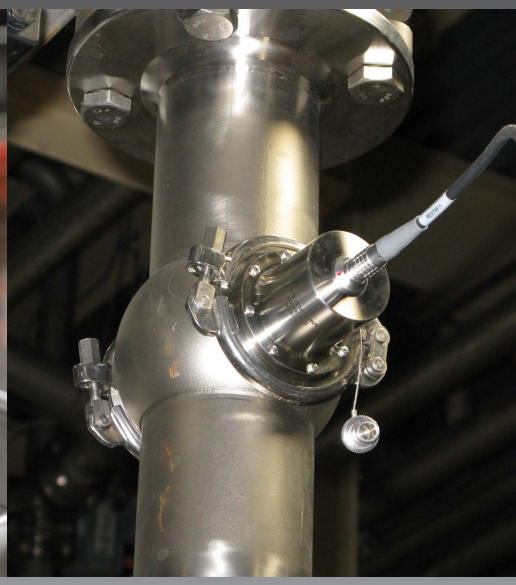
VS-3000 Beer, Wine and Fermentation Monitor

Infrared Inline Process Control Sensor

Direct real-time ingredient measurements 24x7
Alcohol, CO_2, Real Extract, Temperature,
Specific Gravity, Real Degree of Fermentation and Original Extract

The VS-3000 Beer and Wine Monitor measures dissolved ingredients real-time 24x7. Concentrations are measured directly, not inferred or calculated. VS-3000 is easy to install, easy to integrate and has a low cost of ownership.



VitalSensors Technologies LLC is the leader in innovative, inline instruments for the food, beverage and pharmaceutical industries. The VS-3000 Beer and Wine Monitor measures three concentrations and temperature simultaneously using one sensor.

Real-time, inline concentration readings available for dissolved:

- Alcohol / Ethanol
- Real Extract
- CO_2
- Specific Gravity (calculated)
- Original Extract (calculated)
- Real Degree of Fermentation (calculated)

Precision Infrared Measurements of Process Contents — VS-3000 Sensors provide real-time concentration and temperature readings for fluids in a process stream or in a tank. VS-3000 Sensors can be implemented in flow or no flow conditions and are not affected by pressure spikes, density, color, viscosity or extreme working conditions.

Maintenance and Cost Savings — VS-3000 series sensors are state of the art, solid state devices which contain no moving parts and require no maintenance. MTBF $\geq$ 100,000 hrs.

Improved Plant and Asset Utilization — The proven reliability, accuracy and repeatability of the VS-3000 Sensors provide plant personnel with real-time process control data for monitoring and blending 24x7.

Networked Devices Providing Real-Time Data — VS-3000 sensors can be implemented as standalone units or as part of a process control network under PLC control.

VitalSensors TECHNOLOGIES

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Product Specifications

System includes inline sensor, cable, Sensor Management Station with local display and Windows™-based software

Part #s	VS-3000BM (Alcohol / Real Extract / CO2) and VS-3000BMAE (Alcohol / Extract)		
Parameter Measured	**Ethanol/Alcohol**	**Real Extract**	**CO2**
Measuring Range	0 – 20 w/w % standard 0 - 100 w/w % customizable 0 – 20 v/v%	0 - 20° Plato Real Extract 0 - 20° Plato Original Extract	0 to 6 v/v 0 to 12,000 ppm 0 to 12,000 mg/L 0 to 12 g/L
Accuracy	± .016 w/w % ± .02 v/v %	± .01° Brix ± .01° Plato	± .02 v/v ± 39.2 ppm ± 39.2 mg/L or .0392 g/L
Resolution	.01 w/w % .01 v/v %	.01° Brix .01° Plato	.01 v/v 1 ppm 1 mg/l or .001 g/L
Repeatability (8 hour test)	.01 w/w % .01 v/v %	.008° Brix .008° Plato	.008 v/v 16 ppm 16 mg/l or .016 g/L

Measuring Method	Mid Infrared spectrometer with Attenuated Total Reflectance (ATR) sampling
Measuring Interval	100 ms
Data Output Interval	100 ms to 30s (user defined)
Operating Process Temperature (in 40°C / 104°F spans)	-2°C / 28.4°F to 85°C / 185°F – Standard Model 120°C / 248°F – Extended Temperature Model (with cooling jacket)
Temperature Display Range	-5°C to +85°C (+23°F to 185°F)
Maximum CIP Temperature	85°C / 185°F (standard model) 120°C / 248°F (extended temperature model)
Maximum Line Pressure	10 bar (150 psi)
Process Connection	68mm Tuchenhagen Varinline® connection fitting
Dimensions (Sensor)	82.6mm (3.25 in) W x 82.6mm (3.25 in) H x 82.6mm (3.25 in) D
Enclosure	IP68 (NEMA4)
Shock Resistance	100G 1/2 sine wave or 6 foot drop on concrete

Operator Interface – VS-300 Sensor Management Station or VS-200 Sensor Management Station (DIN Rail Mounted)	
Display	Concentration(s), Temperature and Time on four-line VFD display
Cable (Distance to Sensor)	7.62m (25 ft.)
I/O	Digital I/O board for Remote IN/Relay OUT up to 64 brands - - (VS-300 only)
Fieldbus Interfaces	4-20mA, Ethernet, EtherNet/IP and DIO (standard) Profibus DP (optional)
Power	120/240 VAC, 50-60 Hz (auto sensing) or 24VDC
Dimensions (WxHxD VS-300 SMS)	222.3mm (8.75in) W x 290.8mm (11.5 in) H x 139.7mm (5.5 in) D
Enclosure	IP67 (NEMA4)
Ambient Temperature	-5°C to +40°C (+23°F to 104°F)
Shipping Weight (Total System)	9.07 kg (20 lbs)
Approvals	CE, FCC, VCCI Class A, AS/NZS Class A