BIOBOX 1500 LP

Upgrading - membrane filtration

Our **Biobox 1500 Low Pressure** is equipped with a **highly efficient 3-stage membrane filtration system.** These membranes allow the separation of CO_2 from the gas, achieving a flow of natural gas greater than 99% in methane.

In our membrane filtration system, the gas initially enters the pretreatment towers. Through the activated carbon adsorption process, we ensure that components such as hydrogen sulfide (H_2S), siloxanes and volatile organic compounds (VOCs) are removed. Next, the gas is compressed by an MX 400™ reciprocating compressor efficiently integrated into the upgrading process, thus reaching the necessary pressure to enter the membrane system.

Thanks to the difference in permeability between carbon dioxide and methane gas, the separation in the mebranes of the components results in **vented CO_2 minimal CH_4 losses (less than 1%) while producing high quality gas (+98% CH_4).**

Last update: SEP/2025.

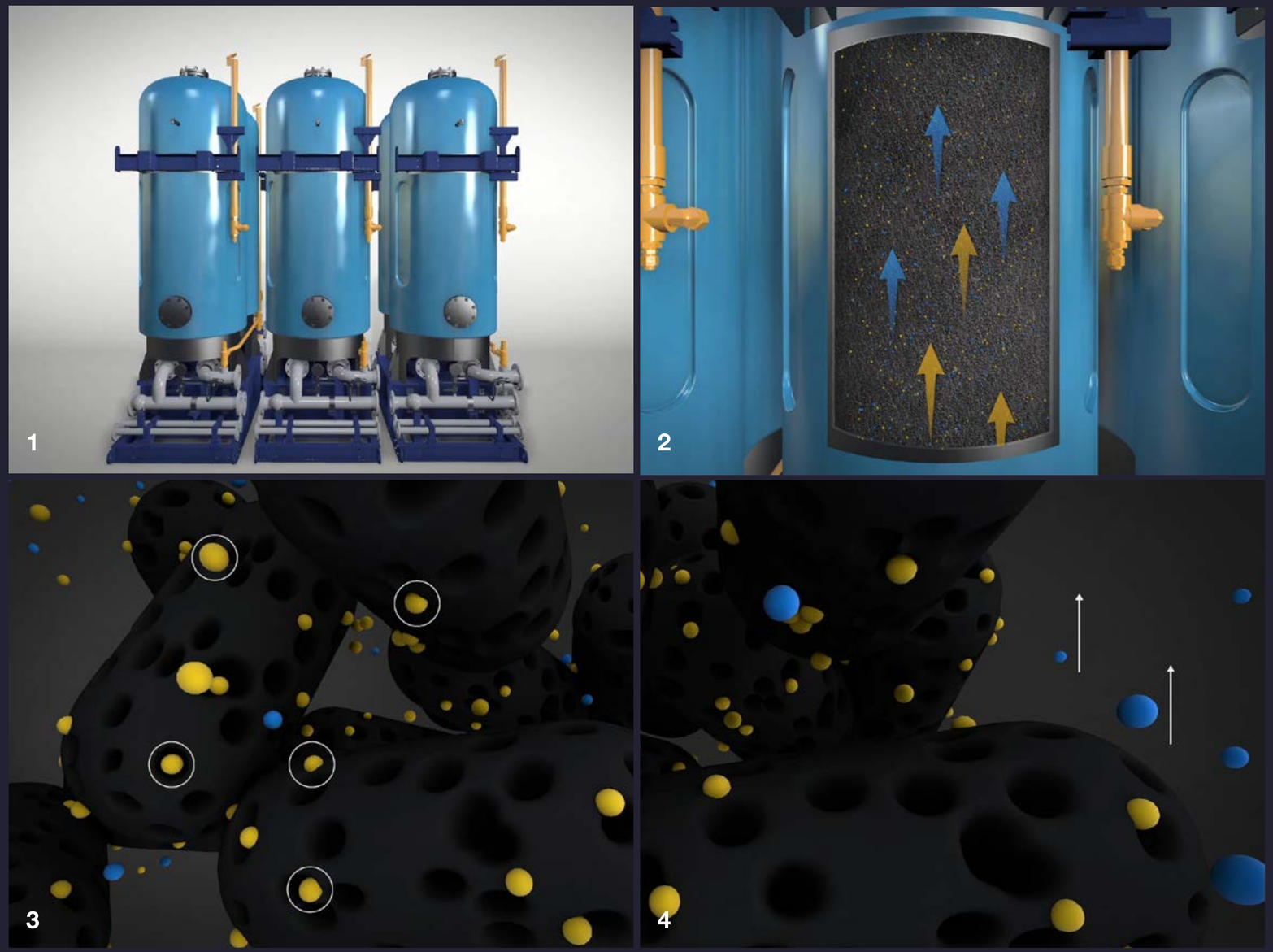
GALILEO Technologies

Humacao, Puerto Rico

Process description:

Adsorption treatment with activated carbon

1. Modular pre-treatment towers.
2. The raw gas enters the adsorption column.
3. H_2S and Siloxanes adhere to the surface of the activated carbon.
4. Biogas outlet.

