ECOMEMBRANE®
ENVIRONMENTAL TECHNOLOGY

CUPOLA M2 HEAT SHIELD option

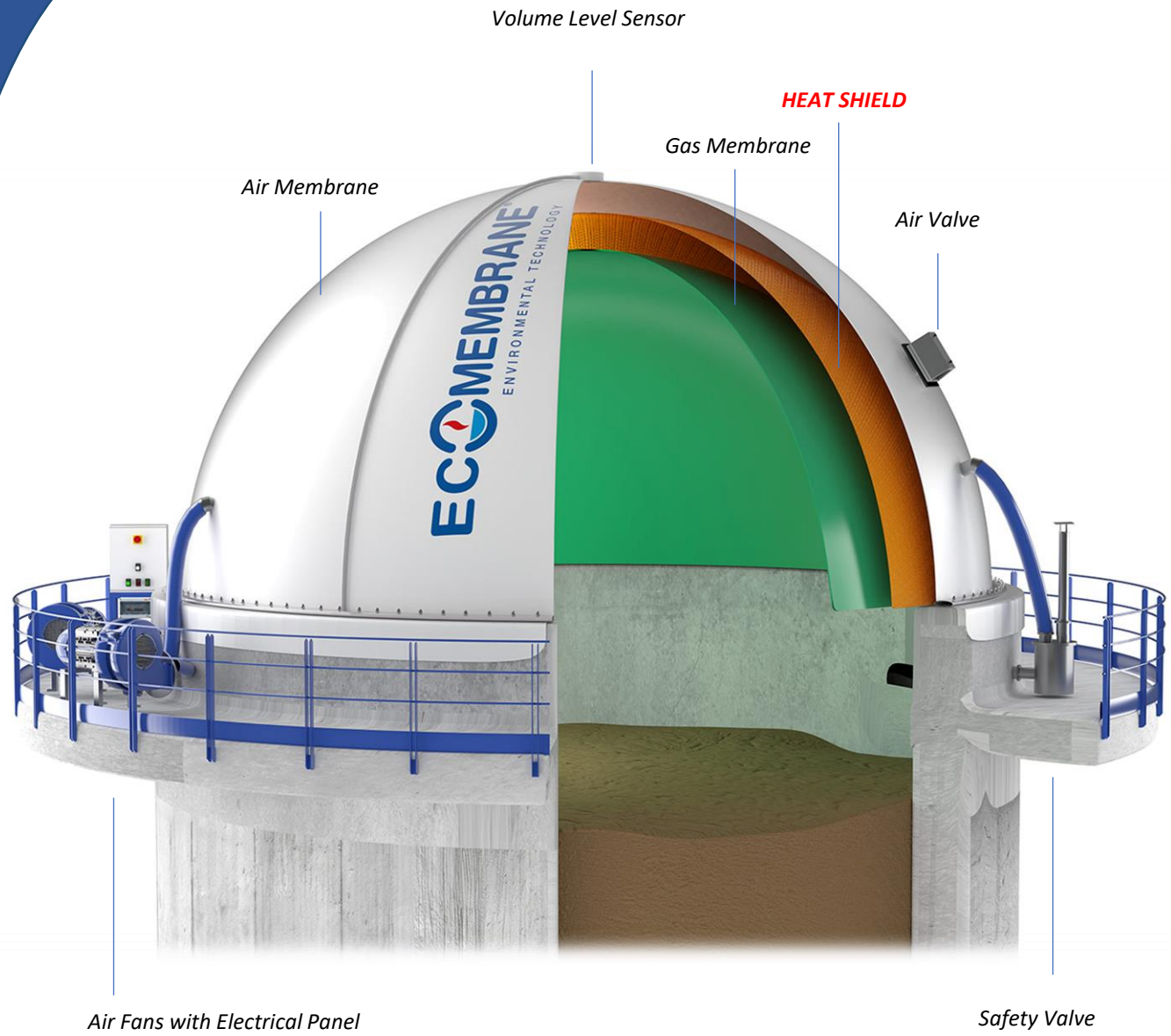
- The primary objective of CUPOLA M2 *HEAT SHIELD* option, is to ***reduce the heat loss from digester*** at its highest possible level.

