

Custom-tailored solutions for oil handling applications

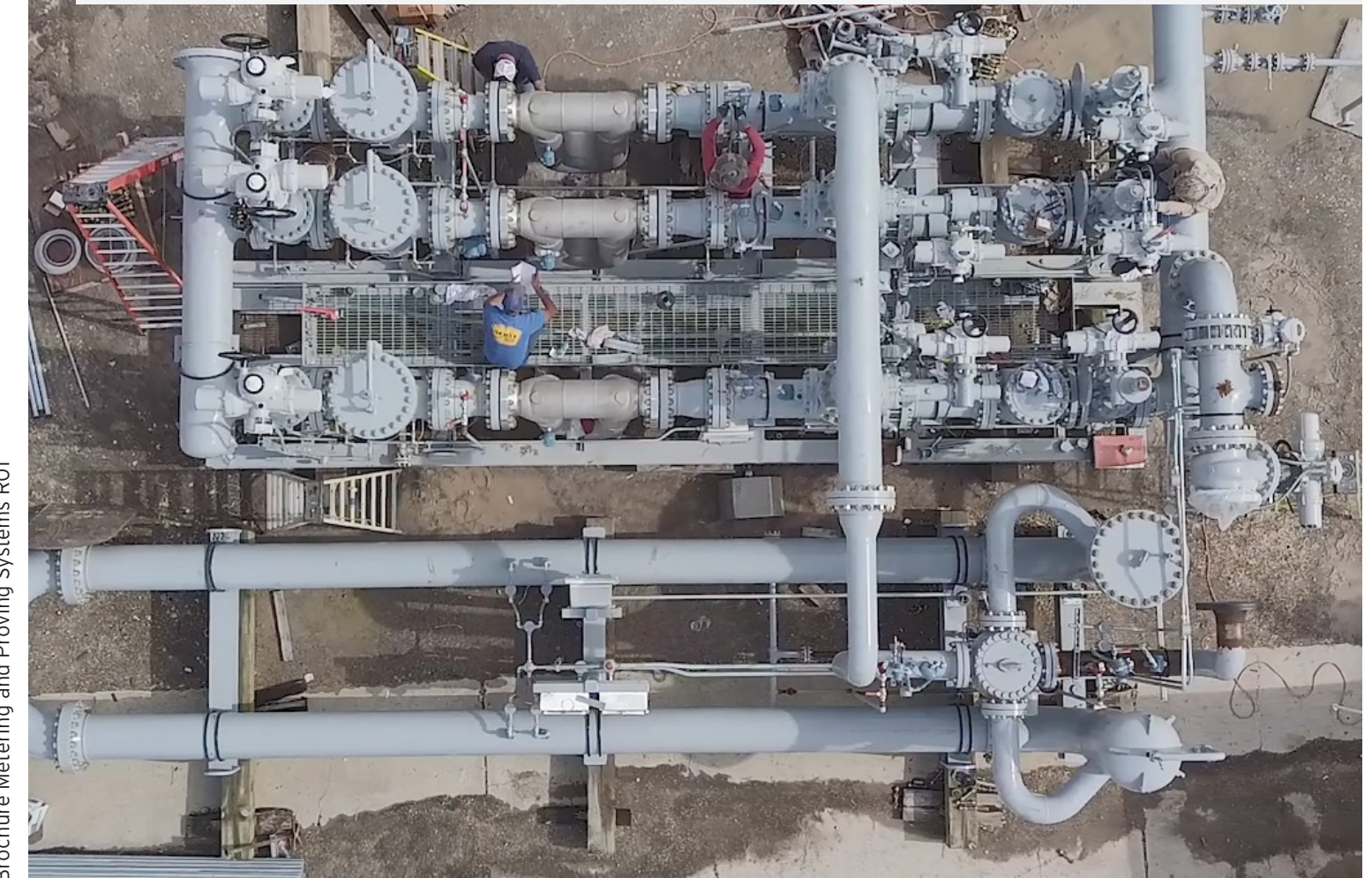
Metering and Proving Systems

Brodie individually designs, manufactures and commissions metering and proving systems for the oil industry on an international scale.

