Honeywell Enraf provides an integrated solution to meet all terminal management needs, however large or small.

Honeywell Enraf provides an integrated solution that delivers value from conception to implementation for all types of distribution and bulk terminals, such as refinery off-sites, biofuel storage and distribution, petrochemical storage and loading facilities, and marine, rail and truck loading terminals.

Honeywell Enraf’s solutions are totally integrated and scalable, so whether you are building a new facility, or expanding or upgrading an existing one, Honeywell Enraf can help reduce overall project risk, accelerate production schedules and improve your business performance through solutions that drive safety, reliability and efficiency.

Simple Installation and Fast Startup
Servo-gauging systems by Honeywell Enraf have been developed with a view to simplifying installation. Electrical cabling and mechanical installation are quick and simple to perform. The systems are attached by means of a 2” mounting flange.

In order to simplify the startup, calibration and servicing procedures as much as possible, the portable Honeywell Enraf terminal can be interfaced with an optical infrared port. This ingenious device enables these jobs to be performed quickly while bypassing the central system.

Solutions for Your Application
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Honeywell Enraf
Delftechpark 39
2628 XJ Delft
The Netherlands
Tel.: +31 (0)15 2701 100
Robust and Multifunctional

Honeywell Enraf servo systems deliver optimized measurement performance in any environment. Characteristic features are robust design and modular construction which allow customers to add precisely those functionalities that their specific operating environment demands.

Industry Approvals

Servo tank gauging systems by Honeywell Enraf have set the standard for officially certified automatic tank gauging systems such as those approved by the API, SCO, OIML, and NM. Whereas the API (American Petroleum Institute) and ISO (International Standardisation Organisation) codes are concerned principally with the installation and operation of automatic tank gauging systems, the OIML (International Organisation of Legal Metrology) and NMI (Netherlands Metrology Institute) focus on the performance requirements relating to those systems. For this purpose a method has been developed for the purpose of verifying system correctness.

Honeywell Enraf tank gauging systems receive type approvals in conformity with national legislation and/or in accordance with the OIML recommendations. The automatic gauging systems and their accuracy are tested both before and after installation to assure reliability, reproducibility, sensitivity and strength of the instruments. These instruments easily exceed the requirements for overfill protection equipment and therefore are approved to be used in any kind of safety system.

This also applies to systems for tank gauging purposes. These systems determine the extent to which inventory management, completion of customs formalities and safety on and around the storage tanks can be assured.

Safe, Reliable and Efficient Tank Gauging

Safety, reliability and efficiency are universal concerns in the world of tank storage and intermediate storage. As prices and performance demands increase, the concept of total cost of ownership is an important topic.

Proven Technology

Honeywell Enraf servo tank gauging systems offer optimised operation, enhanced safety, and a high degree of accuracy and reliability. Combinations with other Honeywell Enraf products and architectures such as Smartradar FlexLine, temperature, and systems combine modern technology with a proven measurement concept. Honeywell Enraf servo systems deliver optimized measurement performance in any environment. Characteristic features are robust design and modular construction which allow customers to add precisely those functionalities that their specific operating environment demands.

Honeywell Enraf servo systems form part of a diverse range of products and solutions for tank gauging purposes. The servo systems combine modern technology with a robust and proven operating principle. Like other Honeywell Enraf products, the tank gauging systems are based on open platforms, and feature modular construction, easy installation and simple maintenance.

Measurement functions of servo gauging systems include:

- Product level
- Interface levels
- Product and/or gas temperature using spot/average temperature or temperature profile
- Density measurement and density profile
- Direct water bottom measurement or via capacitive probes
- Vapour pressure using pressure transmitters
- Average continuous density connecting one or more HART pressure transmitters
- Free programmable NO/N C alarm relay contact output to be used in safety and overfill protection systems
- Measurement range up to 150 m
- Working pressure up to 40 bar

Reliable Measurement Principle

Servo tank gauging systems by Honeywell Enraf are based on a proven measurement concept. Level measurement is performed by a displacer, a strong and flexible add-on. The force transducer will actuate the servo controller so that the measuring drum unwinds, allowing the displacer to descend until it again becomes partly immersed in the liquid and its apparent weight corresponds to the programmed weight.

Honeywell Enraf servo gauges are fully microprocessor controlled tank level gauges. All instrument functions are driven by means of intelligent software, which filters out possible imperfections thereby optimizing measurement accuracy.

Intelligent Software

Honeywell Enraf servo gauges are fully microprocessor controlled tank level gauges. All instrument functions are driven by means of intelligent software, which filters out possible imperfections thereby optimizing measurement accuracy.

In addition, the software compensates for hydrostatic deformation of the tank. This method, without a standpipe, ensures an extremely high degree of accuracy.
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The automatic gauging systems and their accuracy are tested both before and after installation to assure reliability, reproducibility, sensitivity and tightness of the instruments. These instruments easily exceed the requirements for overall protection equipment and therefore are approved to be used in any kind of environment. Characteristic features are robust design and modular construction which allow customers to add precisely those functionalities that their specific operating environment demands.

