Features and Benefits

- Provides Local Visibility to the Fluid Condition of Critical Systems.
- Integrated micro VSD, (Variable Speed Drive), pump/motor provides optimal flow for accurate sensor readings in variable conditions.
- The HY-TRAX® Manually Controlled Fluid Sampling System allows a user to retrieve ISO cleanliness levels from a reservoir tank or a low-pressure line (<50 psi max).
- The compact design allows for installations with tight space constraints.
- The Manual rheostat VSD pump controller is housed in a compact IP 40 enclosure and allows the user to adjust the pump flow for optimal sensor readings.
- Optional AC adapter allows the unit to operate on 115 VAC 60 Hz. 24 VDC is standard.
- Rugged design for field use.
- Viton® seals.
- Fluid viscosities up to 350 cSt.
- Flow control valve providing optimal pressure for accurate sensor readings.

Applications

- Mobile Equipment Technology
- Surface Mining
- Construction
- Monitoring of Oil Cleanliness in Storage Tanks
- Fleet Services
- Rail

What's Included

- TestMate® Contamination Monitor (TCM)
- Machined, 6061-T651 aluminum alloy manifold block with anodized surface treatment.
- Specially designed fitting for mating to pump/motor.
- Viton® seals.
- Plugged water sensor port (G3/8)
- VSD (Variable Speed Drive) Motor Power Supply and Control Cable
- Water Sensor (TWS-D) Power Supply and Signal Cable (only supplied with optional water sensor (TWS-D))
- Contamination Monitor (TCM) output signal, USB-B Female Port for use with Windows-Based Computer and FluMoS Software, located on Control Enclosure
- Contamination Monitor (TCM), output signal, M12x1, 8 pole, Male Port, located on Control Enclosure, for use with PLC or RS485 Communication, analog or digital, 4 - 20 mA is standard, 2 to 10 V is optional
# Manually Controlled Fluid Sampling System

## Specifications

<table>
<thead>
<tr>
<th><strong>Measuring Range:</strong></th>
<th>Display ISO ranges between 25/24/23 and 9/8/7 Calibration within the range ISO 13/11/10 to 23/21/18</th>
</tr>
</thead>
</table>
| **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°F) |
| **Max Viscosity:** | 1622 SUS (350 cSt) |
| **Pump Type:** | Gear Pump |
| **Power Supply Voltage:** | 24 VDC +/- 10%, Residual Ripple <10% |
| **Max Power/Current Consumption:** | 100 Watt/4 amp |
| **Electric Output:** | 4-20 mA analog output; 2 to 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)  
2 to 10 V 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  
M12x1, 8 pole, Male Port, Analog or Digital, for use with PLC or RS485 Communication, (4-20 mA is standard). 2 to 10 V is optional, must specify when ordering TestMate® Contamination Monitor (TCM) |
| **Water Sensor (TWS-D) Signal Output Connection Located on Control Enclosure:** | Water sensor (TWS-D) M12x1, 5 pole Signal Output 5 pole Male Port, located on Control Enclosure |
| **Electrical Safety Class:** | III (low voltage protection) |
| **Enclosure Ratings:** | IP 40 enclosure |

## Weight and Dimensions

<table>
<thead>
<tr>
<th><strong>Communications Module Control TestMate® Sensor</strong></th>
<th>Fluid Sampling System Manifold with TCM &amp; VSD Pump/Motor</th>
<th>HY-TRAX® Manual Control Module</th>
<th>Fluid Sampling Manifold with Communications Module &amp; VSD Pump/Motor</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Weight:</strong></td>
<td>10 lbs. (4.5 kg)</td>
<td>5 lbs. (2.5 kg)</td>
<td>15 lbs. (6.8 kg)</td>
</tr>
<tr>
<td><strong>Dimensions:</strong></td>
<td>10.3” x 6.8” x 4.3” (262 x 173 x 109 mm)</td>
<td>9.3” x 5.7” X 2.6” (236 X 145 x 65 mm)</td>
<td></td>
</tr>
</tbody>
</table>
Features and Benefits