These systems include:

- Metering Systems - Onshore and Offshore
- BiDirectional Provers
- Sampling Systems
- Portable Master Meters
- Marine, Rail Car and Truck Loading and Unloading Skids
- Blending Skids

Every drop counts.



System Integrator with Single-Point Responsibility

With the experience of over half a century in Custody Transfer Measurement Systems, Brodie is a total metering solution provider to the international oil industry.

Brodie understands customer requirements, industry requirements and local Weights & Measures requirements.

Brodie is able to provide solutions for a wide range of metering system applications [see project examples].

Further to Brodie's system integration activities, we are an Original Equipment Manufacturer (OEM) for metering and flow control products.

By offering the complete scope of system integration activities, Brodie provides single-point responsibility with system design & engineering capability.

All Brodie systems are designed to minimize measurement uncertainty and maximize system availability.

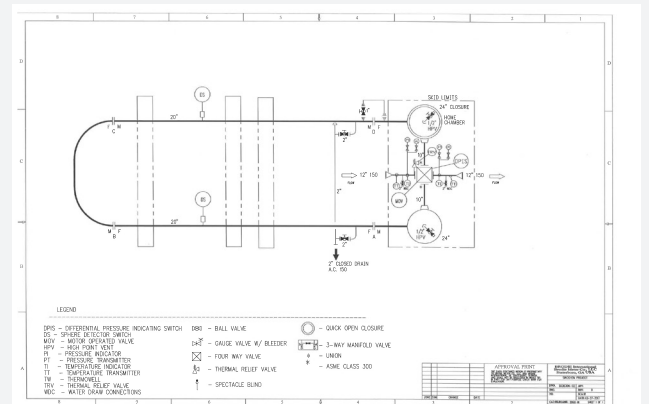
A Brodie Metering System consists of the primary measurement device coupled with accessories that:

- Condition the product [flow conditioners, back pressure valves]
- Direct the product [piping, valves]
- Qualify the product [densitometer, BS&W monitor, sampler systems]
- Protect the meter and system [strainers, air eliminators, flow balancing valves (back pressure)]
- Calibrate the meter [prover-compact, pipe prover, and master meter]

Engineering

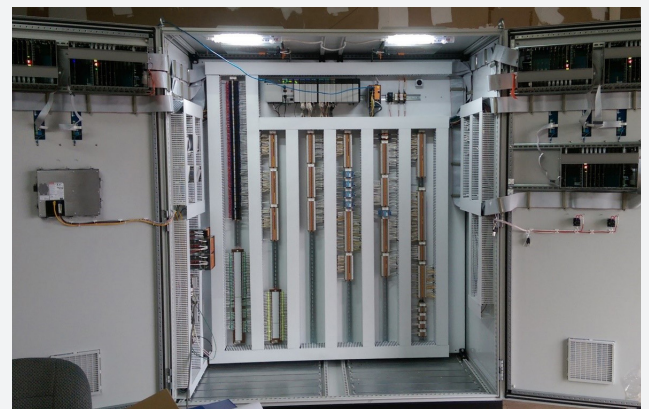
Mechanical Engineering

- Designed to industry standards & customer specifications
 - API, ASME, ANSI, ISO
- Pipe stress analysis
- 3-D Modeling
- Structural steel design & analysis
- Piping systems & hydraulic systems design
- Pressure drop analysis



Software Engineering

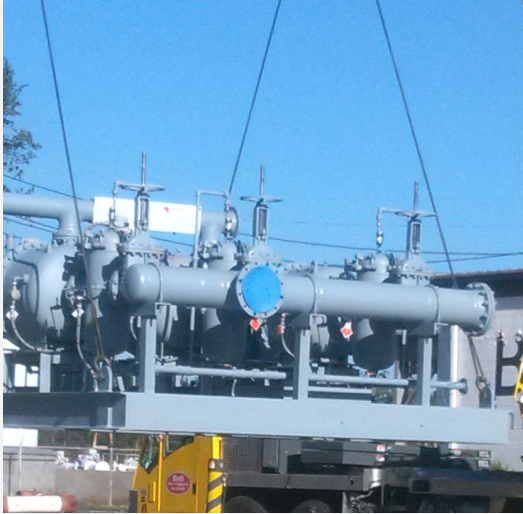
- Software design and flow computer configuration
- Human-Machine Interface (HMI)
- Testing & QA of supplied equipment
- Software operation & reports
- Start-up and field maintenance assistance



