



## Water and Wastewater Demo-Rig

### A live hands-on demonstration of Endress+Hauser Instrumentation

EMC's demo-rig for the water and wastewater industries is shown above.

Featured on our exhibition stand at the NZ Water and Wastes Association's annual Conference and Expo in Christchurch, during October, the demo-rig has also been shown at several other venues where it has generated considerable interest.

The rig provides a live hands-on demonstration of several Endress+Hauser instruments for the water and wastewater industries and allows the features, setup and maintenance procedures, etc to be explained in the best possible way.

The products featured are:

- ❶ In-line pH Meter with flowing KCL reference with Reservoir mounted above
- ❷ Liquiline 2-wire pH Transmitter
- ❸ Turbidity Analyser for filtered water with integrated degassing chamber
- ❹ Conductivity Measuring Cell using maintenance-free inductive technology
- ❺ Promag 53 Electromagnetic Flowmeter
- ❻ Dissolved Oxygen Probe using optical measuring principal

- ❼ pH Probe with Immersion Assembly suitable for basins, tanks, etc
- ❽ Remote Ultrasonic Sensor for continuous level measurement
- ❾ Liquisys M field-mount Transmitters for Turbidity, Conductivity, Dissolved Oxygen and pH applications

#### Endress+Hauser / EMC: your single source instrumentation partner

Endress+Hauser are a major supplier worldwide to the water and wastewater industries, with instruments to cover all measuring and control points, including flow, analysis, level, pressure, temperature and data acquisition.

EMC staff are fully trained on all aspects of Endress+Hauser Instrumentation and are fully conversant in all aspects of the instrumentation requirements for the water and wastewater industries.

We welcome the opportunity to discuss any new applications or to discuss any issues with existing installations - we may have the solution you are looking for.

### Want to view the Demo-Rig ?

The E+H Liquid Analysis Demo-Rig will be in Queenstown during May where it will be demonstrated at the Water Industry Operations Group Conference.

At other times the Demo-Rig is available for viewing by appointment.

If you and your staff would like an opportunity to view the Demo-Rig, and receive hands-on training on the features, operation and maintenance of E+H Liquid Analysis Instrumentation, please circle the Enquiry Form number.

We will then contact you and endeavour to make suitable arrangements.

View the Rig - Circle Enquiry No: 0501

More information on E+H Liquid Analysis Instruments - Circle Enquiry No: 0502

Contact: Mark Armstrong



# EMC Vessel Weighing Systems

Weighing offers high accuracy and repeatability when measuring the contents of tanks, silos and other vessels.

EMC's Vessel Weighing products combine to provide simple and economical systems which are supported by EMC's extensive experience, and essential specialist engineering advice to ensure a successful installation.

Typical installations include the weighing and supporting of large milk powder and flour silos, vegetable oil tanks, small tanks for mixing and batching applications, hygienic and hazardous environments, etc.

The size and type of vessel, its support structures and pipe connections, movement during filling, environmental aspects, etc, are all factors that have to be considered in the design of a Vessel Weighing System, as they can have a significant impact on the accuracy and reliability.

As an aid to ensuring each system meets requirements, customers will generally be asked to complete EMC's Vessel Weighing Technical Questionnaire covering all the relevant factors. Please request a copy on the enquiry sheet.

## Loadcell Mounts

Loadcell Mounts provide a ready-made solution for tank and vessel weighing.

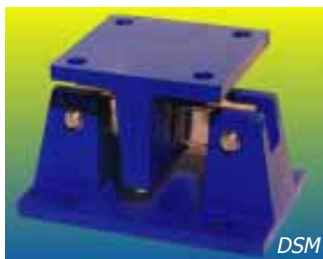
In many applications, installation is simply a case of bolting the Mount between the floor and vessel leg, however, some installations require more engineering to ensure reliability and accuracy.

For best accuracy we usually recommend that one Mount is installed on each leg of the vessel (e.g, for a 2 tonne vessel with 4 legs we suggest 4 x 500kg capacity mounts).

A variety of Loadcell Mounts are available, each designed for different applications:



Wastewater Treatment Plant Sludge Tank



### DSM Mounts

Designed for large vessels with built-in vertical and horizontal seismic restraints. Suitable for vessels that are subject to movement or agitation.

- Capacities from 450kg to 34 tonne
- Powder Coated or Welded Sealed Stainless Steel models available
- Matched outputs for multiple loadcell arrangements
- Double ended shear-beam loadcells, high 3mV/V output, accuracy:  $\pm 0.03\%$



### Stabiflex Mounts

Fully stainless steel and zinc plated steel Stabiflex-F Mounts are ideal for vessel weighing in standard, hygienic, Ex rated, wash down and harsh environments.

