OPTIMIZING METERING PERFORMANCE
MeterSuite™: An Integrated Approach to Oil & Gas Flow Calculation
Challenging Business Environment

Custody transfer metering plays a key role throughout the global oil and gas industry. Flow measurement systems are used at the custody transfer points of a plant’s output and input, they are the enablers for the plants revenue stream and profit generation. There is no revenue generation without custody transfer measurement.
Contents

Introduction
Current Operating Challenges
Beyond Traditional Metering
Improved Measurement Performance
Simplified Custody Transfer
Enhanced Fiscal Reporting
Why Choose MeterSuite?
  Improve Control Capabilities
  Simplify Data Integration
  Ensure Regulatory Compliance
  Reduce Maintenance Requirements
  Rely on Expert Local Services
Honeywell: A Single Source for All Your Needs
Introduction

Much of the original metering computer infrastructure in the oil and gas industry is reaching its end of life. This obsolescence is due to the practice of using bespoke and dedicated flow computer systems. Companies are now looking to replace their aging systems with standard, future-proofed technology.

Honeywell has been serving industrial customers with instrumentation, control systems and advanced application solutions for more than 100 years. With extensive experience executing large automation projects, we offer a broad portfolio of high-quality products and services for gas and liquid measurement and control. Rely on us as a trusted global partner for integrated skids, pre-packaged stations and other solutions critical to operational performance.

Part of Honeywell’s Elster® Precision Solutions, our MeterSuite™ solution is intended for:

- Fiscal flow measurement
- Batch loading
- Custody transfer
- Meter proving applications
- Pipeline measurement
- Single or multi-steam measurement
Current Operating Challenges

The oil & gas industry requires reliable, accurate measurement to maximize performance, profitability and, most importantly, safety of their applications. Government authorities, meanwhile, need certainty because their revenue depends on it. However, many petroleum producers, refiners and chemical processors rely on outdated, standalone systems for these measurements, which are often obsolete and difficult to support.
Beyond Traditional Metering

Experience has shown there are drawbacks to existing fiscal metering techniques. For example, having separate HMIs in the metering and DCS systems is a duplication of effort. Traditional systems must also be well maintained to mitigate cyber security concerns, and high availability can only be achieved by costly redundancy.

NEW GENERATION SYSTEM

Honeywell’s MeterSuite provides an off-the-shelf, configurable custody transfer solution. It is an integral part of the Experion® Process Knowledge System (PKS) and a replacement for commercial SCADA and HMI packages, PLC systems and embedded flow computer systems. A composite of advanced firmware and application engineering, this solution has key advantages over traditional metering:

- No separate HMI for the metering control system
- No separate PLC providing I/O for the metering skid
- No separate flow computers
Improved Measurement Performance

By partnering with Honeywell, oil & gas companies gain the confidence of improved measurement performance. They will benefit from outstanding technologies and unsurpassed application know-how. We are the largest and most capable instrumentation and automation supplier for natural gas transmission, distribution and storage.

DEPENDABLE AND COST-EFFECTIVE

The MeterSuite system provides a fully integrated fiscal flow metering solution unlike traditional metering solutions on the market that rely on interfacing rather than integrating.

- Integrates with the Experion PKS architecture
- Provides precise oil & gas flow calculations
- Ensures greater cost efficiency and extended lifecycle support
- Works with all common meter types
- Compliant with ISO, AGA, API MPMS and OIML standards
- Certifications: MID liquids and Gas / Directive 017 / OIML R117
Simplified Custody Transfer

In custody transfer applications, each flow metering point requires calculation of the flow to standard conditions. Most oil and gas processors, refiners and petrochemical plants use disparate equipment like flow computers connected to a flow metering computer system for these crucial calculations.
CENTRALIZED AND INTEGRATED

Honeywell’s MeterSuite software is a fully configurable custody transfer solution, which controls metering systems and calculates volume flow rate, mass flow rate, energy rate, and flow density in accordance with applicable metering standards. Integrated with Honeywell’s Experion PKS system, it offers the benefits of a centralized metering system to supply accurate data for the entire operation.

- Fewer systems to maintain and less training required
- Reduces OPEX with longer lifecycle than flow computers systems
- Eliminates separate database, configuration and graphics-building efforts
- Standard HMI improves operator effectiveness
Enhanced Fiscal Reporting

MeterSuite enables the oil and gas industry to replace outdated flow computers with Experion PKS and leverage the advanced capabilities available with this industry-leading control system. It helps meet regulatory requirements for carbon emissions, and simplifies integration of raw meter data in accounting and reporting systems.
MODERN AND VERSATILE

With MeterSuite, the building blocks of a standard Experion control system are utilized to provide the fiscal/allocation metering functions traditionally implemented in flow computer devices. Metering becomes embedded within the DCS, rather than held in custom flow computers, metering supervisory devices or SCADA systems. Standard components include:

- Experion server and user station
- Flow computing inside the ACE/C300 and C200 controllers
- Series A or C hardware compatible
- AGA, API, ISO and GPA standard calculation libraries
- Fiscal totalizer
- Dual-pulse module for pulse monitoring in accordance with ISO 6551
- Metering implementation expertise
Why Choose MeterSuite?
Optimize Measurement Accuracy

Oil and gas producers and processors must precisely determine the amounts of product going into a pipeline, or onto a truck, barge or ship. In recent times, they have used proprietary, isolated systems for such measurements. But the current cost-constrained environment requires a new approach to metering.