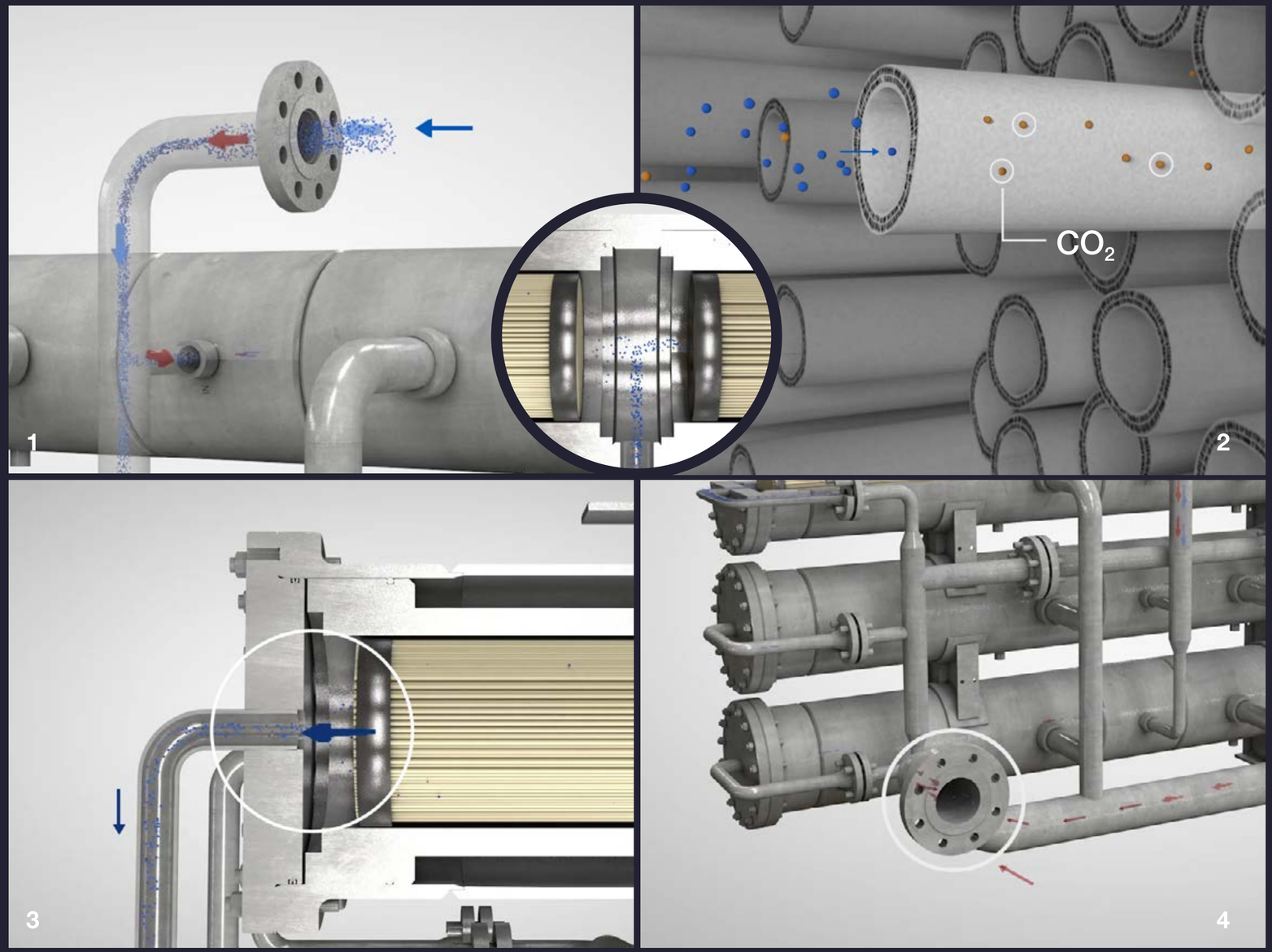


GALILEO Technologies

Process description:

