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BioTector Venturi Sampler Specifications_R010

BioTector Venturi Sampler Technical Specifications

TYPICAL TECHNICAL DATA

PLC Enclosure:	Polystyrene with glazed polycarbonate door
Dimensions (HxWxD):	2010mm x 390mm x 160mm
Weight:	20 kg – 30 kg
Noise level:	50-70 dB(A) during filling and purging with short term noise 1 to 2 seconds in duration up to 90 dB(A) when pneumatic valves are de-energized.
Power Consumption:	24 W (1 Amp 24V DC)
Control Wire Specification:	Number of Cores = 6 cores, Current Rating minimum = 3 Amp, CSA (Cross Sectional Area minimum) = 0.5mm ² .

FEATURES IN DETAIL

Operation:	PLC with Keyboard Automatic no sample fill fault indication Direct control from the BioTector through the 6 core cable Sample chamber and sample line purge with air and water
Language Options:	English (Other languages are available upon request.)

OPTIONAL FEATURES

Multi-stream:	Valves for up to 6 streams
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CONSUMABLES

Instrument Air:	6 bars (50 liters/minute flow rate when venturi pump is running at 6bar) (~100 liters/minute flow rate when venturi sampler is purging at 3.5bar) Note: If using a standalone compressor please ensure it can continually supply the above requirements, this may require up to 100% duty cycle.
Air Quality:	-20°C dew point (free of water, oil and dust)
Water:	3 bars (~10 liters per hour at 3 bars) Water can be heated up to 90°C for hot water backwash Water regulator and/or water heater to be supplied by the user
Service:	Typical 6 Monthly Intervals

SYSTEM PARAMETERS

Sample Chamber:	PFA
Sample Volume:	70ml available to BioTector
Fittings and Valves:	SS-316, EPDM, PTFE
Venturi Pump:	SS-316



Sampler Sample Tubing: PFA (1/2" OD x 3/8" ID)
Cycle Time: Controlled by BioTector



SAMPLE & ENVIRONMENTAL CONDITIONS

Venturi Vacuum:	900 mbar (maximum)
Sample Lift:	7 meters (maximum, at sea level) (Measured from the bottom of the sampler to the lowest liquid level)
Sample Transport:	See detailed data on the next page. Note data refers to sample transport times at sea level
Sample Fill Time:	See detailed data on the next page. Note data refers to sample transport times at sea level
Sample Inlet Pressure:	Ambient. (for applications with high sample pressures up to 4 bars, alternative systems are available) Pressure for air and water must be at least 1.5 times greater than the sample inlet pressure.
Drain Pressure:	Ambient (for applications with high drain pressure, alternative systems are available)
Sample Inlet Temperature:	2°C – 90°C (36°F - 194°F)
Sample Particle Size:	Up to 2 mm, soft particulates
Ambient Temperature:	5°C – 40°C
Humidity:	5% - 85%, non-condensing

**Typical operational data.****Build parameters.**

First chamber volume: 70ml.
Second chamber volume: 270ml.
Sample tubing: ½" OD x 3/8" ID.

Sample distance, 40 meters, typical filling and purging times

Lift, meters	Time for venturi sampler to fill tubes and chamber	Venturi filling time, including pre-purge times for 4 streams. Add 8s for 6 streams.	Purge time	Typical overall time, including time for the BioTector to inject the sample and flush its lines.
0	40s	76s	90s	324s, 5m24s
2	49s	85s	90s	336s, 5m36s
4	59s	95s	90s	348s, 5m48s
6	83s	119s	90s	378s, 6m18s
7	122s	158s	90s	427s, 7m07s

Sample distance, 80 meters, typical filling and purging times.

Lift, meters	Time for venturi sampler to fill tubes and chamber	Venturi filling time, including pre-purge times for 4 streams. Add 8s for 6 streams.	Purge time	Typical overall time, including time for the BioTector to inject the sample and flush its lines.
0	124s	160s	120s	459s, 7m39s
2	145s	181s	120s	486s, 8m06s
4	179s	215s	120s	528s, 8m48s
6	255s	291s	120s	624s, 10m24s
7	345s	381s	120s	735s, 12m15s

Notes:

- The typical overall times above are also the minimum BioTector cycle time.
- It is essential that the tube slopes gently back to the sample point, dips and rises in the sample tube increases the sample transport time.
- Any point of the sample tube must never be higher than 7 meters above the sample point.

BioTector Analytical Systems Limited has a continuous research and development program. Specifications may therefore be changed without notice. For specification updates, please contact BioTector Analytical Systems Ltd.