POWERFUL AND PRECISE
Honeywell’s MeterSuite technology offers an alternative to existing metering approaches and where similar DCS based technologies are often hampered by problems arising in the transfer of values to and from the user interface, MeterSuite is dedicated to metering applications and offers custody transfer accuracy.

• C300 controller offers superior processing resolution and clock accuracy
• Supports double precision numbers
• Meets precision for proving and totalisation
• Special calculations available to meet the needs of any installation
Improve Control Capabilities

Custody transfer applications demand the highest level of control performance. This includes liquid, loading and proving systems where control and sequencing-type tasks are of critical importance.

**OPEN AND SCALABLE**

MeterSuite provides process control and metering as part of a single, open, integrated solution. Users can start small and scale up, adding flow metering for new streams without extra hardware. They also benefit from Honeywell’s extensive implementation expertise, bringing decades of experience in automation and the oil and gas industry.

- Performs fiscal/allocation metering traditionally implemented in a flow computer
- Uses Honeywell’s advanced C300 controller as the fiscal point
- Supports a wide variety of I/O
- Integration with wireless transmitters and transmitters using fieldbus or industry protocols
- Full MID and OIML approval
Simplify Data Integration

At the core of intelligence for oil and gas companies is raw data. Within these organizations, there has been an exponential increase in available plant/process data stored in various databases and historians. This growth in data has come from many different sources.

SIMPLIFY DATA INTEGRATION

At the core of intelligence for oil and gas companies is raw data. Within these organizations, there has been an exponential increase in available plant/process data stored in various databases and historians. This growth in data has come from many different sources.

EFFICIENT AND RELIABLE

When relying on standalone, dedicated control and metering systems, there can be data integration challenges and associated high costs. MeterSuite offers a new approach to metering on a common, supportable, proven platform with no need for customization and extra engineering.

• No duplication of HMI displays in two different systems
• No complex redundant communication links for different vendors
• No discrepancies or disputes because of unequal data
• All information available in a single system
Ensure Regulatory Compliance

There is a significant burden on the petroleum sector to ensure the accurate measurement of royalty-bearing volumes of oil and gas. A correct fiscal measurement system not only supports regulatory compliance, but helps maximize overall fluid production and movement efficiency.
PROVEN AND TRUSTED

MeterSuite’s accuracy and the data it produces are critical to addressing industry, state, federal and global custody transfer standards, as well as strict emissions regulations. The system helps users satisfy contractual agreements between parties that usually reference AGA, API and ISO standards to ensure fairness.

- Simplify integration of raw meter data in accounting and reporting systems
- Comply with standards related to carbon emissions
- Improve traceability to meet regulatory pressure
- Quickly identify measurement uncertainty
- Document appropriate customs and revenue tax payments
Reduce Maintenance Requirements

With a traditional fiscal measurement system, there are multiple components and interfaces to support and maintain. This is an inefficient approach that wastes valuable resources. Users are seeking a lower total cost of application ownership and easier support/upgradeability over the long-term.

STREAMLINED AND EFFECTIVE

Oil & gas operations can significantly reduce maintenance requirements by implementing MeterSuite. With metering functions inside the control system, there are no external systems or custom interfaces to maintain. All metering data is readily available, which is crucial for efficient diagnostics. Thanks to this solution, users are able to reduce their maintenance costs by 50-65%.

- Cost savings due to simplification of system architecture
- Elimination of dedicated supervisory system and flow computers
- Smaller number of control cabinets
- Increased lifetime and guaranteed upgradeability
Rely on Expert Local Services

Honeywell’s Elster Precision Solutions are backed by a comprehensive local service capability, available worldwide. Well-trained and dedicated support engineers handle service requests with the highest possible care. Customers can choose from a portfolio of services either on a call-out basis or as part of a structured maintenance contract.

CUSTOMER SUPPORT WHERE IT’S NEEDED

Honeywell offers comprehensive customer support services where, and when, they are needed:

- Installation services
- Pre-commissioning, testing and verification of equipment
- Start-up and acceptance testing
- Corrective services
- Preventive maintenance
- Calibration and validation services
- Operational testing
- Remote support
- Customer training
Honeywell: A Single Source for All Your Needs

Honeywell has spent decades developing products and services for projects in the oil & gas industry. We provide a full range of solutions from a single, dependable source. Our products are backed by a comprehensive warranty, global support with a strong local presence, and a Technical Assistance Center staffed by personnel with solid product knowledge.

MAKE THE RIGHT CHOICE
Honeywell believes a true automation and measurement solution requires more than just supplying systems and instrumentation. Instead, it must be part of a total package that includes consulting, training programs, maintenance, and ongoing customer service.

Honeywell also provides end-to-end project management – including all steps from initial concept to lifecycle services. We offer dedicated skid design as well as engineering and support centers in numerous locations around the world, staffed by a team of experienced mechanical, electrical and chemical engineers.
For More Information
To learn more, visit the MeterSuite webpage or contact your Honeywell account manager in your region, or write to us at hpsmarketing@honeywell.com.

Honeywell Process Solutions
1250 West Sam Houston Parkway South
Houston, TX 77042

Honeywell House, Arlington Business Park
Bracknell, Berkshire, England RG12 1EB

Shanghai City Centre, 100 Zunyi Road
Shanghai, China 200051
www.honeywellprocess.com