



## **Thermo 42i NO<sub>x</sub> Maintenance Schedule**

### **Routinely (weekly/monthly)**

1. Check the instrument for any alarms
2. Check recent ambient data and calibration data for anomalies
3. Check key diagnostics such as flow, pressure and temperatures. Recommend graphing 1-month periods to check for drift.

### **Every 1 month**

1. Replace the sample filter on the gas inlet line.
2. Check pump for excessive noise/vibration/heat.

### **Every 3 months**

1. Clean fan filter

### **Every 6 months**

1. Perform a multi-point calibration and adjust slope/offset if necessary
2. Perform a gas phase titration to check the NO<sub>2</sub> convertor efficiency.
3. Perform flow calibration/leak check

### **Annually**

1. Replace capillary o-rings
2. Replace charcoal exhaust scrubber
3. Clean reaction chamber (can be skipped if instrument spans are stable and NO coefficient is close to 1.00). Reset the factory calibration factors to factory defaults and span the instrument using the PMT voltage.

### **Other - as needed**

1. Replace permeation dryer filter when dirty
2. Replace permeation dryer when discoloured (usually every 2 or 3 years)
3. Clean reaction chamber if NO coefficient is increasing significantly
4. Clean thermoelectric cooler fins when servicing reaction chamber.
5. Install pump kit when flow drops/pressure increases.
6. Clean/replace sample capillary if flow drops/pressure drops.
7. Replace sample pump if excessive noise/vibration/heat.