About Manu Electronics

- Manu Electronics Pty Ltd was founded in 1965
- From bottle dispenser manufacturer in the 1960’s to digital equipment manufacturer from the 1970’s and microprocessor technology from the 2000’s.
- Specialises in design/manufacture of liquid process control and measurement instrumentation, primarily for the concrete construction chemical additives industry.
- ManuFlo equipment dispenses admixtures with a high degree of accuracy coupled with continuous safety monitoring systems to provide comfort that the premixed concrete/cement is within tolerances.
- January 2000 - Moved to new 600m² office and manufacturing facilities at 41 Carter Road Brookvale Sydney NSW Australia.
- June 2001 - ManuFlo®™ worldwide trademark
ManuFlo products are:

- **Used in over 95% of all pre-mix concrete production plants** throughout Australia/NZ
- **Exported** to regions including the Asia/Pacific, South America, Europe and the Middle-East
- Used in varied liquid measurement applications including concrete admixtures, shotcrete, chemical, mining, irrigation, food, tradewaste, water and water-usage studies.

**Global Admixture manufacturer / supplier companies use ManuFlo products** for measurement and batching of liquids in their production facilities, distribution network and final dispensing at their customers’ premix concrete production plant.

Selected distributors and end users use ManuFlo products for numerous applications worldwide.

ManuFlo has a **global pricelist in AUD$** with quantity discounts, maintaining pricing parity for its products to all its admixture supplier customers.
ManuFlo Advantages

- Economically priced products, with Australian Quality Control.
- Global pricelist with quantity discount structure.
- Free on-going product and application support.
- Personal service and phone support with no service support fees.
- **Simple to use, proven products with overdose or failure safety features**
- Direct delivery flow measurement, with no water flushing required.
- Stock and spare parts available on call.
- Data Sheets, Installation and Troubleshooting Guides and User Manuals.
- Company with 55+ years history with ongoing R&D program.
- Deal direct with the Manufacturer or it’s Representatives. Equipment training available.
- Products keep performing dispensing your liquids for decades on end.
- ManuFlo understands its clients needs / applications with chemical compatibility tests. Quality proven products with no compromises for the critical concrete industry.
SCOPE - Measuring Admixtures in Production, Transfer and Use in Premix Concrete Plants

Admixture Production Plant

Admixture Delivery Tankers

Premix Concrete Plant

Concrete Trucks

And Liquid slurries, Oxides, Grouts, Silca-Fume

ManuFlo - suppliers of liquid measurement application products since 1965.

Shotcrete

Pug Mill / Dosing

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## Admixtures – Flowmeter Selection Guide

<table>
<thead>
<tr>
<th>ADMIX Chemicals &amp; Conditions</th>
<th>Positive Displacement Flowmeters</th>
<th>Electromagnetic Flowmeters</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>MES20</td>
<td>MES20-T</td>
</tr>
<tr>
<td>Water Based</td>
<td>✅</td>
<td>✅</td>
</tr>
<tr>
<td>Corrosive</td>
<td>✅</td>
<td>✅</td>
</tr>
<tr>
<td>None Conductive</td>
<td>✅</td>
<td>✅</td>
</tr>
<tr>
<td>Slurries / Oxides</td>
<td>✅</td>
<td>✅</td>
</tr>
<tr>
<td>Excessive Vibration</td>
<td>✅</td>
<td>✅</td>
</tr>
<tr>
<td>1.5 - 70 Litres/min</td>
<td>✅</td>
<td>✅</td>
</tr>
<tr>
<td>2.7 - 112 Litres/min</td>
<td>✅</td>
<td>✅</td>
</tr>
<tr>
<td>3.8 - 185 Litres/min</td>
<td>✅</td>
<td>✅</td>
</tr>
<tr>
<td>7.5 - 375 Litres/min</td>
<td>✅</td>
<td>✅</td>
</tr>
<tr>
<td>&gt; 375 Litres/min</td>
<td>✅</td>
<td>✅</td>
</tr>
<tr>
<td>*Pulses (&gt; F) &amp; (&lt; R)</td>
<td>✅</td>
<td>✅</td>
</tr>
<tr>
<td>Empty Pipe Detection</td>
<td>✅</td>
<td>✅</td>
</tr>
</tbody>
</table>

