Introduction

The Schroeder HY-TRAX® Sampling Systems are the newest additions to our hydraulic sensor lineup. The compact HY-TRAX® units include a micro VSD pump and TestMate® Contamination Monitor (TCM)/TestMate® Water Sensor (TWS) mounted on a single manifold block. The HY-TRAX® units can sample directly from a reservoir tank or a low pressure (<50PSI) line. The integral VSD pump will supply our TCM with the proper flow and pressure to obtain accurate particle counts. HY-TRAX® is designed for mineral based hydraulic fluids with viscosities up to 350 cST.

The HY-TRAX® Sampling System is available in two versions. The HY-TRAX® Manually Controlled Fluid Sampling System provides local visibility to ISO contamination codes and optional saturation levels. A manually controlled rheostat adjusts the pump’s speed to compensate for variances in fluid viscosities. This will provide the TestMate® Contamination Monitor (TCM) sensor with optimal flow for accurate sensor readings. The VSD pump controller is housed in a compact (app 9.3” x 5.75” x 2.6”) rugged IP 40 rated enclosure that can be mounted within 3.3’ of the manifold block.

The HY-TRAX® Telematic Communications Module with Remote Controlled Sampling System adds greater flexibility to the end user. The same VSD pump is automatically adjusted by the Communication Module to provide optimal flow to the TestMate® Contamination Monitor (TCM) particle counter. The fluid sampling system collects data and the Communications Module transmits this data, via GSM cellular communications, at scheduled intervals. All data is transmitted through a secure VPN and is archived in a protected database. The information is displayed on a custom dashboard with user selectable parameters. HY-TRAX® will even send alert emails when programmed thresholds are reached. This will provide maintenance managers with the visibility and information to pro-actively schedule preventative maintenance on local and remote equipment.

Features

HY-TRAX® Manually Controlled Fluid Sampling System

- Local Visibility to fluid condition
- Measure particles >4, >6, >14, >21µ
- Integrated VSD pump/motor
- Pump speed manually controlled
- Compact design
- Integrated flow control manifold

HY-TRAX® Telematic Communications Module with Remote Controlled Sampling System

- Local and remote visibility
- Measure particles >4, >6, >14, >21µ
- Integrated VSD pump/motor
- Pump speed automatically controlled
- Data is viewed/stored on secure website
- Alert emails when thresholds reached

Patent Pending
Applications

- Mobile Equipment
- Construction
- Agricultural Machinery
- Marine
- Fleet Services
- Monitoring Cleanliness Storage Tanks
- Surface Mining
- Rail
- Industrial Hydraulic Systems

Specifications

**Measuring Range:** Display ISO ranges between 25/24/23 and 9/8/7 Calibration within the range ISO 13/11/10 to 23/21/18

**Contamination Output Code:** Standard: ISO 4406:1999 or SAE AS 4059(D)

**Self-Diagnosis:** Continuously with error indication via status LED

**Pressure Rating:** 50 psi (3.4 bar) max

**Fluid Inlet/Outlet:** SAE ORB, Size 4

**Seal Material:** Viton®

**Pump Speed:** 500-5000 RPM (adjustable)

**Optimal Sampling**

**Pump Flow Rate:** 0.008-0.079 GPM (30-300 mL/min)

**Fluid Temperature Range:** 32°F to 185°F (0°C to +85°C)

**Ambient Temperature Range:** -22°F to 176°F (-30°C to 80°C)

**Max Viscosity:** 350 cSt

**Pump Type:** Gear Pump

**Power Supply Voltage:** 24 VDC +/-10%, Residual Ripple <10%

**Max Power/Current Consumption:** 100 Watt/4amp

**Electric Output:** 4-20 mA analog output; 0-10 V analog (option for contamination monitor (TCM)) RS485 for communication with FluMoS Software

**Electrical Specifications:**
- 4-20 mA analog output (max burden 330 Ω)
- 0 to 10v output (min load resistor 82 Ω)
- Limit switching output (Power MOSFET): max current 1.5A

**TestMate® Contamination Monitor (TCM) Signal Output Connections Located on Control Enclosure:**
- USB-B Female Port for use with Windows-based computer and FluMoS Software
- M12 8 pole, Male Port, Analog or Digital, for use with PLC or RS485 Communication, (4-20 mA is standard), 0-10 V is optional, must specify when ordering

**Water Sensor (TWS-D) Signal Output Connection Located on Control Enclosure:**
- Water sensor (TWS-D) M12-5 pole Signal Output 5 pole Male Port, located on Control Enclosure

**Electrical Safety Class:** III (low voltage protection)

**Enclosure Ratings:** IP 40 enclosure
Drawings

HY-TRAX® Telematic Communications Module with Remote Controlled Sampling System

HY-TRAX® Manually Controlled Fluid Sampling System