



BLUE ATMOSPHERE

Fresh Ideas – Innovative Technologies – Novel Solutions

Blue Atmosphere is a global supplier of innovative Controlled Atmosphere (CA) technology. A new company with more than thirty years of experience in the conditioned storage of fresh products. Blue Atmosphere was established to bring new concepts and innovative technologies to value in CA systems that distinguish themselves through high efficiency, versatile applicability and user-friendliness. The result: higher quality, lower energy consumption and lower operating costs.



"Blue Atmosphere offers disruptive innovations that can change the market for conditioned storage of perishable products once and for all. Especially in the area of CO₂ absorption and control systems, Blue Atmosphere provides solutions that significantly reduce operating costs compared to existing industry standards. The products of Blue Atmosphere are user-friendly and easy applicable in both the storage of fresh products and in climate control systems for company buildings."

Bert Tournois, PhD - CEO Blue Ocean Xlerator, Wageningen, The Netherlands

Blue Atmosphere develops and produces core technology for climate control and conditioning: CO₂ absorbers, nitrogen generators and control software. Our machinery can be supplied and installed by us or our partners, whether or not integrated into existing systems. But Blue Atmosphere also supplies complete turnkey systems, in which we use high-quality components and services from our partners, such as cold store and freezer room builder Javeko.

MEET US

Meet our organization and our innovative products at the NFO fruit trade show in Houten, the Netherlands, on January 22 and 23: hall 1, booth 21

5%

EXHIBITION
DISCOUNT IF
ORDERED BEFORE
MARCH 1ST 2020

OUR PRODUCTS



All our equipment has been completely redesigned according to the latest insights, using state-of-the-art technology and innovative concepts. All models are designed completely modular to guarantee versatile applicability, easy assembly, stability and user-friendliness. Our products can grow with your needs and be easily adapted to the development of your company. An investment in the future.

< Blue Atmosphere BA350 hand-held O₂/CO₂ meter

CO₂ ABSORPTION

Blue Atmosphere develops a range of high-quality CO₂ absorbers (also known as CO₂ scrubbers) that are up to twenty percent more efficient compared to existing solutions.

An important distinguishing feature of our absorbers is the use of a flexible air buffer. This prevents the unwanted penetration of oxygen into your cold stores after a regeneration cycle.

Unlike conventional solutions, our absorbers do not work with fixed cycle times. The absorption and regeneration times are constantly adjusted on the basis of measured CO₂ values. Important additional advantage: you don't have to worry about them!

CO₂ ABSORBERS

Model	Capacity kg (lb) 24 h ⁻¹ at 3%	Power consumption kW	Weight kg (lb)
BAS150 activated carbon CO ₂ absorber	150 (220)	1.1	700 (1,545)
BAS300 activated carbon CO ₂ absorber	300 (660)	2.6	1,285 (2,830)
BAS600 activated carbon CO ₂ absorber	600 (1,325)	4.0	1,600 (3,530)
BAS900 activated carbon CO ₂ absorber	900 (1,985)	5.5	1,950 (4,300)

NITROGEN GENERATION

Outside air consists of approximately 21% oxygen. By (strongly) reducing the oxygen content in a cold store, while at the same time lowering the temperature and controlling CO₂, the ripening process of fresh products can be practically stopped.

The current generation of nitrogen generators uses activated carbon filters (carbon molecular sieve or cms) that adsorb oxygen from air, after which it is injected into the cold store as virtually pure nitrogen until the desired oxygen value has been reached.

Once saturated with oxygen, the activated carbon must be regenerated (de-oxygenated). Each nitrogen generator therefore has two activated carbon reservoirs that alternately adsorb and regenerate. Blue Atmosphere produces two types of nitrogen generators.

VPSA GENERATORS

VPSA (Vacuum Pressure Swing Adsorption) technology works at lower pressures (approx. 1 bar). A pump compresses air to bind oxygen to the cms in the adsorption phase; a vacuum pump removes the adsorbed oxygen during regeneration.