- Simplistic technology easy to operate
- No issues with foaming product
- Most applications no solenoid valves required
- No flushing required
- Suitable for dosing applications
- AS1379 & NMI NSS1671 approved devices
- Easy calibration procedure & no need for expensive NATA approved personnel
- MM & KMS have on-board totaliser back up

+ New MES20N – compact body/chamber
+ New “DSP” Digital Smart Pulse output pulse-head
+ provides better performance & Vibration free pulsing.

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SELECTION GUIDE
Flow Metered Measurement for Liquid Admixtures

MES Series Flowmeters
• Available in sizes 20, 25, 32 and 40mm.
• Pulse, Digital LCD, Mechanical display and combo options
• Nutating Disc operation allows a long operational life.
• MES-series flowmeters are the most commonly used measurement of admixtures (over 45,000 in use)

AMM / CMM / MM Series Flowmeters
• Available in sizes 15, 20 and 25mm

KMS & RMS Series Magflows
• Available in sizes 4mm up to 150mm
Why settle for this, when all this can be replaced with the one ME2008 or ME995’s.
### Bottles vs Flowmetering / ME2008 & Batch Controllers

<table>
<thead>
<tr>
<th>Feature</th>
<th>Bottle</th>
<th>Flowmeter</th>
<th>Flowmeter advantage</th>
</tr>
</thead>
<tbody>
<tr>
<td>usage</td>
<td>• chemical passes through Batch Room - must be mounted within sight and reach of the batch operator. • can have accidental spillage.</td>
<td>• can be mounted outside Batch Room. • cleaner Batch Room.</td>
<td>• cleaner to use.</td>
</tr>
<tr>
<td>installation space</td>
<td>• bulky. • heavy.</td>
<td>• compact. • relatively light.</td>
<td>• less space to install.</td>
</tr>
<tr>
<td>support equipment</td>
<td>• to fill and discharge, needs either 2 pumps or air pressure.</td>
<td>• only need 1 pump and/or solenoid. • air not needed.</td>
<td>• less support equipment.</td>
</tr>
<tr>
<td>delivery</td>
<td>• fill cycle required.</td>
<td>• direct delivery via 1 operation. • half the time to dispense.</td>
<td>• fast, direct injection of chemical.</td>
</tr>
<tr>
<td>batch size</td>
<td>• limited by bottle size.</td>
<td>• unlimited.</td>
<td>• no restriction on batch size.</td>
</tr>
<tr>
<td>maintenance</td>
<td>• must wash out daily.</td>
<td>• virtually no maintenance.</td>
<td>• less maintenance.</td>
</tr>
</tbody>
</table>

- Slow discharge time, Double handling.
- Messy, Large & cumbersome, Extra maintenance, Expensive
- Risk: bottles are pressurized - can explode.
- Quick exhaust valves can fail – not completely safe or foolproof.

**Replace your bottles now, save ongoing maintenance costs:**
ManuFlo recommends using ME2008 or ME995 (which incorporate safety features) with MES or AMM flowmeters in lieu of bottles.

New Technology wins new customers!!

(c) Manu Electronics 2015
Overview:
Admix Batching via Flow Metering
1. Manual Batching

Quantity determined by: operator
Delivery controlled by: operator
Internal battery powered meter

Example for Admixture

Sizes 20 to 40mm
2. Automatic Batching

Quantity set by: operator
Delivery controlled by: **batch controller with multiple safety features.**
Some earlier models still in use since 1980!!
2) PLC control with **ME995 Batch Controllers**

- Having Batch Controller incorporates safeties e.g. Batch Limit, Pulse Fail.
- Batch Controller provides manual control should Computer/PLC fail.