Honeywell Enraf servo systems deliver optimized measurement performance in any environment. Characteristic features are robust design and modular construction which allow customers to add precisely those functionalities that their specific operating environment demands.

Safety, reliability and efficiency are universal concerns in the world of tank storage and intermediate storage. As prices and performance demands increase, the concept of total cost of ownership is an important topic. When the storage tank is emptied, as the liquid level starts to fall, the upward force on the displacer will decrease. The force transducer will actuate the servo controller so that the measuring drum unwinds, allowing the displacer to descend until it again becomes partly immersed in the liquid and its apparent weight corresponds to the programmed weight.

Reliable Measurement Principle Servo tank gauging systems by Honeywell Enraf are based on a proven measurement concept. Level measurement is performed by a displacer, a strong and flexible connecting one or more HART pressure transmitters.

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Measurement functions of servo gauging systems include:

- Product level
- Interface levels
- Product and/or gas temperature by lowering the displacer on the interface setpoint of the second liquid. For this purpose, the displacer is actuated by an interface command, lowers the displacer to the point where its apparent weight corresponds to the programmed interface setpoint of the second liquid. This functionality is particularly useful to determine the level of the second liquid or between two liquids. For this purpose, the displacer is actuated by an interface command, lowers the displacer to the point where its apparent weight corresponds to the programmed interface setpoint of the second liquid. This functionality is particularly useful to determine the level of the second liquid or between two liquids.

Intelligent Software Honeywell Enraf servo gauges are full microprocessor controlled tank level gauges. All instrument functions are driven by means of intelligent software, which filters out possible imperfections thereby optimising measurement accuracy.

In addition, the software compensates for hydraulic deformation of the tank. This method, without a standpipe, ensures an extremely high degree of accuracy.

Honeywell Enraf servo tank gauging systems offer optimised operational conditions, enhanced safety, and a high degree of accuracy and reliability. Combinations with other Honeywell Enraf products and architectures such as SmartRadar Flexline, temperature, density measurement, hydrometer or hybrid tank measurement systems and inventory management systems help optimise your plant further.

Outstanding advantages of Honeywell Enraf servo systems include robust, compact and modular construction, small amount of moving parts, proven track-record and numerous optional add-ons. Honeywell Enraf servo gauging technology provides a tailored solution that can be totally configured to meet your needs.

All Honeywell Enraf instruments and systems combine the latest technology with decades of know-how and experience reflected in user-friendly programmability for fast and easy training. Measurement solutions are approved worldwide by national weights and measures authorities and by customs and excise services.

Honeywell Enraf servo systems form part of a diverse range of products and solutions for tank gauging purposes. The servo systems combine modern technology with a robust and proven operating principle. Like other Honeywell Enraf products, the tank gauging systems are based on open platforms, and feature modular construction, easy installation and simple maintenance.

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Measurement functions of servo gauging systems include:

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Safe, Reliable and Efficient Tank Gauging

Safety, reliability and efficiency are universal concerns in the world of tank storage and intermediate storage. As prices and performance demands increase, the concept of total cost of ownership is an important topic.

This also applies to systems for tank gauging purposes. These systems determine the extent to which inventory management, completion of customs formalities and safety on and around the storage tanks can be assured.

Proven Technology
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Safe, Reliable and Efficient Tank Gauging

Reliable Measurement Principle
Servo tank gauging systems by Honeywell Enraf are based on a proven-measurement concept.

Level measurement is performed by a displacer, a strong and flexible measuring wire, a measuring drum, force transducer and servo motor.

The weight of the displacer ensures that the wire is constantly tensioned, even in turbulent liquid streams, avoiding measurement errors due to displacer drifting.

The level measurement is performed by lowering the displacer on the measurement wire down into the liquid, in which it will be partly immersed because the displacer has a greater density than the liquid. In accordance with Archimedes’ principle, the weight of the displacer will now diminish by the weight of displaced product. The weight of the displacer less the weight of displaced product – the apparent weight – then serves as a unit of measurement to determine the position of the displacer and measure the level of the liquid.

When the storage tank is emptied, as the liquid level starts to fall, the upward force on the displacer will decrease. The force transducer will actuate the servo controller so that the measuring drum unwinds, allowing the displacer to descend until it again becomes partly immersed in the liquid and its apparent weight corresponds to the programmed weight.

Measuring Interface Levels
Flexible measuring the liquid level, Honeywell Enraf’s 854 XTG and 854 ATG gauges can also be used for measuring the interface level between two liquids. For this purpose, the servo motor, actuated by an interface command, lowers the displacer to the point where its apparent weight corresponds to the programmed interface setpoint of the second liquid. This functionality is particularly useful to determine the sediment level or the interface level between water and tank liquid or between two liquids.

In addition, the software compensates for hydraulic deflection of the tank. This method, without a standpipe, ensures an extremely high degree of accuracy.

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Honeywell Enraf
Delftechpark 39
2628 XJ Delft
The Netherlands
Tel.: +31 (0)15 2701 100

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