BEYOND METERING: TOTAL SOLUTIONS FOR GAS AND LIQUID
An Integrated Approach to Measurement and Control
Critical Operational Demands

The global oil & gas industry seeks operational excellence. Companies are under pressure to achieve greater cost efficiency, improve asset integrity, increase uptime and reduce risk. They’re focused on optimizing their entire value chain, responding to increased digitization of operations, and yet remaining agile enough to keep pace with rising global demand and constantly changing market conditions.
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Honeywell: A Single Source for All Your Needs
Introduction

Oil & gas industry firms want to improve their businesses by reducing operating costs and creating new revenue streams, while further enhancing the quality of energy and usage of scarce natural resource. They must go beyond traditional metering and optimize gas and liquid measurement and control applications to achieve the highest levels of safety, precision and operating efficiency.

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.

Honeywell’s Elster® Precision Solutions are intended for:

- Custody transfer measurement
- Gas distribution metering & regulating (M&R) stations
- City gate stations
- Transmission pipeline systems
- Fuel gas conditioning systems for power plants
- Bio methane grid injection
- LNG metering (gas phase)
- Meter calibration facilities
Factors Affecting Businesses

Changing markets, evolving customer demand and complex supply chains require accurate, reliable measurements throughout the energy market. Gas flow systems and equipment are central to safe, profitable operations, and are potentially critical points of failure. As operational demands on these systems grow, so does the strain on people and processes supporting them.

**INCREASED PROJECT RISK**

Effects business performance and profits

**GREATER OPERATIONAL COMPLEXITY**

Impacts shortage of skilled personnel

**HIGHER MAINTENANCE EXPENSES**

Makes it difficult to maintain asset health

**RISING OPERATIONAL COSTS**

Diminishes a company’s bottom line

**GROWING SAFETY CONCERNS**

Threatens people, assets and the environment
Improving Operational Performance

By partnering with Honeywell, oil & gas companies will benefit from outstanding technologies, unsurpassed application know-how, and comprehensive service and support. We are the largest and most capable instrumentation and automation supplier for natural gas transmission, distribution and storage.

PROVEN AND ADVANCED TECHNOLOGIES
Honeywell Elster Precision Solutions integrates industry-leading products for gas measurement, control and regulation. Indeed, the Elster brand has a long history of quality and unsurpassed performance. We are committed to driving better performance and reliability in rigorous applications, where loss of accuracy or control can significantly impact the profitability of an oil & gas producer.

MORE THAN JUST METERING
While pipeline automation, terminal loading, and fiscal metering require integrated metering solutions in the form of skids and stations, Honeywell goes a step further and offers both skid and station solutions, along with complete automation and control systems. This includes our best-in-class Experion® Process Knowledge System (PKS), remote terminal units (RTUs) and advanced application solutions. We also deliver unsurpassed project execution methodologies to meet the requirements of major oil & gas companies worldwide.
Ensuring Peace of Mind

Honeywell Elster Precision Solutions are intended to provide customers with 100% confidence and peace of mind. With decades of experience, Honeywell has supplied and installed metering and control solutions for a wide range of applications and industries around the world.

CUSTOM ENGINEERED SOLUTIONS
Metering and pressure control stations are generally custom engineered solutions that are supplied by Honeywell as skid-mounted or pre-packaged stations. These stations are designed to provide optimal performance and are always compliant with industry standards.

MEETING CUSTOMERS’ NEEDS
Honeywell prides itself on meeting the overall metering and control needs of the global energy sector. In order to satisfy our customers’ complete requirements, and deliver the right solution for the application, we’ll outsource to trusted and Honeywell approved fabrication partners and other third-party contractors.
Benefits of Honeywell Elster Precision Solutions

Eliminate Integration Challenges

The oil & gas sector is challenged with low oil prices threatening profitability, rising production costs, tightening project schedules, and the need to integrate technology from multiple vendors. Now, more than ever, companies require solutions that offer standardization and integration of systems, equipment and work practices that will improve capital efficiency, lower project risk, and meet financial requirements.
IMPLEMENT A COMPLETE SOLUTION

Honeywell offers a complete solution for gas and liquid measurement for offshore and custody transfer applications, as well as for gas regulation, from a single source. Our end-to-end solution reduces interfaces and costs. Users can take advantage of advanced automation and metering in a complete, unified package.