**Flowmeter** measures flow

- **MES20** P.D-flowmeter

**Batch Controller** controls batch delivery

- Quantity set by: Computer/PLC
- Delivery controlled by: Batch Controller/Computer/PLC

**Eliminates Bottle Requirement**

- In use in various countries. e.g. Australasia-Pacific, Sth America, Middle-East etc

**Batching computer** sets/records batch
3. Automatic Batching via PLC/Computers (options)

ME2008 (i)
Microprocessor interface batch safety unit.

ME995 Batch Controller (iv)
controls batch delivery

Admix Flowmeter
measures flow

Pump

Admix Storage Tank

UIC Interface Card (ii)
pulse/voltage scaling

Direct Flowmeter Pulses (iii)
via interface i/o plugs –MC2 (iv.1)

ME5IC i/o Card (iv.2)
i/o scaling and comms.

Quantity set by: Computer/PLC
Delivery controlled by: Batch Controller/MES2008/Computer/PLC

Batching computer / PLC
sets/controls/records batches

(© Manu Electronics 2017)
Interfacing with ME2008

ME2008
Microprocessor intelligent interface batch safety unit.

Up to 8 flowmeters

Eliminates Bottle Requirement

Quantity set by: Computer/PLC
Delivery controlled by: ME2008/Computer/PLC

Safest and cost effective method of Admix batching in computer controlled plants

In use in Australia, NZ, HK, Nth China
Interface – ME2000/2008

• All parameters and entries are **fully programmable** via a plug-in hand held keypad.
• **Dual-Channel Modules** (mount up to 4) on motherboard, for creation of 2, 4, 6 or 8 channel unit.
• Optional Pulse Comparator for Dual Flowmeter system.
• Optional Dual Display Counters for each channel (for Comparator function).
• **Input Pulse** scalable for use with **most types of Flowmeters**.
• All display readouts in **Litres to 3 decimal places**, with instantaneous **flowrate** display reading.
• Accumulated **batch totals (grand totals)** for inventory records.
• Initial Start and Pulsefail **Safety**.
• **Low and High Flow** range settings. Pulsefail Safety safeguards against exceeding flowmeter operating ranges.
• **Maximum pulse output frequency** alarm, for **PLC input safety**.
• Maximum **Batch Limit Safety**.
• **Output Pulse Division** to PLC/Computer scalable.
• 24-240 vac or 5-25 VDC pulse switching.
• Input/Output control with optional voltages.
• **Manual Batch facility**, with Disable option.
• Master Audible **alarm** function
• **Alarm condition** for leaky check valves (back flow).
With UIC Interface Card

The UIC Universal Interface Card provides: signal scaling and an isolation interface to pulse flowmeter outputs, and re-transmits to PLC/computer inputs. Models available:
UIC/A2 = 24-240vac switching or UIC/D = 5-30vdc switching.

The UIC Universal Interface Card provides: signal scaling and an isolation interface to pulse flowmeter outputs, and re-transmits to PLC/computer inputs. Models available:
UIC/A2 = 24-240vac switching or UIC/D = 5-30vdc switching.

**Quantity set by:** Computer/PLC
**Delivery controlled by:** Computer/PLC

**Mes Flowmeter** measures flow

**UIC Interface Card**

**Pump**

**Admix Storage Tank**

**Batching computer** sets/records batch

**CMM Magnetic Flowmeter**

In use in Thailand, Indonesia, Philippines, Malaysia, HK, Vietnam, Nth China, Singapore and elsewhere.

• Usually used for **bottle systems in Asia** with Computers
Batching Computers with ManuFlo equipment

• Types of Batching Computers include:
  • Command-Batch Eagle/Alkon (see http://www.commandalkon.com)
  • Jonel-Archer (see http://www.jonel.com/readyMixBatch.htm)

• PC based systems include CompuBatch C500, Axion, Eagle by IPE, Batch-Tec, Matcon-Matic, United-Software and others

• ManuFlo do not supply Batching Computers but our equipment & or flowmeters interface with computers in customer installations.
• Call ManuFlo if you are unsure as to the interface required.
MES Flowmeters

Used for Admixture Measurement Worldwide
MES Series Flowmeters

- Available in sizes 20, 25, 32, and 40mm.
- Pulse, Digital LCD, Mechanical display and combo options
- Nutating Disc operation allows a long operational life.
- Accuracy un-affected by Specific Gravity changes.

