

Highest accuracy on time and on budget

Custody transfer flow metering systems







"Is Endress+Hauser also providing full custody transfer metering systems? I heard only about instruments!"

"Will you be able to comply with our specific Company requirements and national and international normative related to Custody Transfer applications?"

"Will the system meet my and my buyer's performance expectations in terms of accuracy and reliability to help us to increase our profit?"

"Will you be able to guarantee this performance long term?"

"Sure."

Your questions answered

Certified custody transfer solutions that save you time and money.

You know what they say: only trust those who know the rules and know how to run their business successfully.

“Is Endress+Hauser also providing full custody transfer metering systems? I heard only about instruments!”

Certainly! Most people agree that Endress+Hauser manufacture the most accurate mass flow meters in the world but we also use unique experience to create complete custody flow metering stations:

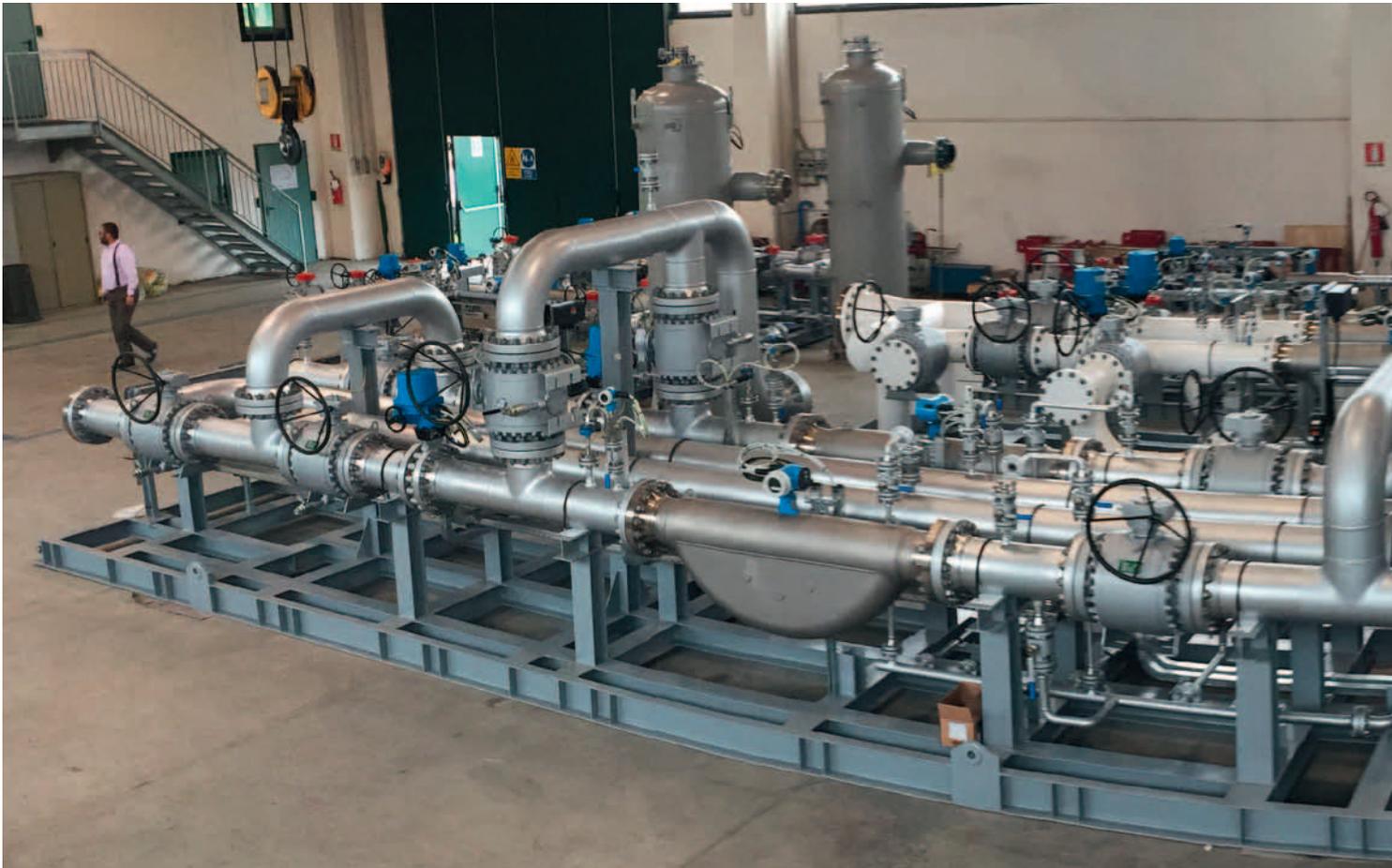
‘better instruments for better systems!’

