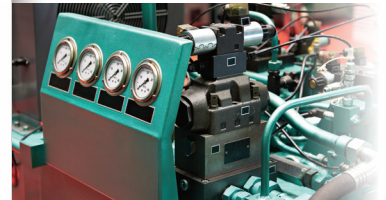


Portable fluid condition monitoring can be useful in a variety of applications, but it is important to consider the types of variables measurable, application and operational parameters, fluid compatibility and, of course, cost. These primary factors determine which solution provides the most advantage in terms of meeting and exceeding relevant strategic maintenance goals.

### Marine



### Industrial



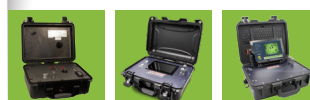
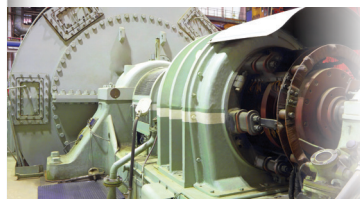
### Wind



### Steel



### Power Gen.






### Construction



# CONDITION MONITORING APPLICATION GUIDE

## Quick Comparison of Schroeder Portable Fluid Condition Monitoring Solutions:

			
	FCU1310	TFC	TFH
<b>Measurable Variables</b>			
Solid Particles (ISO 4406:1999; SAE 4059, NAS 1638)	X	X	X
Relative Water Content (% Saturation)	X	X	X
Fluid Temperature	X	X	X
Used Oil Life (%)	-	X	X
Particle Type Recognition	-	X	X
- Fibers	-	-	X
- Bubbles	-	-	X
Wear-Mechanism Recognition	-	-	X
Remaining Oil Life Estimate	-	-	X
Root-Cause Analysis Tools	-	-	X
<b>Operational Parameters</b>			
Maximum Permissible Viscosity	1,600 SUS (350 cSt)	11,100 SUS (2,400cSt)	11,100 SUS (2,400 cSt)
Maximum Permissible Viscosity with High Pressure Adapter	1,600 SUS (350 cSt)	1,400 SUS (300cSt)	1,400 SUS (300 cSt)
Maximum Inlet Pressure	650 psi (45 bar)	36 psi (2.5 bar)	36 psi (2.5 bar)
Maximum Inlet Pressure with High Pressure Adapter	5,000 psi (345 bar)	5,075 psi (350 bar)	5,075 psi (350 bar)
Duty Cycle	Intermittent	Continuous	Continuous
Environmental Protection (Case Closed / Open)	IP67 / IP 50	IP67 / IP54	IP67 / IP54
<b>Fluid Compatibility</b>			
Mineral-based	X	X	X
Synthetic	X	X	X
Organic	X	X	X
Diesel Fuel	-	X	X
<b>Data Management</b>			
Export Method	USB, HMG, Bluetooth®	USB, WiFi, Bluetooth®	USB, WiFi, Bluetooth®
Exportable File Format	DAT, CSV	PDF, TSV	PDF, TSV
Analysis Software	FluMoS, Excel	Adobe, Excel	Adobe, Excel
<b>Cost</b>	<b>Lowest</b>	<b>Middle</b>	<b>Highest</b>

Key: x = Standard - = Not Available

### Contacts

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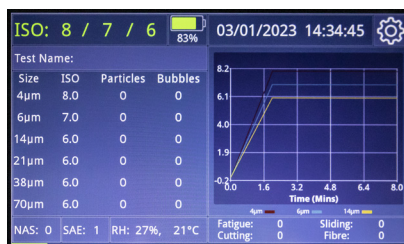
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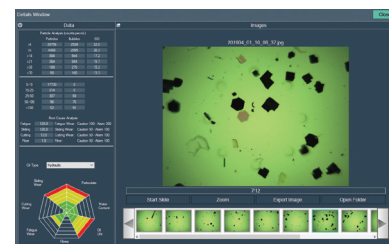