- The CUPOLA M2 HEAT SHIELD option, is composed by three layers of membrane working as a roof on the top of the digester:

  - The Air double-sided PVC coated polyester fiber fabric membrane; it is inflated with air.

  - The special insulated Heat Shield intermediate membrane, made by a triple layered ultra-shielded material to separate the inner biogas chamber from the air chamber.

  - The Gas double-sided PVC coated polyester fiber fabric membrane, with Eco-Safe layer.



The HEAT SHIELD

The special layers of this membrane act as a protection against heat dissipation in the following way:

- ✓ A layer of aluminum reflects 96% of the radiating infrared heat;
- ✓ A layer of bubble polyethylene sheet reduces the heat loss trough convection;
- ✓ A layer of pure polyethylene sheet gives an high gas tightness to the air chamber thus protecting the inner gas membrane from oxidation.

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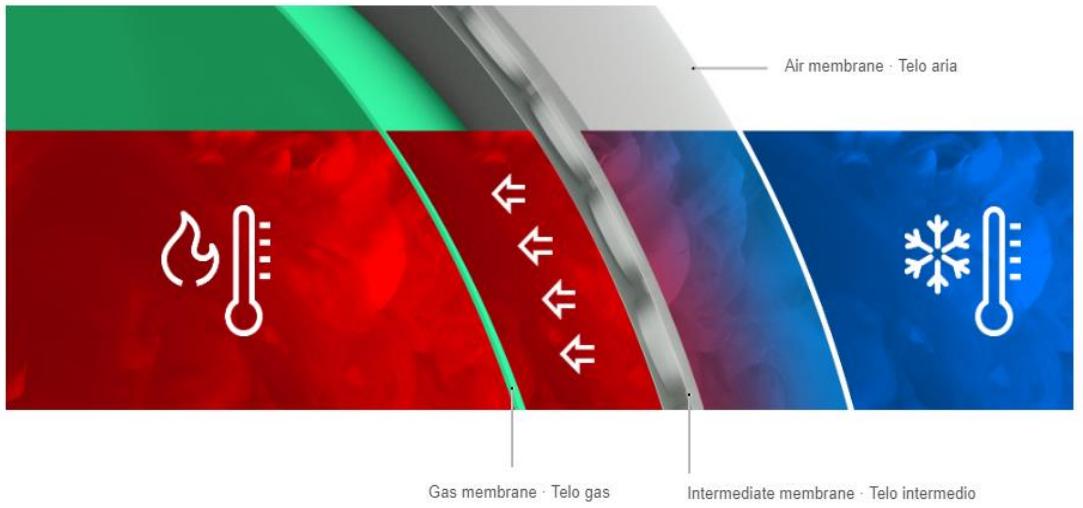

The HEAT SHIELD

ADVANTAGES

50% reduction in heat loss

Reduction in heat dissipation: consequently the energy costs to heat the digester are drastically reduced. The economic return times are quickly reduced thanks to the massive energy savings.

Reduced electricity consumption

The 3-membrane system benefits from its intrinsic safety and requires a low electricity consumption fan.

Passive safety against the danger of explosion

The insulating layer of the intermediate membrane creates the complete separation between the air chamber and the gas chamber. No possible gas leak can enter the air chamber, which means no explosive mixture can form

Greater durability of the internal gas membrane

Since the gas membrane is covered entirely by the intermediate (matt) membrane, protection against ultraviolet light and exposure to direct oxidation caused by the air pumped by the fan is obtained.

CUPOLA M2
HEAT SHIELD option

MAIN COMPONENTS

- Anchorage System;
- Air Fan;
- Air Valve;
- Hydraulic Safety Valve;
- Inspection Window;
- Volume Level Sensor 4-20mA
- Net Support System

OPTIONAL

- *Central Pillar*
- *Methane Detector*
- *Air Pressure Transmitter with display*