System Solutions

Brodie offers a wide range of system solutions for custody transfer applications - both upstream and downstream:

Project Examples



Ship Unloading Skid



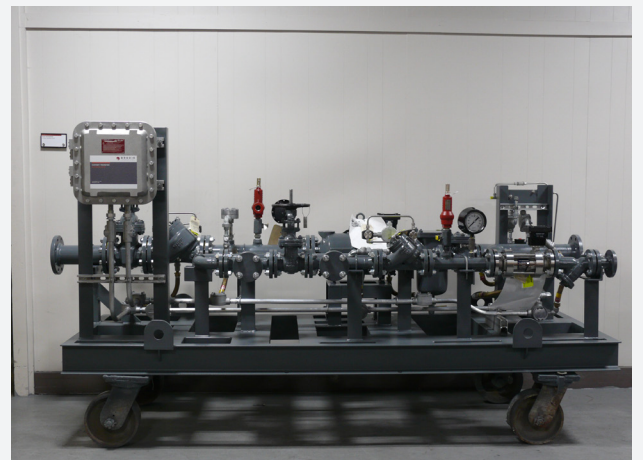
Pipeline Metering System



Truck Loading Skids



LACT Units and Provers



Blending System



Sampling System



BiDirectional prover

Full Scope of In-House Services

For over half a century, Brodie and its predecessors have been offering the full scope of consulting, design and manufacturing of complete system solutions for custody transfer applications in the oil industry.

Brodie's in-house resources and capabilities allow for a single supply source of even the most complex solutions for the measurement of petroleum liquids.

Project Management

The development of Brodie's Systems are managed by our own experienced project managers, coordinating the design, manufacture, scheduling, documentation, shipping, testing, field servicing and customer contact.



Manufacturing / Skid Fabrication / Quality Control

Brodie systems are manufactured at our main facility located in Statesboro, Georgia and at other locations in the U.S.

Brodie assures consistent quality by supervising all fabrication processes.



Testing - [Hydrostatic / I&E / SW / FAT]

The in-house calibration facility, utilizing mineral spirits, allows for calibration of metering systems as well as factory acceptance tests (FATs) in the presence of the customer.



Start Up / Field Maintenance Assistance / After Sales

Brodie offers experienced field service engineers for start-up and supervision during on-site commissioning.



Training

Brodie offers in-house training seminars for the operation and maintenance of metering systems.



Original Equipment Manufacturer

Brodie Positive Displacement Meters

Brodie has designed and manufactured positive displacement meters for custody transfer metering applications since the company's founding in 1928. Our line of PD meters can handle flow ranges of up to 13,000 barrels per hour [2,066 m³/h].

Brodie PD meters have a long lifespan and rank among the most accurate meters for custody transfer in the world.



16" BiRotor and 8" BiRotor Plus Meters [Pipeline Metering]



Brodie Control Valves

Brodie control valves are self-contained, pilot operated valves that can be configured to perform a wide variety of control functions. Utilizing a balanced piston, our control valves have significantly reduced maintenance needs and a much-improved service life.

They are designed and manufactured at Brodie's main facility in Statesboro, GA, USA.



BiRotor Meters and Control Valves [Ship Loading/Unloading]



BiRotor Plus Meters and Control Valves [Truck Loading]

In-house Calibration and FAT Capabilities

Calibration Facility

Being a major manufacturer of positive displacement meters for custody transfer, Brodie utilizes our in-house calibration facilities, one of the largest in the country, for flow rates of up to 13,000 barrels per hour and more [per meter position].

This enables us to offer a true Factory Acceptance Test (FAT) environment where the metering systems can be tested under true operating conditions.

Ship unloading skid during FAT



Pipeline Metering Skid on a Brodie calibration stand



BRODIE
INTERNATIONAL

Brodie International

P.O. Box 450 (30459-0450)
19267 Highway 301 North
Statesboro, GA 30461,
USA

Email: sales@brodieintl.com
Phone: +1 (912)489-0200
Fax: +1 (912) 489-0294