An important advantage is that a VPSA is relatively inexpensive to purchase, use and service. In addition, because it works at low pressures, VPSA generators of Blue Atmosphere can circulate. Instead of using outside air, they can alternatively take air from a cold store (which is already lower in oxygen). The result: a considerably faster oxygen pulldown, and a lower power consumption.

VPSA generators are available with a capacity of up to 60 m³/h.

VPSA GENERATORS

Model	Capacity m ³ h ⁻¹ at 3% (1%)	Power consumption kW	Weight kg (lb)
BAV07 VPSA N ₂ generator	7 (4.5)	2.6	350 (770)
BAV11 VPSA N ₂ generator	11 (7)	2.6	450 (990)
BAV15 VPSA N ₂ generator	15 (10)	3.6	600 (1,300)
BAV30 VPSA N ₂ generator	30 (20)	6.4	850 (1,900)
BAV40 VPSA N ₂ generator	40 (27)	9.8	900 (2,000)
BAV60 VPSA N ₂ generator	60 (40)	13.9	1,200 (2,700)

PSA GENERATORS

In PSA (Pressure Swing Adsorption) technology, adsorption works with higher pressures (6-10 bar). Capacities of up to 150 m³/h are achievable. Circulation of the cold store air is not possible with this technology: the high humidity in the cold store would cause condensation problems in the machine. Higher purities are possible, though.

An important characteristic of a PSA generator is the air/nitrogen ratio. Conventional generators have an air/N₂ ratio of approximately 3.5: they need 3.5 m³ of compressed air to produce 1 m³ of pure nitrogen. PSA generators of Blue Atmosphere have an air/N₂ ratio of only 2.6 and are therefore around 25% more energy efficient.

PSA GENERATORS

Model	Capacity m ³ h ⁻¹ at 1%	Power consumption kW	Weight kg (lb)
BAP012 PSA N ₂ generator	12	4.7	550 (1,200)
BAP025 PSA N ₂ generator	25	7.5	1,100 (2,400)
BAP050 PSA N ₂ generator	50	15	1,100 (2,400)
BAP070 PSA N ₂ generator	70	22	1,700 (3,700)
BAP100 PSA N ₂ generator	100	30	2,300 (5,100)
BAP150 PSA N ₂ generator	150	37	3,400 (7,500)



Siemens Climatic Controller

CONTROL

Blue Atmosphere has completely re-programmed all control software, driven by the following requirements:

- unconditional stability and reliability;
- location and time-independent availability of correct information about the conditioning;
- immediate alarm in the event of deviations;
- simple and intuitive operation;
- extensibility, both with regard to functions and capacity;
- compatibility with other systems and software.

The hardware is modular, that is, decentralized, which means that installation costs are low, and if needed the system can be extended by simply adding modules. We use a Siemens Climatic Controller for every two rooms. This is one of the safest and most reliable industrial control solutions. The Blue Atmosphere software is accessible via the internet and your telephone.

A known complaint in the control of conditioned rooms is the large number of settings that must be adjusted (during the course of the season). Not only is this cumbersome, it also leads to uncertainty and errors, with potentially very serious (financial) consequences. In collaboration with Wageningen University, Blue Atmosphere develops artificial intelligence that takes over an important part of these control tasks from you. This reduces the number of settings to the minimum necessary, and benefits the user-friendliness and reliability.



BLUE ATMOSPHERE

PARTNERSHIPS

We are constantly looking for strategic partners who want to work with our solutions, and who can represent us in new market areas. Can we mean something to each other?

BLUE ATMOSPHERE

Address: Agro Business Park 10, 6708 PW, Wageningen

www.blueatmosphere.nl

info@blueatmosphere.nl

+31 6 430 086 89



Ad van de Vooren

EEN BOX COMPANY

Blue Atmosphere is a subsidiary of Blue Ocean Xlerator NV (BOX), a Wageningen-based investment company specialized in high-tech process and product innovations in the agricultural, horticultural, food and environmental sectors.

BOX is our financial and academic partner.

www.boxnv.nl