

FLOW SOLUTIONS GUIDE

LACT UNITS

AN OIL AND GAS COMPANY, USING EMERSON'S FLOW TECHNOLOGIES, IMPROVED LACT UNIT ACCURACY AND REDUCED GAIN/LOSS ADJUSTMENTS FROM \$500,000 PER YEAR TO AN AVERAGE OF JUST \$3,600 PER YEAR.

APPLICATION
CHALLENGES
UNMANNED
OPERATIONS
SUSTAINED
PERFORMANCE
HEALTH
SAFETY
ENVIRONMENT



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Emerson's Flow Technologies, Systems & Services expertly address critical operations and production processes to help

INCREASE RELIABILITY
REDUCE
 MAINTENANCE,
 AND IMPROVE
EFFICIENCY



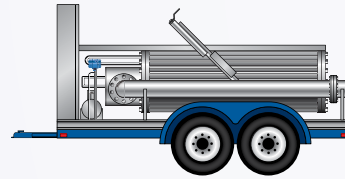
REDUCE
 FISCAL RISK

Lease Automated Custody Transfer (LACT) units are currently the best method to transfer the ownership of crude oil from the production lease to transportation. With many interests involved, it is critical that your operation rely on accurate and reliable measurement, despite challenges of changing operating parameters and conditions, the necessity of unmanned operations in remote locations, and harsh environmental conditions. Emerson provides industry-recognized and field-proven measurement best practices to ensure regulatory compliance, ongoing accountability, and minimal fiscal risk.

What if you could...	Realize in-the-field improvements...	With Emerson Flow Technologies, Systems and Services...
Solve your hydrocarbon measurement challenges?	<ul style="list-style-type: none"> • Broad range of applications in harsh environment • Accurate and reliable backpressure control • Accurate net volume conversion 	<ul style="list-style-type: none"> ✓ Immunity to fluid contaminants, changing parameters and fluid characteristics ✓ Stable measurement and proving results over extensive service periods ✓ High performance temperature and pressure measurements
Sustain performance and reliability?	<ul style="list-style-type: none"> • Ensure fiscal assurance and reduce measurement uncertainty • Ensure repeatable and compliant proving operations • Improve Health, Safety and Environment (HSE) performance • Reduced adjustments for inaccurate measurements 	<ul style="list-style-type: none"> ✓ Advanced in situ meter diagnostics ✓ Field expertise, proven best practices and training ✓ Reliable and rugged actuators for ESD operations assurance ✓ Maintenance programs and lifecycle services
Manage all necessary information and data?	<ul style="list-style-type: none"> • Continuous insight into oil quality • Enabling faster troubleshooting and proactive maintenance • Facilitate unmanned monitoring and operations 	<ul style="list-style-type: none"> ✓ Coriolis density measurement provides oil quality ✓ Remote and local access to comprehensive device and advanced diagnostics ✓ Flexible and scalable flow computers, Remote Terminal Unit (RTU) platforms with configurable software applications

LACT UNITS

Emerson's Flow Technologies, Systems & Services Guide



PROVING & VALIDATION

PROVERS	Onsite meter validation to verify ongoing accuracy and repeatability
MASTER METERS	Extreme accuracy, advanced diagnostics and wide rangeability

