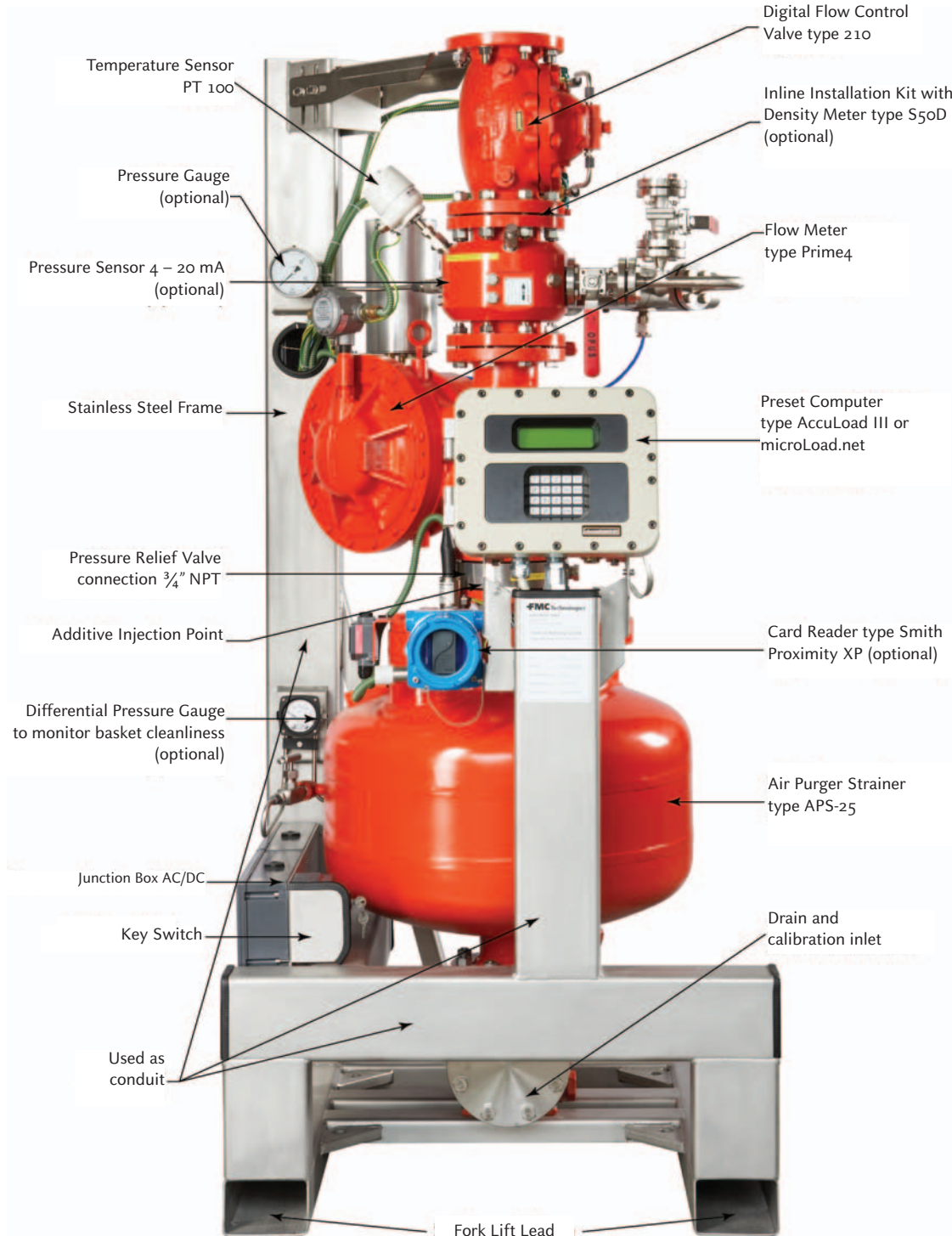


Smith Meter™ Loading, Unloading and Blending Systems for the Marketing of Refined Petroleum Products and Bio Fuels



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FMC Technologies loading, unloading and blending system modules are based on the experience and quality of the Smith Meter™ brand.

The Smith Meter™ system modules have been designed to fulfil internal and logistical requirements and to comply with all Weights & Measures requirements.

Regulations such as the Pressure Equipment Directive 97/23/EC (PED), the Directive 94/9/EC for Equipment and Protective Systems intended for use in potentially explosive atmospheres (ATEX), national directives and especially the new European Measurement Instrumentation Directive 2004/22/EC (MID) now statutory in the European Community, will be met at the same time by means of this systems solution for the responsible user.



One-Stop Solutions from Smith Meter™

This comprises:

- a perfect design on the basis of Smith Meter™ components as well as production processes that are entirely controlled, from the first idea to the on-schedule turnkey delivery to the customer.
- complete functional tests on typical operating conditions with various viscosities conducted at our in-house liquid testing facilities where the results can be validated by German W&M authorities.
- consultancy and outstanding customer service through FMC Technologies.

Smith Meter™ is the only supplier worldwide who can access without bias all required state-of-the-art technology components from its own product line.

This technological spectrum coupled with reliable services makes FMC Technologies the preferred business partner for customers and end-users all around the world.