FCU 1310 Interface

**Schroeder**  
**INDUSTRIES**  
 Advanced Fluid Conditioning Solutions®  
 Proudly Manufactured in the United States



TFC Interface



TFH Interface





## About Us

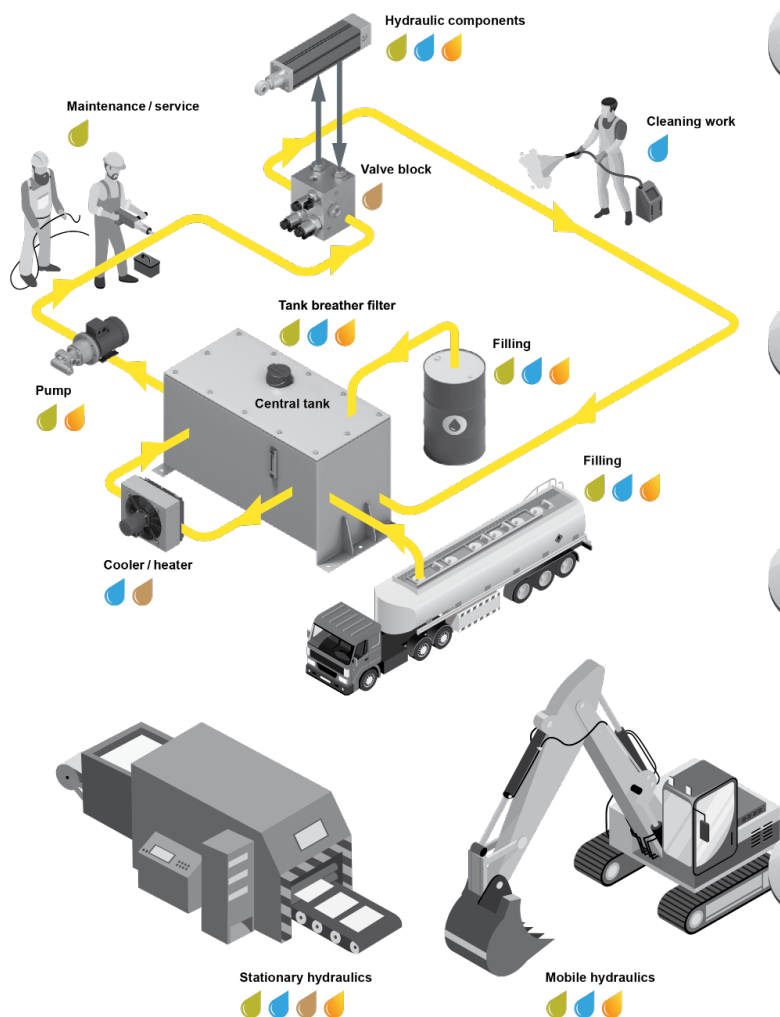
As an ISO 9001:2015 certified company, Schroeder Industries has been designing, manufacturing, and marketing a complete range of Advanced Fluid Conditioning Solutions® for over 73 years.

With products for diagnostic, as well as filtration tools, we have been recognized as *the* leader in the fluid conditioning industry for markets that use hydraulic oils, fuels and water.

Schroeder Industries' corporate headquarters is located in Leetsdale, PA, with manufacturing facilities at the Leetsdale location, as well as in Cumberland, MD.

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# BASIC CONTAMINATION TYPES, CAUSES, & CONSEQUENCES



## Solid Contamination

- Abrasive wear
- Increased leakage
- Component failure
- Control inaccuracies
- Blockage of control pistons
- Shortened fluid service life

## Liquid Contamination

- Corrosion
- Reduced lubricating film thickness
- Change in fluid properties
- Cavitation damage

## Gel-like Contamination

- Reduction in lubrication clearances caused by deposits
- Valve malfunction
- Damage to dynamic seals
- Blockage of filter elements
- Increased bearing temperature

## Gaseous Contamination

- Cavitation damage
- Oxidation
- Local overheating of oil

## Markets Served



Visit us online @ [www.schroederindustries.com](http://www.schroederindustries.com) for our complete product offering!



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