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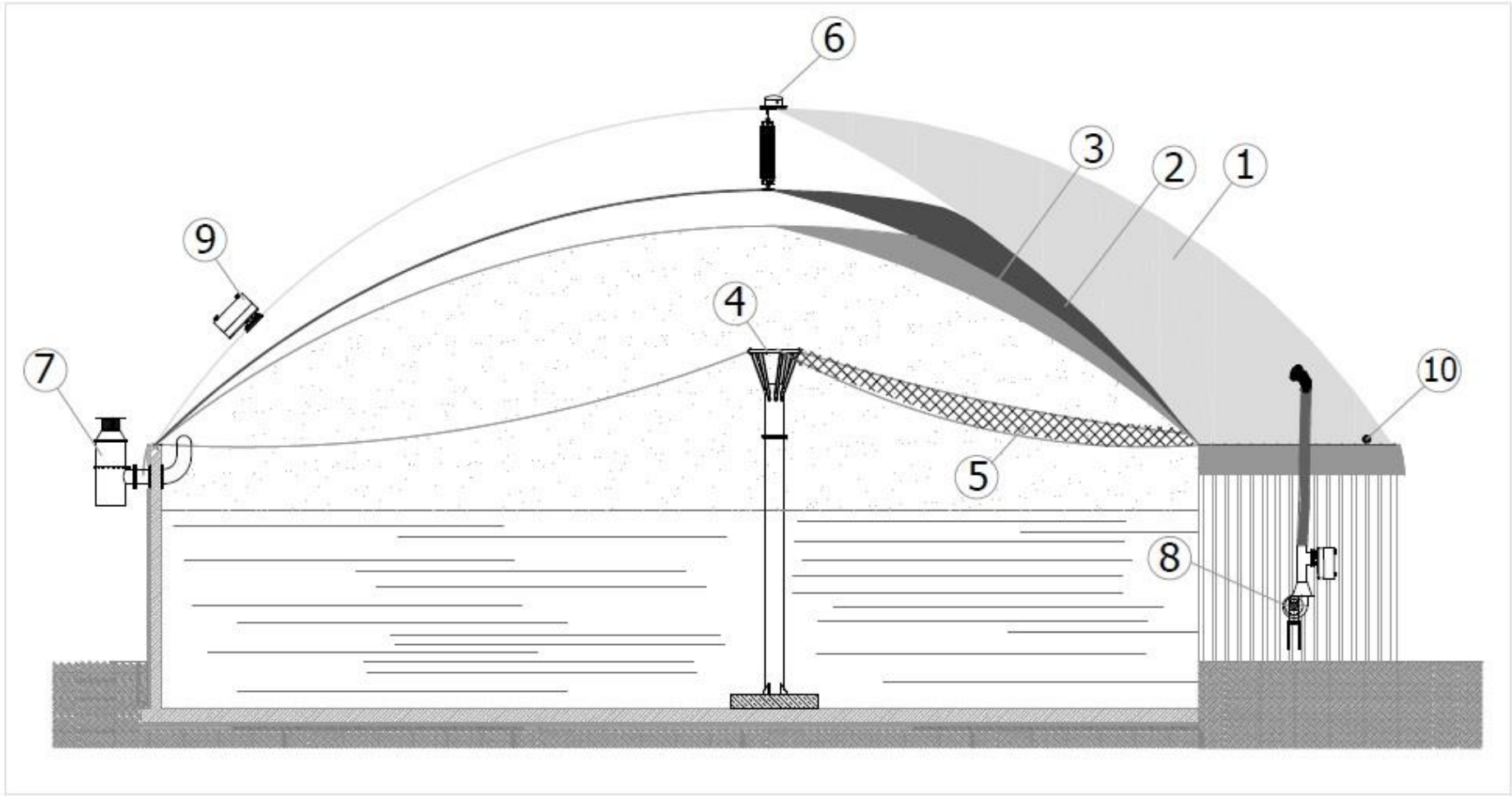
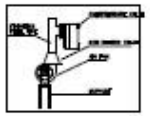


PRINCIPAL COMPONENTS	
1	EXTERNAL DOUBLE-SIDED PVC COATED POLYESTER FIBRE FABRIC MEMBRANE
2	SPECIAL INSULATED INTERMEDIATE MEMBRANE
3	INNER DOUBLE-SIDED PVC COATED POLYESTER FIBRE FABRIC MEMBRANE
4	CENTRAL COLUMN
5	STRIPES AND NET
6	LEVEL GAUGE
7	STAINLESS STEEL SAFETY VALVE AS LIQUID TRAP
8	AIR FAN WITH AIR OVERPRESSURE VALVE
9	SAFETY AIR OVERPRESSURE VALVE
10	ONE-WAY VALVE



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