Biofuels applications

SATAM

Equablend ZCE 25

Blending and measuring system for biofuels preparation

The ZCE25 is a complete measuring system dedicated to blending control and to custody transfer measurements of end products and mixed components. Its best-in-class flow computer offers outstanding flexibility for use with blending systems.
PD meters with integrated strainers and air eliminators ensure highly reliable measurements

1. A technology adapted to your blending application

• In-line blending for bio-fuels preparation
- Meters and valves ethanol compatibles
- Alcohol temperature compensation table integrated
- Measurements of ethanol, methylic ester, fuels and biofuels Weight and Measures approved

• Trucks and rail tanks loading control
- Top and bottom loading with volume preset

• System for lubricating oil preparation
• System for heavy fuel oil viscosity adjustment
> A maximized evolution capability

2. High reliability measuring systems

• A robust and reliable measuring design
- PD meter with moving blades
- Strainer and air eliminator integrated
- Excellent long term stability
- Measurement accuracy independent of liquid viscosity
- Available in vertical or horizontal version

> A technology adapted to industrial constraints

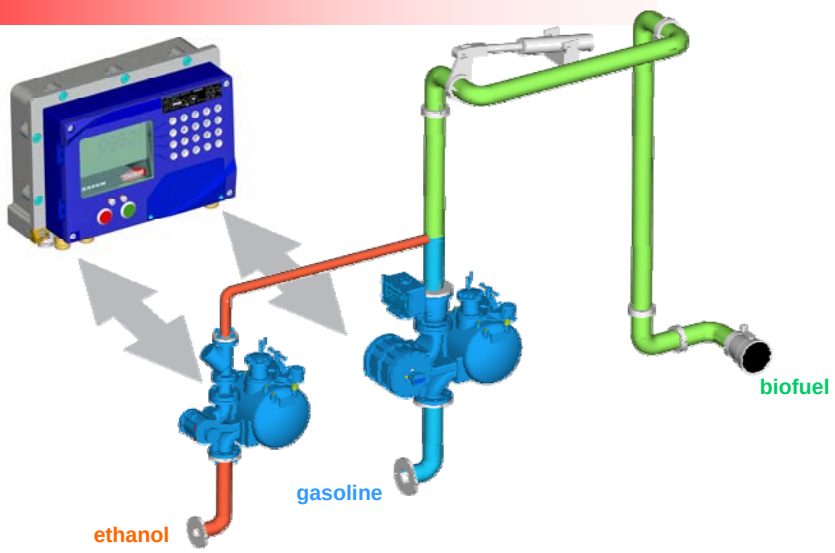
3. Best -in-class flow computer

• Automatism
- Blending control with actions on control valves
- Loading supervisory with valves and pump control
- Security devices management (grounding system, arm position, vapor recovery)
• Metrology
- real and temperature corrected volume
- Totalization of mixture and of all of its components
- Secured Weight and Measures transactions data logging
- EC type examination certificate according to European regulations
• Communication
- Direct communication with supervisory system
- Friendly user interface with preprogrammed functions
- External data back-up with memory stick
- Embedded PC board with possibility to link up to 8 flow computers
> A superior performance level

4. An outstanding modularity

• Open system
- Flow computer compatible with any kind of valves and meters
- Direct connection to supervisory and automation systems
- Self-governed and compact system
> A configuration for any situation

Standard installation



- Self-governed and compact blending system
- Custody transfer certified
- Biofuel in-line blending

Blending system

Model	ZCE25	
Components	• 2 measuring systems ZCE5 or EMS 24-48	
	• 1 flow computer, Equalis L, 2 channels	
Functions	• In-line blending control during truck and rail tanker loading	
	• Batch blending	
	• Loading operations control	
	• Product transfer control	
Measuring system	ZCE5	EMS24-48
Flow rate	2.4 to 150 m3/h	2.4 to 48 m3/h
Installation	• Vertical or horizontal	• Horizontal
Measured substances	• Liquid hydrocarbons, oils, fatty acids methyl ester, ethanol, biodiesel, biofuels, fuels	
Operating conditions		
Temperature	• Liquid -10 to +80°C	
	• Ambient -25 to + 55°C	
Pressure	8 bar max.	
Viscosity	• < 800 mm²/s	
	• < 20 mm²/s with MID certificate	
Performances		
Accuracy volume	< ±0.15% at reference conditions	
Repeatability	< ±0.02 % at reference conditions	
Accuracy class	• 0.5 according to OIML R117	
Meter	ZC17 24, 48, 80, 150 Positive Displacement (PD) meter	
Gas eliminator	• Included	
Filter	• Included	
Valve	• Multifunction valve with 2 positions or	
	• Digital control valve	
Certification		
Blending system	• Type examination certificate (pending)	
Measuring systems	• EC type examination certificate acc. to MID No. LNE 6184	
Flow computer	• EC Evaluation certificate acc. to MID No. LNE 6854	

Flow computer

Model	Equalis L
Functions	• Digital control valve command
	• Corrected volume and mass calculation
	• Dosing valve command
	• Safety device management
	• Secure logging of transaction data
Temperature compensation tables	• Fuels: ASTM 54B table
	• Ethanol, Methyl ester: ASTM 54C table
	• Lubricants: ASTM 54D table
	• LPG: CFBP and ASTM API tables acc. to NF M80 17
Installation	
ATEX	• EEx ia IIb T4 and EEx d IIb T6
Protection class	• IP65
Power supply	• 230 VAC
Display	• Actual and corrected volume, run 1 and run 2
	• Blending rate, temperature, flow rate
	• Transaction data
User interface	
Keypad	• 20 keys
	• 7 keys for direct access to menu and preset functions
Push buttons	• Start-Stop functions
Display	• 240 x 128 pixels, back-lit
	• Volume resolution: 999999 points
Inputs Outputs	
Pulse inputs	• Two dual pulse, phase shifted
Temperature inputs	• Two 4-wire Pt100
Binary inputs	• 15 for grounding system, arm position detector, over-filling system, additive volume, vapour recovery
	• 1 for emergency stop
Binary outputs	• 10 relay outputs for valve control, additive injection, alarms
	• 3 open collector outputs for additive injection control, alarms
Pulse outputs	• 2 volume outputs for electronic seal
Current output	• 1 for proportional valve control
Data bus	• RS232, RS485 MODBUS protocol, Ethernet
	• 2 USB ports for data transfer via memory stick

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