- Lease automatic custody transfer (LACT) systems
- Truck, train, ship loading and offloading systems
- Bunkering & offshore packages
- Blending & additives, bio-diesel, alcohols
- Gas and gas condensate metering
- LNG & LPG meter stations
- Master meter proving units

“Will you comply with our company specifications and international standards?” Of course! Every custody metering system we design is made to do just this. We are global and so we have a deep knowledge of all standards and not only the more well known like API OIML MID.

Standardization benefits everyone wherever it can be employed and so we have modular solutions for truck, railcar & ship loading and offloading – even for the custody fuel bunker of ships. All have the same high performance as custom units along with the benefit of reduced costs and shorter delivery.

“Will the system meet our performance expectations for accuracy and reliability?” Absolutely! Promass Coriolis flow meters from Endress+Hauser far exceed the standards – and this means lower uncertainty in your transactions.



The Promass family has “close to zero” maintenance and recalibration needs and is largely immune to variations in the process and external effects like vibration and stress. Our ‘X’ mass meter is the largest in the market allowing the fastest loading & offloading times at best accuracy.

“With our certified solutions you will avoid claims from your customers and increase your profit.”

Can you guarantee the performance of your solutions long term? Our reliability is legendary but we also have global engineering and service centers in your own regions, for instant response.

Our life cycle management tool ‘W@M’ makes all your instrument documents and data available with a simple mouse-click, allowing you to maintain all your assets in one place, efficiently and throughout their life.

Can you deliver in time? Every time! Planning is the key and so every project has a dedicated project manager to assure design and build on time and on budget.

Can I integrate your solution in my existing plant? Most of our systems are part of projects just like this, and starts with a site survey & plant discussion. It ensures a seamless fit and has earned us our reputation for a satisfied customer, every time.

Will you still be there in case of problems? Sure! We are Swiss family owned, committed and responsible; for us customer satisfaction comes before everything.



Benefits

- Certified conformity with internationally recognized and accepted standards like API and MID
- Accurate and on time billing of your customers, thanks to innovative flow metering technology
- Easy verification and calibration helped by close collaboration with weights and measures authorities
- Best in class total accuracy
- Minimal maintenance and downtime = safer operation
- Standardized solutions = standardized savings
- Peace of mind – full after sales commitment throughout the world



More information on our website:
www.endress.com/custody-metering

Competitive advantages for our customers in demanding markets

Our markets are in a constant state of change – the list of demands is ever increasing

Especially when oil prices drop, the need to eliminate waste and account for every drop of product increases. Loading and offloading delays mean increased demurrage costs for the operator and threaten profits. Meeting cargo requirements demand the flexibility to mix and blend feed stocks both with each other, and also with expensive additives. Storage tank level measurement cannot provide the full answer.

Updating flow measurement systems at the point of storage and distribution gives the terminal manager full control to blend during custody delivery. This minimizes waiting time and also eliminates waste. Petrochemical, power and mining industries along with oil & gas now require metering systems to do far more than simply provide an accurate flow rate. To maximize profits for their operations, immediate and reliable product quality and process data are also necessary.

Every Endress+Hauser metering system using Promass Coriolis meters has this capability embedded.

Frequent changes of ownership of the product make it imperative that these systems can demonstrate their accuracy. Regular verification using proving techniques assures that the original high performance is maintained throughout the whole life of the package.

The highest priority for all our installations is safe and reliable operation. All projects undergo design reviews and identification of potential hazards. This results in a reduction in physical exposure within the hazardous area, for safer operation.

Benefits of custody transfer metering systems

- Increased Safety of operations
- Generation of Product quality information
- Integration into existing SCADA or DCS
- Blending, additive injection, sampling
- Faster processes
- Compliance with standards
- Management of varying viscosity fluids
- Measurement of non-homogenous products
- Lowest possible maintenance needs
- High performance with ease of operation



Full service offering

A single-source supplier

Our service support is structured to maintain the high level of customer satisfaction throughout the design and build phase, into the full operation on site.

Our global support centers along with in-country specialist engineers assure that whatever the needs are on site, the solution is no more than a phone call away. Being fully supported by 'best-in-class' tools and facilities, this guarantees Endress+Hauser customer care.

Site management

Our factory and on-site resources are closely linked and provide unlimited access to the Endress+Hauser organization. This ensures that the high standards of construction during the factory assembly are maintained in the field.