- Capacities from 100kg to 5 tonne
- Provides excellent vessel stability
- Integrated ball and cup decoupling system enables quick loadcell replacement
- Stainless Steel Bending Beam loadcells, 2mV/V output, accuracy:  $\pm 0.033\%$



### Silokit Mounts

The Silokit-R is an economical alternative to the DSM Mount with lower accuracy. Suitable for large vessels with no movement or agitation.

- Capacities from 5 tonne to 30 tonne
- Stainless Steel construction
- Lift-off prevention and resistant to lateral forces
- Stainless Steel Compression loadcells, 2mV/V output, accuracy:  $\pm 0.05\%$



### Isoflex Mounts

Isoflex Mounts are designed for medium sized Tanks and Hoppers in general industrial situations where no movement or agitation occurs.

- Capacities from 250kg to 2 tonne
- Zinc plated steel plates with rubber pad for vibration and shock absorption
- Stainless Steel Shear Beam loadcells, 3mV/V output, accuracy:  $\pm 0.017\%$



### Rubberkit Mounts

Designed for small Vessels the compact Rubberkit-FX provides easy installation and accurate weighing.

- Capacities from 20kg to 200kg
- Stainless steel upper and lower plates
- Upper plate includes rubber support to compensate for any misalignment
- Stainless Steel Bending Beam loadcells, 2mV/V output, accuracy:  $\pm 0.033\%$

# EMC Vessel Weighing Systems

## EMC ModWeigh MW61 Weigher System

EMC ModWeigh MW61 Weigher Systems utilise digital technology to provide users with a modular system that is highly accurate, cost-effective and easy to use.

The MW61 can be used with any loadcell based weighing system such as Silo and Tank Weighing, Batch Weighing and Platform Scales.

The unit is fully digital with no potentiometers or DIP switches. Basic calibration is done by pushbutton on the unit, or full calibration facilities are achieved remotely using the EMC MW99d3 Weight Indicator.

When calibrated remotely, the calibration may be done by entering loadcell capacity and sensitivity which allows the calibration of systems without the use of test weights. No need to empty the vessel, do a tare, refill the vessel, etc.

For multiple vessels, the Modbus interface enables economical installation of several transmitters, with just a single indicator necessary for calibration and set-up.

ModWeigh is 12-24Vdc powered and analogue outputs are standard.



MW61 P-Module



MT4 Transmitter:  
4 loadcell terminals, 1 digital input,  
2 digital outputs and one 4-20mA output



MW99d3 Weight Indicator



Liquid Storage Tanks

### Each ModWeigh system includes:

#### MW61 P-Module

A removable module that plugs in to the transmitter module. It determines the device functions and holds calibration settings.

A programmed P-Module can simply be plugged into a new unit at any time and the calibration settings are automatically loaded - no time-consuming configuration of the instrument is necessary.

#### Transmitter

Four versions, with up to 8 digital inputs and 8 digital outputs, are available, in either DIN rail or Field housings.

#### Indicator

The MW99d3 Weight Indicator displays the weight, setup and calibration, and also provides a status display of the operating system.

It features a LCD graphics display with easy to use menu selection.

#### Accessories

A variety of connectors, cables and options for system optimisation.

#### ModWeigh Key Features

- Digital high accuracy design (no pots or DIP switches)
- Excitation for up to 10 x 350Ω loadcells
- 6 or 4 wire loadcell connection
- Update rate 100 times per second
- 4-20mA output is standard
- Removable P-Module holds calibration settings
- Up to 8 digital inputs and 8 digital outputs
- Field software upgrades

## Loadcells

Only the highest quality loadcells, from the world's leading manufacturers, are fitted in EMC Mounts to ensure the best in reliability and accuracy (from  $\pm 0.03\%$ ).

Capacities range from 25kg to 34 tonne or more, and models include double-ended shear beam, standard shear beam, compression, S-beam, bending beam, etc.

Loadcells are available in various materials such as Tool Steel and Stainless Steel and with specifications to suit the specific application and environment, e.g:

- IP66/68 sealed models for hygienic or wash-down applications
- hazardous area certified (ATEX)
- OIML certified (Trade Approved)



For more information on EMC Weighing Systems please circle the following numbers on the Enquiry Form:

- DSM Mounts - No 0503
- Stabiflex Mounts - No 0504
- Silokit Mounts - No 0505
- Isoflex Mounts - No 0506
- Rubberkit Mounts - No 0507
- ModWeigh MW61 - No 0508
- Loadcells - No 0509

Technical Questionnaire - No 0510

Alternatively, please contact John Ball at EMC for technical advice, quotations or to discuss your applications

# Unitronics PLC with Colour Touchscreen

## The new Vision570 OPLC offers a Colour touchpanel HMI combined with a high-performance PLC

The Vision570 is Unitronics newest member of the Vision PLC and Graphic HMI series and for the first time offers a full colour graphics display capability.

