

EMC and Endress+Hauser Your Food Industry Weighing and Instrumentation Partner

EMC offer a diverse range of products of specific interest to the Food Industry and this Newsletter aims to provide an insight into some of the key products available:

EMC Weighing Systems

EMC is New Zealand's largest manufacturer of continuous weighing systems, vessel weighing systems and electronic weighing processors.

With 35 years of experience, we have accumulated a wealth of knowledge and expertise that is difficult to find elsewhere.

EMC designed and manufactured Electronic Weighing Indicators and Processors are recognised internationally for their quality and ease of operation.

Our experienced staff can arrange installation and commissioning if required, and fully equipped mechanical, electrical and electronic workshops ensure full back-up and service is always available.

Endress+Hauser Process Instrumentation

EMC are the sole NZ representative for Endress+Hauser, the world's leading supplier of instrumentation to the food industry, including flow, level, liquid analysis, pressure, temperature and data acquisition devices.

As examples, E+H manufacture more Magnetic Flowmeters than any other company and produce in excess of 250,000 pH electrodes each year.

EMC's qualified and highly trained engineers can assist with correct instrument selection for any application, and back-up support, on-site or in our workshop, ensures peace-of-mind operation.

EMC Vessel Weighing

It is generally accepted that Weighing offers the highest accuracy and repeatability when measuring the contents of silos and vessels.

EMC Loadcell Mounts have simplified and reduced the cost of Vessel Weighing Systems but there are many varying factors to consider that can affect accuracy, e.g. size and type of vessel, support structures, pipe connections, movement during filling, environmental aspects, etc.

EMC has the specialist experience and knowledge to ensure you are provided with the correct advice and products.

Typical successful installations have included 80t milk powder silos, 12t vegetable oil tanks, 12m high 60t flour silos and many other vessels and small hoppers for varied products such as:

Flour, sugar syrup, coffee beans, milk powder, lactose, icecream "ripple", milk, cream, CO₂ (brewery), malt, pasta flour, toffee, animal hides, etc.



Application:
Bakery Dry Mix and Water Hoppers



DSM Mounts on 30t skirted Flour Silo

A variety of Loadcell Mounts are available to suit most applications:

DSM - for large vessels with built-in vertical / horizontal restraints. Powder-coated or stainless steel.

Stabiflex - fully stainless steel and ideal for vessel weighing in standard, hygienic, Ex rated, wash-down and harsh environments.

SBM - for smaller vessels with a simple foot-mount arrangement and low sensitivity to side loads.



More information?

Circle Enquiry No: 1001

Contact: John Ball



EMC Weigh Feeders

EMC Weigh Feeders are used to control bulk material flowrate along a conveyor belt at a user selectable rate, using an EMC ModWeigh Processor (see next page).

EMC have manufactured Weigh Feeders for more than 35 years and have experience in virtually all industries.

They are custom-designed to suit each application and, for hygienic applications in the food industry, fully stainless steel construction is generally standard.

Fully enclosed versions are also available where hygienic considerations and / or dust control are essential.

Typical applications include:

- Control of bulk material flowrates
- Precise controlled mixing of materials
- Controlling product % for continuous blending
- Ensuring accurate supply of ingredients to processes such as kilns, crushers, etc
- Providing constant material flow for optimal production



EMC Weigh Feeder controlling the flowrate of nuts into the oven

Stainless Steel EMC Weigh Feeder Applications



Application for Mussels



Application for Dried Fruit and Grains



Application for Ice Cream additives

Typical successful Food applications where EMC Weigh Feeders have been installed:

- Ice Cream additives (cookies, jellies)
- Cheese curd
- Salt Dosing
- Mussels (meat and half shell)
- Meat by-products
- Peanuts and other nuts
- Dried Fruit & Grains (breakfast cereals)
- Fruit (apples, etc)
- Vegetables, Tomatoes, Onions, etc

Other EMC Continuous Weighing Systems

Belt Weighers

EMC Belt Weighers provide a simple and accurate way to "measure" the flowrate of bulk material on a conveyor belt.

Ruggedly constructed in either Single or Dual Idler formats, EMC Belt Weighers have many applications including: production rate measurement, production totals, inventory control, flow control and blending. Accuracy <0.5% is possible.

