

## Meeting ISBT beverage CO<sub>2</sub> specifications for a major beverage producer

### THE OPPORTUNITY

One of the world's largest beverage manufacturers looked to update their gas purity verification system. With the challenging impurity monitoring requirements set forth by ISBT, older technologies like Premier Guard and CBAS needed the next generation of Beverage CO<sub>2</sub> monitoring. These new systems had to be rugged, reliable, easy-to-use, easy to maintain while at the same time be able to meet stringent ppb level measurement requirements.

PARAMETERS		RATIONALE <sup>1</sup>
<b>Purity</b>	99.9% v/v min.	Process
<b>Moisture</b>	20 ppm v/v max.	Process
<b>Acidity</b>	To pass test	Regulatory
<b>Oxygen</b>	30 ppm v/v max.	Sensory
<b>Nitrogen compounds</b>		
Ammonia	2.5 ppm v/v max.	Process
Nitric oxide/nitrogen dioxide	2.5 ppm v/v max.	Sensory
Non-volatile organic residue	5 ppm w/w max.	Sensory
<b>Phosphine</b>	To pass test (0.3 ppm v/v max)	Regulatory
<b>Total volatile</b>	50 ppm v/v max. of which 200 ppm v/v max. of non-methane hydrocarbons	Sensory
Hydrocarbons (as methane)		
Acetaldehyde	0.2 ppm v/v max.	Sensory
Aromatic hydrocarbon sulfide	0.020 ppm v/v max.	Process
<b>Total sulfur (as S)</b>	0.1 ppm v/v max.	Sensory
Cabonyl sulfide	0.1 ppm v/v max.	Sensory
Hydrogen sulfide	0.1 ppm v/v max.	Sensory
Sulfur dioxide	1 ppm v/v max.	Sensory
<b>Appearance in water</b>	No color or turbidity	Sensory
<b>Oder</b>	Odorless	Sensory
<b>Taste and odor</b>	No foreign taste or color in water	Sensory

Table 1. ISBT Carbon Dioxide Guidelines.

<sup>1</sup> Rationale definitions

Sensory: Any attribute that negatively impacts the taste appearance, or odor of beverage.

Process: Any attribute that defines a key parameter in a controlled process and an important consideration in the beverage industry.

Regulatory: Any attribute whose limit is set by governing regulatory agencies.

## OUR SOLUTIONS

After 5 years of development, that included 2 years of field trials and 1 year of in-service validation, AirBreather Systems™ was born. A robust, economical, maintenance friendly system, incorporating state-of-the-art technology and proprietary software to provide fast, accurate, readily accessible CO<sub>2</sub> purity verification included:

CocaCola: Approval Reference Number: NA-KO-102

# AirBreather Systems™

State-of-the-Art Continuous Gas Analysis



## YOUR BENEFITS

- Exceeds ISBT Standards
- Fastest Response Time (4 minutes)
- Least amount of precious sample gas required
- No carrier gases required other than air
- No Span Calibration Gases required / internal validation
- Secure Certificate of Analysis Module — COA™
- Truck Filling Option
- Automated Fill Panels speed up distribution time
- Can be used for Re-cycled or Alternative CO<sub>2</sub> sources
- Expandable for raw gas
- Low cost of ownership
- Simple design makes it easy to service

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PRECISION | POWER | PERFORMANCE