



# MICRO 01

## Air Sampler Controller

- Controls a single Air Sampler
- Monitors and controls air flow rate
- Programmable sample duration and flow rate
- Supports intermittent sampling
- Internally monitors fan drive voltage and current
- Out of limits alarms for drive voltage, current and fan speed
- 4-20mA output indicates sample progress
- Host RS485 communications interface
- Aux RS485 for use in fault-tolerant systems

The MICRO 01 module drives a single Air Sampler and has inputs for control of the 'Run' and 'Gas' activities and outputs to indicate 'Running' and 'Fault' states. While 'Run' is asserted, the module controls the fan and drives the 'Running' output to show this. When the programmed sample duration has elapsed, the Air Sampler drive output turns off and the 'Running' status is negated.

The 'Gas' input can be used to drive the Air Sampler so that the head can draw gas through the unit during sanitisation. The output remains on until the input request is turned off.

The fan drive voltage, current and fan speed are constantly monitored and the 'Fault' output is asserted if any of the monitored parameters is outside the permitted limits.

The VF8023 offers continuous or intermittent sampling operation to draw an accurate cubic metre sample of air over the sample plate.

With continuous sampling the MICRO 01 automatically runs the fan until the entire cubic metre sample has been drawn in a single operation.

Intermittent sampling offers a programmable number of shorter samples spread over a longer period to make up the 1 cubic metre volume. For example, a series of 1 minute long samples (100l) drawn every 15 minutes would allow a cubic metre sample to be spread over 2.5 hours. Intermittent sampling is often used to reduce the number of interventions during a production process.



## MICRO 01 Air Sampler Controller

### Specification • Digital Inputs (to control 'Run' and 'Gas' operation)

- Two opto-isolated inputs (200V isolation)
- Digital Outputs (to indicate 'Running' and 'Fault' states)
  - Two opto-isolated Solid State outputs (200V isolation)
  - Maximum current 100mA
  - Load voltage 200Vdc or Vac Peak
  - On resistance: 20  $\Omega$  typical, 25  $\Omega$  maximum
- Fan Output
  - One output to drive impeller in air head
- Analog Output (to indicate sample percentage complete)
  - One 4-20mA opto-isolated output (200V isolation)
  - Maximum error  $\pm 1\%$  full scale
- Power supply
  - 24Vdc  $\pm 10\%$ , 200mA (typical), 400mA (maximum)
- Interfaces
  - RS485 host, 19k2 baud, 1.2km
  - RS485 aux, 19k2 baud, 1.2km
- DIN rail mounting enclosure
  - W: 23mm
  - H: 85mm
  - D: 105mm
  - Weight 85g
- Environmental
  - Operating temperature 0 to 50°C
  - Storage temperature -20 to 60°C

### Air Sampler Specification

- Material: Stainless Steel 316
  - Diameter: 108mm, H: 105mm (including head)
  - Weight: 2.0Kg typical, dependent on mounting option
- Efficiency:
  - 100lpm models d50 value: 2.03 $\mu$

### Ordering Information

- MICRO 01 Air Sampler Controller Module for all active air heads
- **Air Sampler with pedestal base, for 90mm Petri Dishes:**
  - MICRO A2 Air Sampler including 100lpm head with screw fitting
  - MICRO A1 Air Sampler including 100lpm head with bayonet fitting
- **Air Sampler with Tri-clover clamp, for 90mm Petri Dishes:**
  - MICRO A10 Air Sampler including 100lpm head with screw fitting
  - MICRO A9 Air Sampler including 100lpm head with bayonet fitting
- **Air Sampler Kit - Pedestal base with Controller Module:**
  - MICRO A11 Air Sampler with 100lpm screw fitting head and MICRO 01 controller module

<sup>1</sup>180lpm flow rate is not recommended for new installations, but can be supplied to support legacy systems



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specification





# Air Sampler Spare Parts

## Air Sampler Component Parts

### Air Samplers

Air Samplers come in a variety of versions with a large number of permutations.

This data sheet describes the various parts that make up the complete assembly and allows you to choose the spare part appropriate to your installation.

The basic parts consist of a perforated head that allows air to be drawn in over the sample plate and a body (base) that incorporates the motorised impeller that draws the air in.

The base is available in two mounting versions: a pedestal base for free standing locations or a Tri-Clamp base for integration within machines. The pedestal base uses a Lemo style connector for quick connection/disconnection, while the Tri-Clamp base has an integral cable.

A pre-formed cable assembly is available for the pedestal base, while the Tri-Clamp base generally requires a custom cable to be completed on-site.

The head and base types must be matched and are available in two types: standard screw head and bayonet head for easier removal.

A protective cover is also available which is suitable for both screw and bayonet heads.

It should be noted that the flow rate itself is determined by the associated MICRO 01 Air Sampler controller, not the Air Sampler components.



## Air Sampler Components

- Materials: Head and base are machined from 304 Stainless Steel

## Ordering Information (all are suitable only for 90mm Petri dish)

### Complete assemblies (head and base):

- MICRO-A1 Air Sampler with pedestal base and bayonet head
- MICRO-A2 Air Sampler with pedestal base and screw head
- MICRO-A3 Air Sampler with Tri-clover clamp and bayonet head
- MICRO-A4 Air Sampler with Tri-clover clamp and screw head

### Component parts:

- MICRO-A5 Bayonet fitting sample **head** suitable for either base
- MICRO-A6 Screw fitting sample **head** suitable for either base
- MICRO-A7 Pedestal **base**, suitable for bayonet head
- MICRO-A8 Pedestal **base**, suitable for screw head
- MICRO-A9 Tri-clover clamp **base**, suitable for bayonet head
- MICRO-A10 Tri-clover clamp **base**, suitable for screw head
- Plastic **cover** suitable for bayonet and screw head
- **MICRO 01** Air Sampler Controller Module for all air samplers (uncalibrated)

**Note: The MICRO 01 controller module must be field calibrated with the specific head it is paired with.**