MES-series flowmeters are the most commonly used devise for measurement of admixtures.
**MES Flowmeter Sizes - Specifications**

Now: - with Digital Smart Pulse (DSP-OC).

*With DSP – no vibration issues – Pulses factory settable from 1 to 1000 PPL for all sizes.*

<table>
<thead>
<tr>
<th>Model Number</th>
<th>MES20</th>
<th>MES25</th>
<th>MES32</th>
<th>MES40</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Size</strong></td>
<td>20mm (3/4&quot;)</td>
<td>25mm (1&quot;)</td>
<td>32mm (1 1/4&quot;)</td>
<td>40mm (1 1/2&quot;)</td>
</tr>
<tr>
<td>Transistor NPN pulse output (pulses per Litre)</td>
<td>1000</td>
<td>555</td>
<td>261</td>
<td>116</td>
</tr>
<tr>
<td>Reed Switch pulse output rate (pulses per Litre)</td>
<td>61</td>
<td>34</td>
<td>16</td>
<td>7.2</td>
</tr>
<tr>
<td>Start flow @ ±5% (Litres/min)</td>
<td>0.6</td>
<td>1.1</td>
<td>1.5</td>
<td>3.0</td>
</tr>
<tr>
<td>Minimum accurate flow @ ±1.5% (Litres/min)</td>
<td>1.5</td>
<td>2.7</td>
<td>3.8</td>
<td>7.5</td>
</tr>
<tr>
<td>Nominal flow (Litres/min)</td>
<td>45</td>
<td>65</td>
<td>125</td>
<td>200</td>
</tr>
<tr>
<td>Maximum flow (Litres/min)</td>
<td>54</td>
<td>80</td>
<td>132</td>
<td>268</td>
</tr>
<tr>
<td>Admixture (Specific Gravity 1.4)</td>
<td>68</td>
<td>102</td>
<td>168</td>
<td>340</td>
</tr>
<tr>
<td>Admixture (Specific Gravity 1.1)</td>
<td>75</td>
<td>112</td>
<td>185</td>
<td>375</td>
</tr>
<tr>
<td>Water (Specific Gravity 1.0)</td>
<td>± 1.5% (± 0.2%)</td>
<td>± 1.5% (± 0.2%)</td>
<td>± 1.5% (± 0.2%)</td>
<td>± 1.5% (± 0.2%)</td>
</tr>
<tr>
<td>Accuracy (Repeatability)</td>
<td>5 - 25 VDC</td>
<td>5 - 25 VDC</td>
<td>5 - 25 VDC</td>
<td>5 - 25 VDC</td>
</tr>
<tr>
<td>Voltage Supply</td>
<td>5 - 25 mA</td>
<td>5 - 25 mA</td>
<td>5 - 25 mA</td>
<td>5 - 25 mA</td>
</tr>
<tr>
<td>Supply Current (proportional to supply voltage)</td>
<td>1.8 kg</td>
<td>2.6 kg</td>
<td>6 kg</td>
<td>17 kg #</td>
</tr>
<tr>
<td>Weight (# including connectors)</td>
<td>1/4&quot; BSP (male)</td>
<td>1&quot; BSP (male)</td>
<td>1 1/4&quot; BSP (male)</td>
<td>1 1/2&quot; (flanged)</td>
</tr>
<tr>
<td>Connection type</td>
<td>1160 kPa</td>
<td>1160 kPa</td>
<td>1160 kPa</td>
<td>1034 kPa</td>
</tr>
<tr>
<td>Max. working pressure</td>
<td>25 kPa (3m)</td>
<td>25 kPa (3m)</td>
<td>25 kPa (3m)</td>
<td>25 kPa (3m)</td>
</tr>
<tr>
<td>Headloss at nominal flow</td>
<td>50°C</td>
<td>50°C</td>
<td>50°C</td>
<td>50°C</td>
</tr>
<tr>
<td>Max. liquid temperature</td>
<td>50°C</td>
<td>50°C</td>
<td>50°C</td>
<td>50°C</td>
</tr>
</tbody>
</table>