Gravimetric Feeders

EMC Gravimetric Feeders provide a way to accurately feed materials by loss-in-weight (gravimetric) control.

Typical applications include: additive feeders; multi feeder combinations for blending by weight; controlling flow from flexi-walled feeders for difficult materials, etc.

More information?

Circle Enquiry No:
Weigh Feeders: 1002
Belt Weighers: 1003
Gravimetric Feeders: 1004
Contact: John Ball

Gross Bag Weighers

EMC are pleased to offer the TES range of Gross Weighers to the New Zealand market.

These precision electronic weighers are designed for fast and accurate bagging of 10 to 70kg open-mouth bags. They can be easily installed to existing Garner, Day Bins or other feed equipment.

The combination of correct feed gate and an EMC 2064 series Weigh Batch Controller ensures TES Gross Weighers are capable of working fast and accurately.

A two-speed filling radial feed gate with infinite adjustability is used for free flowing granular products.

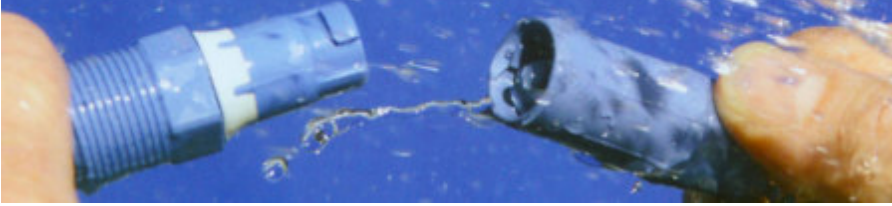


More information?

Circle Enquiry No: 1005
Contact: John Ball

E+H pH Measurement

ISFET Sensors with Memosens technology digital "glass-free" pH sensors



Endress+Hauser have opened a new era in pH measurement for the food and beverage industries with the "glass-free" ISFET Memosens digital pH electrode.

ISFET Sensors have a hygienic design with FDA-listed materials and 3-A certificate.

They are suitable for SIP applications and, in combination with retractable assemblies, CIP applications.

Special ISFET Sensor Features

- Unbreakable and glass-free
- Upside-down installation possible
- Low acid and alkaline error
- Calibration data including isothermic intersection point

Memosens technology

It is now possible to pre-calibrate pH sensors in the laboratory and have them ready for installation when required.

Memosens Sensors can be changed in a matter of seconds and stored calibration data (in the sensor) is automatically transferred to the transmitter and used to calculate the current pH value.

A key feature of Memosens is the non-contact inductive electrical connection between electrode and cable that eliminates measurement errors caused by contamination and moisture in traditional systems.

The bayonet coupling and inductive connection system means that replacing a sensor in wet conditions is no longer an issue.



Liquiline M CM 42 Transmitter with stainless steel housing

ISFET pH sensors with Memosens technology



Transmitter - Liquiline M

Liquiline M CM42 is a modular two-wire Transmitter designed for operation with all types of pH sensors (glass, ISFET, digital sensors) and conductivity sensors.

Key features:

- large high-contrast display & alarm LED
- robust, stainless steel or corrosion-resistant plastic housing with membrane keypad
- user-guided commissioning, graphic display and plain text guidance
- with Memosens technology, a calibration in the plant is not required
- predictive maintenance system detects when a sensor has to be cleaned, calibrated or replaced
- display of sensor data includes: commission date, hours of operation, time at high temperature, times at high and low pH, calibration history
- FOUNDATION FIELDBUS, PROFIBUS and HART fieldbus protocols

More information on pH?

Circle Enquiry No: 1006
Contact: Mark Armstrong



EMC ModWeigh Instruments

An essential component of any weighing system is a reliable and economic weight processor.

EMC design and manufacture a versatile range of Weighing Indicators and Processors that are recognised internationally for their quality and ease of operation.

The Digital **ModWeigh** Series provide a new benchmark standard for weighing processors and includes models for Belt Weigher, Weigh Feeder and Weight Change (loss-in-weight) applications, as well as a range of Loadcell Transmitters.

In addition, the EMC **2000** Series features 5 standard models including Indicators, Processors and Batch Weighers that fulfil many weighing applications.