PRESSURE CONTROL

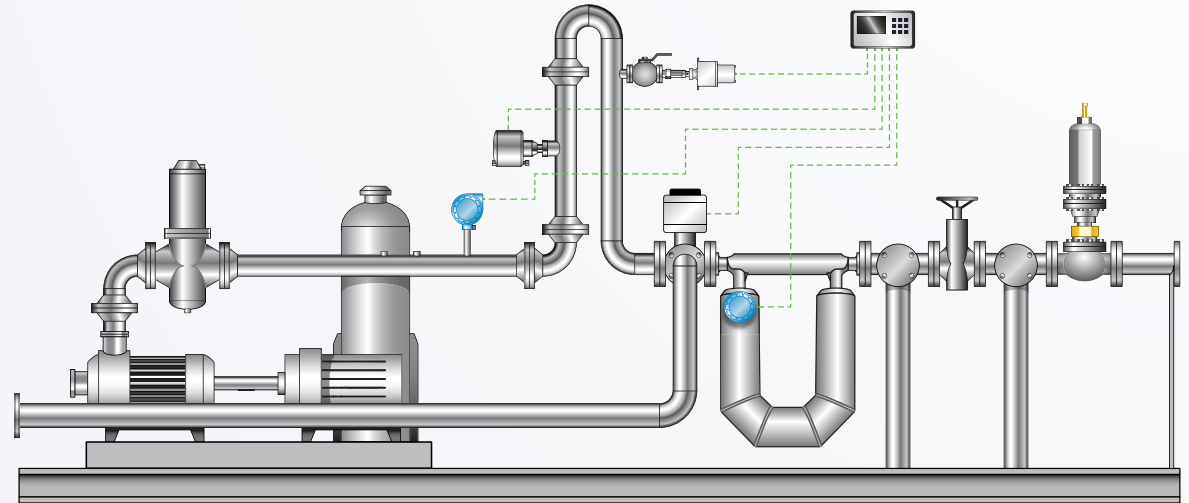
DANIEL BACKPRESSURE & CONTROL VALVES	Backpressure control for stable operating conditions
FISHER BACKPRESSURE CONTROL & RELIEF VALVES	Backpressure control for stable operating conditions Overpressure control to improve HSE performance

FLOW METERING

MICRO MOTION CORIOLIS METERS	Accurate measurement with less sensitivity to changing fluid parameters and operating conditions Advanced diagnostics to reduce measurement uncertainty
DANIEL ULTRASONIC METERS	Accurate measurement with less sensitivity to changing fluid parameters and operating conditions Advanced diagnostics to reduce measurement uncertainty

CONTROL & DATA MANAGEMENT

REMOTE AUTOMATION SOLUTIONS	Collect and manage all data and alarms for the remote control of the LACT unit
<ul style="list-style-type: none"> RTUs, Flow Computers, Software, Net Oil Computers 	



TURNKEY SOLUTIONS

COMPLETE FLOW SYSTEMS	Knowledge and expertise to engineer, design and deliver turnkey systems Global and local industry standards compliance
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SERVICE & SUPPORT

FLOW LIFECYCLE SERVICES	Full scope of Lifecycle Services to support LACT units Technology selection and best practices, startup, repair, troubleshooting services, calibration and training
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ACTUATORS

FISHER VALVE ACTUATORS	Reliable, safety shut-in operations
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INSTRUMENTATION

MICRO MOTION DENSITY & VISCOSITY METERS	High performance measurement for meter factor correction and/or correction to reference condition volumes
ROSEMOUNT PRESSURE, TEMPERATURE & LEVEL	High and low level tank measurement for reliable control of batch crude oil delivery

**PARTNER WITH
EMERSON'S FLOW SOLUTIONS
TO OPTIMIZE
YOUR MEASUREMENT
SYSTEM**

BY REPLACING POSITIVE DISPLACEMENT (PD) METERS ON ITS LACT SYSTEMS WITH MICRO MOTION CORIOLIS METERS, AN OIL AND GAS PRODUCER REDUCED GAIN/LOSS COST ADJUSTMENTS BY 99%, LOWERED MAINTENANCE AND REPAIR COSTS BY **\$187,000 PER YEAR**, AND GAINED **DIAGNOSTIC INSIGHT**.

A LARGE SOUTH AMERICAN E&P COMPANY REPLACED ITS TRADITIONAL BALL PROVER WITH EMERSON'S ULTRASONIC-BASED LACT SYSTEMS, COMPLETE WITH COMPACT PROVER, AND **DECREASED INSTALLATION AND MAINTENANCE COSTS**.

AN OIL AND GAS COMPANY, USING EMERSON'S FLOW TECHNOLOGIES, IMPROVED LACT UNIT ACCURACY AND REDUCED GAIN/LOSS ADJUSTMENTS FROM **\$500,000 PER YEAR** TO AN AVERAGE OF JUST **\$3,600 PER YEAR**.

**Emerson's Flow solutions
deliver what you need**

FLOW TECHNOLOGIES

Using the best fit-for-purpose flow technology, leveraging field-proven best practices, and utilizing inherent device data ensures early insight and enhances the performance of critical process units.

FLOW SYSTEMS

Utilizing best-in-class technology, proven system design processes and practices, and global project support enhances measurement system operational effectiveness and capital efficiency.

FLOW SERVICES

Applying consulting, commissioning, and maintenance services assures long-term asset sustainability and performance.



www.EmersonProcess.com/Flow

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