- Provides Local Visibility to the Fluid Condition of Critical Systems.
- Integrated micro VSD, (Variable Speed Drive), pump/motor provides optimal flow for accurate sensor readings invariable conditions.
- Designed to be used with Schroeder Industries TestMate® contamination monitor (TCM) and optional water sensor.
- The HY-TRAX® Manually Controlled Fluid Sampling System allows a user to retrieve ISO cleanliness levels from a reservoir tank or a low-pressure line (50 psi max).
- The compact design allows for installations with tight space constraints.
- The Manual VSD pump controller is housed in a compact IP 40 enclosure and allows the user to adjust the pump flow for optimal sensor readings.
- Optional AC adapter allows the unit to operate on 115 VAC 60 Hz.
- Rugged design for field use.
- Viton® seals.
- Fluid viscosities up to 350 cSt.
- Flow control valve providing optimal pressure for accurate sensor readings.
- Manual rheostat control adjusts VSD (Variable Speed Drive) pump speed to adjust for variances in fluid viscosities.
- Machined, 6061-T651 aluminum alloy manifold block with anodized surface treatment.
- Specially designed fitting for mating to pump/motor.
- Viton® seals.
- Plugged water sensor port (G3/8)
- VSD (Variable Speed Drive) Motor Power Supply and Control Cable
- Flow control valve
- VSD (Variable Speed Drive) pump/motor
- Manual rheostat pump controller
- IP 40 enclosure
- Fluid Inlet/Outlet Porting (SAE Size 04 ORB)
- 24 VDC Power Supply (NC3MP Female Connector)
- Optional 115 VAC Power Supply with Cord
- Water Sensor (TWS-D) M12x1, 5 pole Signal Output Connection, Male Port, located on control enclosure
- TestMate® Contamination monitor (TCM) power connection, female M12x1, 8 pole located on control enclosure
- Water sensor (TWS-D) power connection, M12x1, 5 pole Female located on control enclosure
- What’s Included

For Customers who have a TestMate® Contamination Monitor (TCM)
# Manually Controlled Fluid Sampling System

**Model Number Selection**

How to Build a Valid Model Number for a Schroeder HY-TRAX® Manually Controlled Fluid Sampling System:

<table>
<thead>
<tr>
<th>BOX 1</th>
<th>BOX 2</th>
<th>BOX 3</th>
<th>BOX 4</th>
<th>BOX 5</th>
<th>BOX 6</th>
<th>BOX 7</th>
<th>BOX 8</th>
<th>BOX 9</th>
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**Example:** NOTE: One option per box

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</tbody>
</table>

**BOX 1**

**Model**

- **HY**

**BOX 2**

**TestMate® Contamination Monitor (TCM)**

- Omit = TCM w/ display
- ND = TCM w/ no display
- NT = Manifold supplied w/ no TCM, Customer will supply TCM (manifold mount version needed)

**BOX 3**

**Fluid Type**

- H = For use w/ Hydraulic & Diesel Fuel only*
- S = 2 to 10 V analog output

**BOX 4**

**TestMate® Contamination Monitor (TCM) Signal Output**

- Omit = 4-20 mA
- S = 2 to 10 V analog output

**BOX 5**

**TestMate® Contamination Monitor (TCM) Output Options**

- M = ISO 4406/SAE 4049
- N = ISO 4406/NAS 1638

**BOX 6**

**Water Sensor (TWS) Option**

- Omit = None
- TWS-D = Water sensor w/ display

**BOX 7**

**Manually Controlled Sampling System**

- Omit = Panel with Rheostat flow control, power and signal output for HY-TRAX® sampling system

**BOX 8**

**Power Options**

- Omit = 24 VDC
- P = 115 VAC

**BOX 9**

**Air Suppression Loop**

- Omit = None
- L = Looped hose and fitting

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*Note: Off-road diesel contains dye. High concentrations of dye may interfere with particle count results. Please contact factory to review application.*