The site manager coordinates interfaces with all other contractors and provides status reports on commissioning progress.

All project documentation is collated for a seamless transition and handover to the plant staff at time of start-up. On-site and/or classroom training sessions can be provided in multiple languages, to assure knowledge transfer for safe plant operation.



Extensive service portfolio:

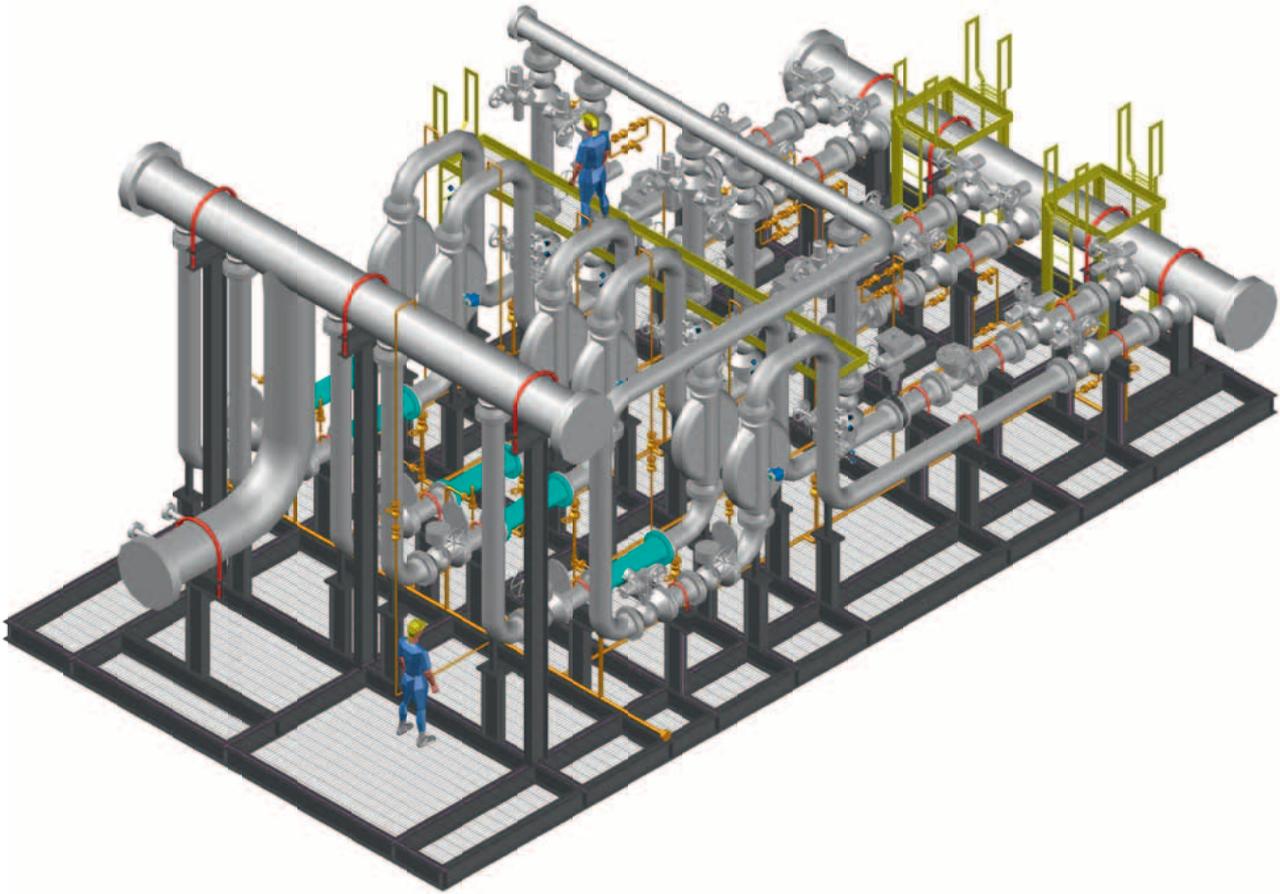
- Worldwide provision of services
- Expert staff for site activities
- Verification and calibration
- Master meter proving
- Troubleshooting and solutions
- Planned maintenance
- Site survey and audits
- Configuration updates



For customer support and services go to:
www.endress.com/servicing

We know how

Your Partner throughout the project execution phase.



