

# VAE CONTROLS GROUP

## CMR series metering skids

compact skid-mounted metering systems for tank trucks and rail cars (un)loading

**VAE**  
CONTROLS

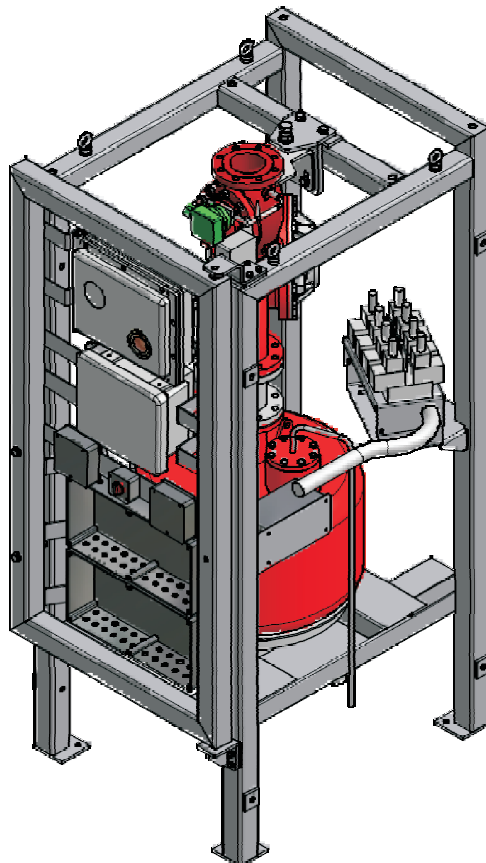
ISO 9001:2008  
ISO 10006:2004  
ISO 14001:2004  
OHSAS 18001:2007  
NATO FCC



**CMR** series meter skids are state of the art metering technology, designed for Fiscal and Operational loading systems, products range from light and heavy including crude and bitumen applications as well as liquid propane gas (LPG).

#### CMR features:

- Completely pre-assembled and pre-tested
- Designed for easy handling
- Available in DIN and ANSI style, others on request
- Optional accessories
- **CMR** series skids comply with worldwide standards such as:
  - OIML R 117-1
  - API MPMS Chapter 5.1, 5.2, 5.3, 5.4, 5.5, 5.6, 6.2, 6.4, 6.7, 12.2 and 21.2
  - NIST Handbook 44 Section 3.30
  - European Directives 97/23/EC (PED), 94/9/EC (ATEX), 2004/22/EG (MID)



Typical applications are loading and unloading facilities such as refineries, marketing terminals, bonded facilities, airport and military tank farms etc., anywhere products are transferred, and or authorities need to assess taxes and duties.

The concept of skid manufacturing within a quality controlled environment allows high standards are assured along with easy of installation and time saving on site, along with metrological approvals by authorities guarantee's standards of accuracy and measurement.

Modular design allows easy of handling and 'plug & play' installation, safety and servicing are standards built-in the skids for life cycle cost benefits. And each skid can be tailored to customers needs, such as dosing, batch control, grounding safety systems etc.

Design allows complete flexibility of loading facilities, and future expansion or up-grades (example: primary installation bottom loading, easy convertible to top) making for a cost effective and easy solution.

VAE CONTROLS PROVIDES TECHNICAL SOLUTIONS TO MEET YOUR NEEDS

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A typical skid package with Coriolis meter and integrated valves for connection of a prover post FAT test being prepared for shipping.



A truck loading skid using PD meter and integrated batch controller on front panel for ease of operation



Unloading skid with vertical deaerator complete with multi-point level monitoring, providing total elimination of air from the product.

Skids installed in railcar facility including on-site heating and insulation.



Adverse operation designed skids for handling of viscous products (shale oil) into rail cars. FAT tests completed, skids ready for shipping



Compact designed skids typically used in bio-ethanol/bio-diesel blending applications.



### Typical Specifications

- Designed normally DN 100 (4") in Top or Bottom configuration. Flow rates from 60 m<sup>3</sup>/hr (1000 L/min) to 150 m<sup>3</sup>/hr (2500 L/min), but configurable especially for Biofuels DN 50 and DN 80. Design pressures 16 bar or 150 psi.
- Configurable metering available to the behest of customers, Coriolis, Positive Displacement, Turbine's.
- Light product skids equipped with integral strainers/air eliminators. High viscosity, high temperatures or Unloading applications the Air Eliminator / Strainer are separate units.
- Electro-Hydraulic membrane actuators on skid outlet allows for smooth flow control and protects longevity of measuring equipment and pumping, and in addition to automatic shut-down when required.
- High Viscosity and high temperature products a option to use butterfly or segment valves is offered.
- CMR skids are infinitely configurable to customers needs such as inlet isolation valve, manometers, additive dosing, batch controller and depending on climatic conditions heating and insulation are available.

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