Detailed specifications of the Vision570 are shown below. Many features are similar to the existing Vision models but the Vision570 incorporates the following points of difference:

- Colour TFT LCD display, 256 colours
- 320 x 240 pixels, QVGA (5.7")
- Up to 1024 user-designed screens
- Up to 12 independent PID loops (up to 32 loops with external auto-tune)
- 2 x RS232/485 ports
- Optional Ethernet port
- 2 MB application memory size
- 0.4µsec scan time for one bit operation
- 24Vdc power supply

### What is the Vision Series?

The Vision Series is an innovative series of PLCs with built-in graphical operating panel or touch-panel, on-board or snap-in I/Os and powerful networking features.

The graphical LCD screen (or touchscreen) and full numeric keypad (or virtual keyboard) enable easy man-machine communication. The screen displays user-defined operator instructions and dynamic system data. Operators use the programmable keypad, the "touchable" images/texts and the virtual keyboard to enter data into the system and to initiate functions.

### User-friendly Operator Interface

Unlike traditional 'blind' PLCs, a Vision PLC enables the operator to easily change programme parameters via the operating panel. The numeric keypad can be used to enter and modify variable application data, e.g. cutting length, timers, production quantities, part numbers, etc.

The display can be used to graphically monitor I/O or communication status, timers, analogue input and counter values.

### Configurations for any application

A Vision system consists of the PLC and Operator Panel, CANbus, RS232 communication ports, real-time clock, an optional Snap-In I/O module (with a variety of features such as digital/analog on-board I/Os, shaft-encoders, PWM), and the ability to hook up additional I/O expansion modules to a single Vision controller. A user can easily design a network of Unitronics controllers, each with its own I/Os, supporting thousands of I/Os in a distributed application.

Article Number	V570-57-C30B	V570-57-T40B
<b>Graphic Display Screen</b>		
Type	CSTN LCD	TFT LCD
Touchscreen	Resistive, analog	
Display Resolution & Size	320x240 pixels (QVGA), 5.7" active area	
Colors	256	
HMI Display	Up to 1024	
Keyboard options	Virtual touch keypad	
<b>Program</b>		
Application Memory	2000K	
Execution Time per Bit Operation	0.4µsec	
Memory Bits ( coils)	4096	
Memory Integers (registers)	2048	
Long Integers (32 bit)	256	
Memory Floats	24	
Double Word (32 bit unsigned)	64	
Timers	192	
Counters	24	
Data Tables	Up to 120K (RAM), up to 192K (Flash)	
<b>Communication</b>		
RS232/RS485	2 isolated ports. Select RS232 or RS485 via DIP switch	
Ethernet	1 optional port (sold separately). Supports programming and networking via TCP/IP	
CANbus	1 isolated port. Supports CANopen and uniCAN	
MODBUS	Supports MODBUS protocol, Master/Slave	
GPRS	Access your Vision using a remote PC, via wireless data transmission. Supports programming, data acquisition and SMS	
GSM	SMS messages to/from any quantity of phone numbers. Supports programming and Remote Access	
<b>General</b>		
Power Supply	24VDC	
PID	Up to 12 independent PID loops, including internal auto-tune, ramp-soak programmer and bumpless transfer (up to 32 loops with external auto-tune)	
Battery back-up	7 years typical at 25°C, battery back-up for all memory sections and real-time clock (RTC). Easy battery replacement, without opening the controller	
Environment	IP65/NEMA-4X (for panel, when mounted)	

### Advanced features and options

All Vision models include independent PID loops, a 120K smart database and other features that reduce hardware and save time. Comms options include Ethernet, GSM/SMS support, MODBUS (Master/Slave), modem access and easy access to external devices such as SCADA systems, etc.

### Easy Programming

VisiLogic™ Ladder software provides a Windows environment for the creation of both the PLC Ladder control programme and the

graphical HMI operator interface. This saves the time and effort of programming the HMI and PLC in 2 separate environments.

### The Vision Package

All Vision packages include the OPLC, VisiLogic software, programming cable, mounting hardware and a user guide.

### More information on V570?

Circle Enquiry No: 0511  
Contact: Steve George



## EMC INDUSTRIAL GROUP LTD

56 Tarnedale Grove, Albany  
PO Box 101 444, NSMC  
Auckland 1333  
New Zealand

Phone 09-415 5110  
Fax 09-415 5115  
Email sales@emc.co.nz  
Web www.emc.co.nz