This arrangement for an oil major, shows how a custody standard master meter proving concept reduces cost, time and space

We simplify your life

Pre-engineered standard solutions for repeatable applications

LMS-Loading Metering Skids standardized skid mounted 'plug & play' metering systems from basic to fully equipped configurations, for all terminal-depot applications loading/offloading applications. In these environments, high value products such as light hydrocarbons are received, purchased, stored, treated, distributed and sold – and this requires cash registers! Endress+Hauser have designed a complete family of 'standard' solutions consisting of modular components that can be selected by 'mix and match' to form a full custody metering package:

- Truck loading & offloading
- Railcar loading & offloading
- Small/middle-size ship loading & offloading
- In-line blending systems
- LPG loading

LMS is fully integrated with IMS (Inventory Monitoring Systems) to complete the Endress+Hauser global offering for Terminal Automation Solutions (TAS).



Bunkering Bunkering refers to the process of fuelling vessels for their motive power. Currently this is usually fuel oil and marine diesel but in the near future it will be extended to LNG (liquefied natural gas).

Fuel oil comes in many types and grades, but a typical container vessel may bunker \$1m to \$4m USD of oil at a single load; with quantities like this an accurate measurement is vital. In addition sales are made in mass units (tonnes) which gives the Coriolis mass flow meter a clear advantage. The Endress+Hauser bunkering metering system (BKS) is a standardised solution approved and certified to custody standards (MID MI-005) which means guaranteed accuracy of 0.5% under all normal bunkering conditions. The bunkering process may be carried out in port or at sea from a specially adapted supply vessel called a 'bunker barge' which just like the receiving vessel may be fitted with the Endress+Hauser bunkering system. Faster – more secure – more accurate. The process of bunkering should never be confused with the loading and offloading of cargo vessels.

Fuel consumption monitoring It is very common for a fuel consumption metering/monitoring system to be associated with bunkering projects – with such concern over the loading of the fuel, the vessel owner is usually also concerned about how and when the fuel is consumed.

