

# Low Power Atmospheric Gas Sampling System Based on ART MS Sensor and NEG-Ion Pump System

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The combination of an ART MS gas analyzer with a dual-technology vacuum pump consisting of a non evaporable getter (NEG) and a small size ion pump provides a very compact and low power gas sampling system for remote sensing applications. The ART MS sensor technology provides the advantages of very low power requirements, compact design, fast scanning, ruggedness and sensitive gas detection. The NEG-Ion pump provides very large pumping speeds and gas capacity, a total pressure reading, low power consumption, vibration free operation and an unprecedented small size that perfectly matches ART MS sensor form factor. Several different atmospheric gas sampling schemes are discussed and the effect of differential pumping speeds on partial pressure levels are analyzed.