The basic system module includes the entire measuring section from the supply line inlet connection to the air purger systems required by W&M regulations and ends at the control valve exit or, optionally, at the top or bottom loading arm coupling. For markets changing from top to bottom loading standard, both loading techniques can be combined into one system.

The modules are designed for typical operating ranges of petroleum tank truck flow rates from 250 Litres/min to 2,500 Litres/min.

All components are brands of Smith Meter™

Base Components:

Air Purger / Strainer type APS 25

- The air release is equipped with a controlled float valve and a strainer.

Volume Flow Meter type Prime4

- This measurement element is a high-precision positive displacement flow meter which contains an integrated pulse output.

Digital Flow Control Valve type 210

- This hydraulic valve is equipped with solenoid valves and is digitally controlled by the load controller, precisely adjusting to every flow rate necessary.

Temperature Sensor type PT100

- The precise temperature measurement is working with a cost-efficient directly connected 4-wire-resistance technology

Preset Controller type Smith Meter™ microLoad.net or AccuLoad III

- These load controllers control, store and document the entire loading procedure. They communicate via various interfaces, e.g. an Ethernet interface. By means of this interface it is possible to connect to virtually every PC. A license free PC software is also provided.

Card Reader

- These card readers are non-contact, proximity devices and permit a secure identification of users, vehicles or customers.

FMC Stainless Standard Frame

- Stainless frames are entirely maintenance-free even after many years. Design construction allows trouble-free transportation with fork lifts.



The system modules are internally wired and require a power supply system of 230 VAC 50 Hz.

To provide cost savings, the systems are already pre-assembled, functionally tested and ready for installation.

After consultation it is possible to enhance our optimal configured base system modules with individual options without any problems.

Examples of System Modules:

Technical drawings showing front, side, and top views of a single arm loading bay. Dimensions include a height of 2150 mm, a width of 970 mm, and a depth of 496 mm. A side view shows a height of 1350 mm and a width of 150 mm. A top view shows a width of 610 mm and a depth of 180 mm. A loading arm connection is shown with a diameter of 24 mm and a length of 180 mm. A fork lift lead is 140 x 90 mm, 795 mm long. An inlet is 4 x 90° turnable, DIN DN100 PN16 or ANSI B16.5 4"-150 lbs.

Proposed Vapor Recovery Pipe connection (supplied by others)
Vent connection 3/4" NPT
Compatible with:
- AccuLoad III-S
- AccuLoad III-Q
- microLoad.net

Labels for exploded view:
Temperature Sensor PT 100
Pressure Gauge (optional)
Pressure Sensor 4 – 20 mA (optional)
Stainless Steel Frame
Pressure Relief Valve connection 3/4" NPT
Additive Injection Point
Differential Pressure Gauge to monitor basket cleanliness (optional)
Junction Box AC/DC
Key Switch
Used as conduit
Digital Flow Control Valve type 210
Inline Installation Kit with Density Meter type S50D (optional)
Flow Meter type Prime4
Preset Computer type AccuLoad III or microLoad.net
Card Reader type Smith Proximity XP (optional)
Air Purger Strainer type APS-25
Drain and calibration inlet

Weight appr. 800 kgs

Example of multiple arm loading bay

Applications:
- Liquid Hydrocarbon Products (including Ethanol and Biofuels)
- Bottom and Top Loading
- Single Products or Multiple Product Blending

Technical drawings showing front, side, and top views of a multiple arm loading bay. Dimensions include a height of 2150 mm, a width of 970 mm, and a depth of 496 mm. A side view shows a height of 1350 mm and a width of 150 mm. A top view shows a width of 608 mm and a depth of 180 mm. A loading arm connection is shown with a diameter of 24 mm and a length of 180 mm. A fork lift lead is 140 x 90 mm, 795 mm long. An inlet is 4 x 90° turnable, DIN DN100 PN16 or ANSI B16.5 4"-150 lbs.

Proposed Vapor Recovery Pipe connection (supplied by others)
Vent connection 3/4" NPT
Compatible with:
- AccuLoad III-S
- AccuLoad III-Q
- microLoad.net

Labels for exploded view:
Blending Device view from top
Air Venting Device type AVD-1
Strainer type 80-E20 DIN DN80 PN16 or ANSI B16.5 3"-150 lbs
Spool DIN DN100 PN16 or ANSI B16.5 4"-150 lbs
Bracket
Flow Meter type ST-40J
Digital Flow Control Valve type 210
Temperature Sensor PT 100
Stainless Steel Frame
Blending Device
Temperature Sensor PT 100
Digital Flow Control Valve type 210
Pressure Relief Valve connection 3/4" NPT
Flow Meter type Prime4
Additive Injection Point
Preset Computer type AccuLoad III or microLoad.net
Differential Pressure Gauge to monitor basket cleanliness (optional)
Card Reader type Smith Proximity XP (optional)
Junction Box AC/DC
Air Purger Strainer type APS-25
Key Switch
Used as conduit
Drain and calibration inlet

Weight appr. 1000 kgs

Example of multiple arm loading bay

Applications:
- Liquid Hydrocarbon Products (including Ethanol and Biofuels)
- Bottom and Top Loading
- Single Products or Multiple Product Blending

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