- Deep domain knowledge-based consultancy
- Seamless product integration
- Unified metering, regulation and automation
- Global capabilities with local presence
- Expert service organization
Improve Gas and Liquid Metering

Flow measurement is a critical task in the energy sector. Ultimately, even the smallest error in calculating gas or liquid flow can represent a significant discrepancy in dollars. Accurate custody transfer measurement is key to financial performance, and detailed consideration is required in designing the metering systems and in the meter vendor selection.
CHOOSE A SUPERIOR ULTRASONIC FLOW METER

The Honeywell Elster Q.Sonic® plus Ultrasonic Flowmeter is a solution for the most demanding gas measurement applications. Designed to perform fiscal metering for natural gas transmission, distribution, storage and production, the meter offers intelligent healthcare diagnostics, including real-time monitoring and trending of flow profile factors, swirl angles, asymmetry, turbulence and other real-world metering conditions. The Q.Sonic® plus is supported by Honeywell’s global expertise and unmatched local support capabilities.

• Patented six-path (16 measurement chords) configuration technology
• Self-monitoring software with automatic updates on all diagnostics
• Status updates, basic alerts and warnings on meter performance
• Long-term accuracy and early dirty meter detection
• Signal cross correlation with wet gas filter capabilities
• Coded multiple burst (CMB) transmission to combat valve noise
• All-metal encapsulated, intrinsically safe transducer technology
• Built-in touch screen display for local meter status indication
Enhance Regulating and Control
Gas pressure regulation is widely employed to control the operational pressure of gas in natural gas operations. And a gas pressure reduction station is one of the most important pieces in a natural gas transmission system. These stations must utilize a safe, robust design and be able to withstand the rigors of day-to-day operation.
INSTALL A CUSTOMIZED REDUCTION STATION

Honeywell has engineered gas pressure reduction stations for over 50 years. This includes skid-mounted, pre-packaged pressure reducing solutions for above and below ground applications. The stations range from domestic regulator skids to high-pressure gas transmission stations, and typically include a filter, regulators and isolation valves. Safety is guaranteed by incorporating appropriate safety regimes using slam-shut safety relief valves and other safety appliances.

• Designed and built according to customer specifications
• Broad portfolio of precision regulators
• Modern practices in the control of gases
• Features to ensure high integrity
• Pre-tested to meet strict quality assurance standards
• Simple on-site installation and commissioning
Optimize Measurement Accuracy

In an energy-driven world, it is of critical importance to know that a metering system is operating as intended – providing correct and accurate measurements. The ability to judge meter performance is at least as important as the actual performance itself.
OPTIMIZE SOLUTION DIAGNOSTICS

Honeywell’s Elster Precision Solutions’ total Energy measurement system encompasses flow measuring and computation, as well as gas quality measurement. Together, these capabilities benefit from robust predictive diagnostics. For example, this can include a velocity of sound comparison calculated from gas composition and measured by an ultrasonic meter.

Honeywell’s Meascon™ solution enables easy health monitoring of a complete metering system and, in particular, Elster Q.Sonicplus ultrasonic gas flow meters. Users can implement smart monitoring schemes supporting condition-based maintenance strategies to reduce operating expenses (OPEX). Honeywell also offers Uniformance Asset Sentinel, which continuously monitors equipment and process health to prevent asset failures and poor operational performance.

- Continuous meter diagnostics prevent long periods of incorrect measurement
- Diagnostics on the complete metering system for deeper insights in metering performance
- Minimizes cost for periodic maintenance and inspection
- Supplemented by different software packages for data acquisition and evaluation
Simplify Custody Transfer
Terminals receive oil and gas directly from fields, via pipelines or from redistribution to tankers, rail, other pipelines or processing plants. 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 such measurements.
RELY ON A CENTRALIZED, DCS-INTEGRATED METERING SOLUTION

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

- Compliant with industry standards like AGA, ISO, API MPMS, OIML, etc.
  - Fewer systems to maintain and less training required
- No need for external components or custom interfaces
  - Reduces OPEX by much longer lifecycle compared with traditional flow computers systems
- Eliminates separate database, configuration and graphics-building efforts
- Standard human-machine interface (HMI) improves operator effectiveness
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 Elster offers comprehensive customer support services where, and when, they are needed. This includes:

- 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.