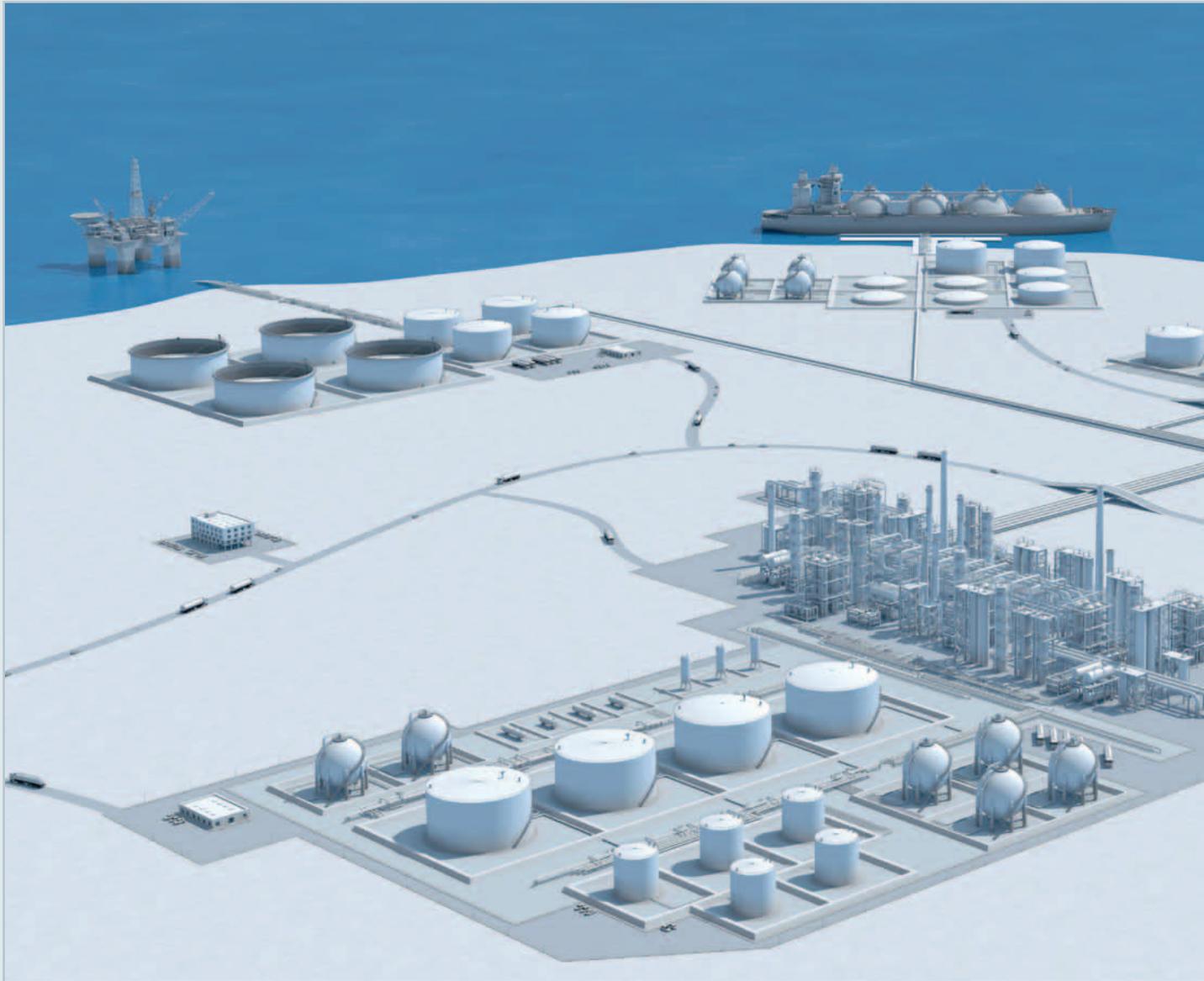


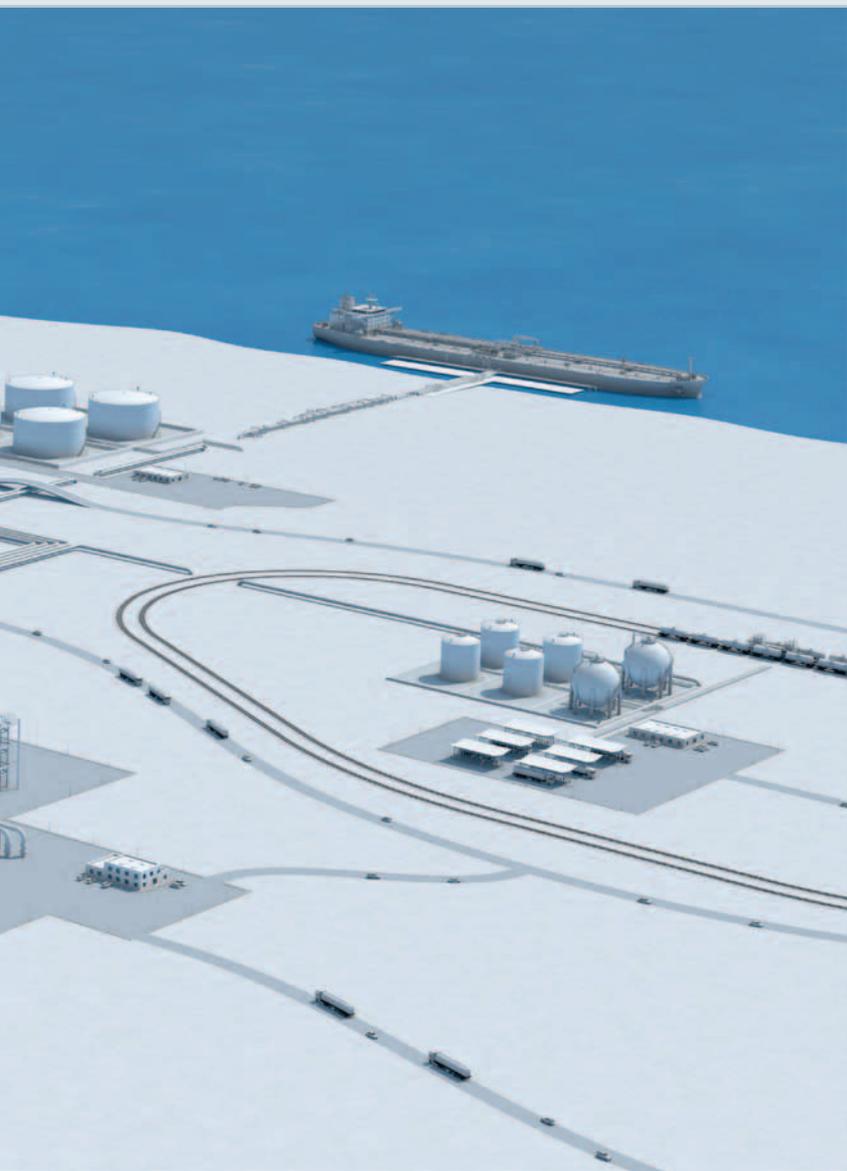
More information on loading & offloading solutions:
www.endress.com/truck-railcar-loading-offloading



More information on bunkering:
www.endress.com/bunkering

Your partner in custody transfer flow metering





www.addresses.endress.com

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