NZ made EMC ModWeigh Series of Digital Weighing Transmitters, Processors and Operator Displays

- Digital - no pots or dip switches
- Push-button calibration
- Low drift, high accuracy - typical accuracy better than 0.01%
- Removable data storage
- 0/4-20mA analogue outputs
- Modbus communications
- Variety of mounting options including DIN Rail and IP66/67 enclosure
- Excitation supply: up to 10 loadcells
- 64 x 128 pixel graphics Operator Display with easy to use menu selection
- One Display can be used to calibrate several ModWeigh Instruments
- 24Vdc power supply
- Designed and manufactured in new Zealand by EMC - full local support and backup is always available

More information?

Circle Enquiry No: 1007
Contact: John Ball

E+H Mass Flowmeter

The Endress+Hauser Promass 83F Coriolis Mass Flowmeter is your perfect choice for mass flow, density and temperature measurement in food industry applications.

The fully welded stainless steel design and measuring tubes ensure hygienic operation.



Available in sizes from DN8 to DN250 the Promass 83F has a wide measuring range up to 2200 t/h with excellent accuracy.

It is immune to external forces, such as vibrations, and therefore provides stable and reliable measurement.

Fluid temperatures are possible from -50° to +200°C with the standard version, and up to 350°C with the high temperature model.

Transmitter

The Promass 83 Transmitter provides extended functionality over the standard Promass 80 version. Key features include:

- four-line, backlit display
- "touch control" operation from outside
- software upgrade options: filling and dosing, density / concentration functions, advanced diagnostics, etc
- T-DAT: data memory for device parameters

More information?

Circle Enquiry No: 1008

Contact: Chris Gailer

New Models Unitronics JAZZ

JAZZ is a PLC that includes on-board I/O plus a full-function Operator Panel with numeric keypad. It enables users to replace "smart relays" with a smarter, powerful device, while retaining the same low pricing.



Unitronics have now expanded the range with the introduction of 2 new models. These offer increased I/O with either relay or transistor outputs:

Inputs: 16 digital, 2 digital/analog (10 bit, 0-10V), 2 analog (10 bit, 0/4-20mA)

JZ10-11-R31. 11 relay outputs.

Price \$260.00 ea + GST (pack of 5)

JZ10-11-T40. 20 transistor outputs.

Price \$299.00 ea + GST (pack of 5)

More information?

Circle Enquiry No: 1009

Contact: Steve George

E+H Level Measurement

E+H's range of level measurement instruments and techniques is extensive, with solutions available for most applications.

The Deltapilot S FMB70 Hydrostatic Pressure Sensor is used in liquids and paste in process engineering, process measuring technology, food and pharmaceutical industries.

It is also used for level, volume or mass measurements in liquids and provides very good reproducibility and long-term stability.

The hermetically sealed "Contite" measuring cell is condensate and climatic proofed and has minimum temperature effects (better than 0.1%/10K).

Deltapilot S features quick commissioning (thanks to quick setup menus), and function-monitoring from the measuring cell to the electronics.



More Deltapilot S information?

Circle Enquiry No: 1010

Contact: Howard Berry

EMC Portable Flowmeter Rig

The EMC Portable Flowmeter Rig is specifically designed for use in the Food and Beverage Industries (e.g. fruit juice, beer, wine, homogenous dairy products, acids, alkalis and saline solutions).

It incorporates a hygienic Endress+Hauser Promag 10H Flowmeter (3A approval) in sizes selectable from DN25 to DN80, together with a totalising counter and digital display.

Designed for versatility the rig is suitable for use in many applications, typically:

- as a portable flowmeter to measure the transfer of wine from vats to tankers. An ideal solution where the installation of fixed flowmeters on each vessel is not viable.
- calibration of liquids in a vessel. Ideal for plotting linearity curves for level measurement instruments.
- for flow measurement applications requiring certification, as the rig can be submitted for testing and certification by an approved laboratory.



Mounted in a stainless steel frame, the complete rig is fully portable.

Pneumatic wheels and a handle are included to provide easy manoeuvrability.

The Promag 10H can be fitted with your preferred process connection, has 4-20mA current and pulse outputs and an accuracy of +0.5%.

Its PFA lining guarantees maximum resistance to aggressive fluids and is suitable for temperatures up to 150°C (suitable for CIP / SIP cleaning).

The system is simply powered by connection to 230Vac mains supply or alternatively by a 12V rechargeable battery.

More information?

Circle Enquiry No: 1011

Contact: Chris Gailer



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