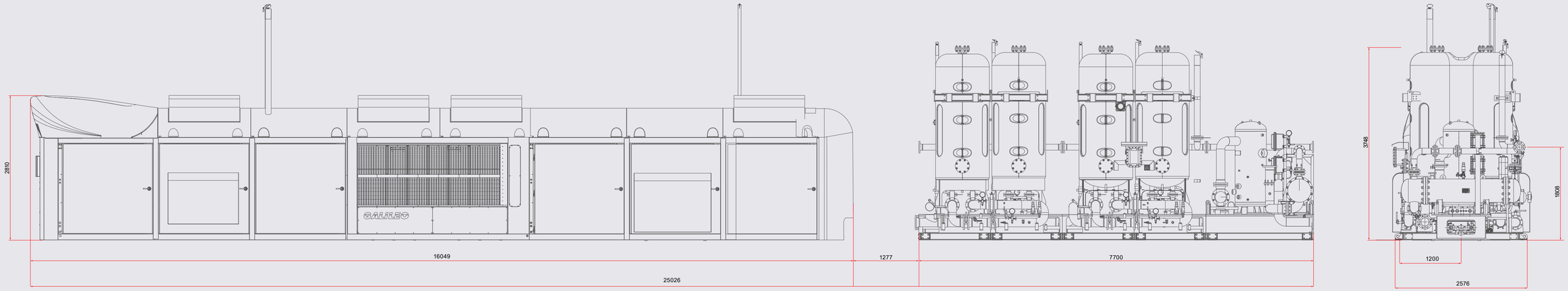
Filtered by membranes

1. Gas inlet into the membrane filter.
2. Separation of CO_2 due to its permeability with respect to CH_4 within the membranes.
3. Obtaining pipeline quality natural gas.
4. CO_2 capture/vent.



GALILEO Technologies

Dimensions (mm)



Datasheet

		BIOBOX 1500 Low Pressure	
Electric Installed Power	KW	425	
	HP	570	
Gas characteristics		**Inlet**	**Outlet**
Pressure (Min/Max)	barg	0.8 to 1	up to 13
	psig	11.6 to 14.5	up to 188
Temperature (Min/Max)	°C	10 to 50	30 to 45
	°F	50 to 122	86 to 113
Flow (Min/Max)	Sm^3/h	1500	750
	MSCFD	1275	636
Water	H_2O	Saturated	Dry
Carbon Dioxide	CO_2	30% to 50%	< 0.2%
Hydrogen Sulfide	H_2S	up to 2000 ppm	< 5 ppm
Nitrogen	N_2	0.5% to 2%	< 2%
Methane	CH_4	40% to 60%	> 96%
Oxygen	O_2	0.5% to 1%	< 0.5%
Siloxanes	-	up to 20 ppm	< 0.1 ppm
Utilities Consumption	Lube Oil	0.5 L/day (Multigrade 15W40 or similar) 0.13 gal/day (Multigrade 15W40 or similar)	
	Water	Water cooling can be included (optional, upon request)	
	Air	3.8 to 10.4 Sm^3/h @ 9 barg (ISO-8573-1 Type [2;2;2] or higher quality) 2.4 to 6.5 MSCFD @ 130.5 psig (ISO-8573-1 Type [2;2;2] o higher quality)	
	Activated Carbon	1500 kg (3306.9 lbs) for each pair of towers for the start-up and each substitution	

All values are expressed under a regular operation and may present changes with variation of gas composition and environmental conditions.

Datasheet

		BIOBOX 1500 Low Pressure	
Dimensions	Towers	7.7m L x 2.6m W x 3.7m H	25.3ft L x 8.5m W x 12.1m H
	Main Module	16.05m L x 2.4m W x 2.8m H	52.66ft L x 7.87ft W x 9.2ft H
Weight	Towers	20 ton (carbon included)	44100 lb (carbon included)
	Main Module	30 ton	66150 lb
Features			
Transportable		Yes	
Intrinsecally Safe		Yes	
Monitoring		Yes, 24/7 through our Galileo Global Link Scada System	
Modularity		Yes	
Plug & Play		Yes	
Scalability		Yes	
Electrical parameters*			
Main Compressor Start System		Inverter	

*For lower pressures than 0.8 barg (11.6 psig), a blower skid can be incorporated before the inlet to the unit (optional)..
All values are expressed under a regular operation and may present changes with variation of gas composition and environmental conditions.

GALILEO
Technologies

Follow us:

info@galileoar.com **www.galileoar.com**

New Jersey
333 Cedar Ave
Middlesex, NJ 08846
United States

Buenos Aires
Av. General Paz Provincia 265
(B1674AOA) Sáenz Peña,
Partido de Tres de Febrero
Pcia. de Buenos Airees,
Argentina

São Paulo
Rua Doutor Renato Paes de
Barros, 750, Cj. 32,
Itaim Bibi, São Paulo, SP, Brasil
CEP 04530-001