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MES Flowmeter – Installation -Multiple
Multiple wiring and plumbing MES20 installation examples

MES Flowmeters now with new “DSP-OC” Digital Smart Pulse. Vibration Free Pulseheads

KMS Magnetic Flowmeters
CMM Series: Magflows (budget cost –batching)

- No moving parts, no blockages, virtually maintenance free.
- **Pulses in forward direction with virtual empty pipe detection**
- Very economical. All Alloy/Stainless316 construction, Peek liner, Pressure 16bar<
- For liquid conductivity ≥ 50µS/cm., temp. to 90c, +24VDC (or with optional 12-24VDC step-up).
  - CMM10: 15mm bsp-m (7mm bore), 1000 pulses/Litre, 0.5 - 30 L/min
  - CMM20: 20mm bsp-m (10mm bore), 500 pulses/Litre, 1.0 - 60 L/min
  - CMM25: 25mm bsp-m (15mm bore), 100 pulses/Litre, 5.0 - 250 L/min

AMM Series: Magflows (budget cost -dosing)

- No moving parts, no blockages, virtually maintenance free.
- **Pulses in forward direction only and must be a full pipe at all times**
- Very economical. All PVDF/Stainless316 construction, Pressure 10bar<
- For liquid conductivity ≥ 20µS/cm., +12VDC (or optional 24VDC powered).
  - AMM15: 15mm bsp-m (8mm bore), 1000 pulses/Litre, 0.1 - 25 L/min
  - AMM20: 20mm bsp-m (12mm bore), 500 pulses/Litre, 0.2 - 50 L/min
  - AMM25: 25mm bsp-m (15mm bore), 100 pulses/Litre, 0.3 - 100 L/min

MM Series: Magflows (budget cost -dosing)

- No moving parts or blockages, virtually maintenance free
- **Pulses in forward flow direction only and must be full of liquid**
- High pressure to 1600Kpa, Compact design all S/S316, ≥ 20µS/cm., BSP-m connection
- 4-digit display to show either flowrate or total, +24VDC powered
  - MM15: 15mm connection (8mm bore), 100 pulses/Litre, 0.1 - 25 L/min
  - MM20: 20mm connection (12mm bore), 100 pulses/Litre, 0.2 - 50 L/min
  - MM25: 25mm connection (15mm bore), 100 pulses/Litre, 0.3 - 100 L/min

*If backflow is a concern install a pneumatic valve.*
Admix Shotcrete / Grout, Slurry, Oxide, SilicaFume Flowmeters

K-Mag & RMS-Mag

• Ideal for shotcrete chemical applications.
• 15mm electromagnetic flowmeter. (upto 150mm)
• Obstructionless bore – nothing to block.
• Pulse & 4-20mA output.
• LCD backlit display shows Flowrate and optionally resetableTotal.
• ANSI-150 flanged, PTFE liner, for sizes ≥15mm;
• RMS8711 WAFER for high pressure GROUT to 740psi.
• Hastelloy-C4 electrodes.
• IP65 sensor and transmitter.
  Sensor potable to IP68 protection.
• Accuracy to @ ±0.2%
• For liquid conductivity ≥ 5µS/cm.
• 11 – 30 VDC powered
  (also available as 90 - 250 vac version).

FLANGE KITS available
Admix Dosing/Shotcrete Flowmeters

**PLC or manually operated**

**MM15 Mag-flowmeter**
- or shotcrete applications.
- All S/S316 construction, pressure to 16bar.
- Very compact. Light weight. IP67.
- 10mm bore,
  15mm BSP (male) threaded ends.
- Flowrange: 0.1 - 25 Litres/min.
- 100 pulses/Litre.
- For liquid conductivity ≥ 20µS/cm.
- Other sizes available 20, 25mm.

**FRT303 Indicator**
- LCD shows Flowrate, resetable Total and Grand Total.
- Programmable.
- DC or AC powered
- Pulse & 4-20mA outputs
- High/Low rate set outputs
- IP65 enclosure.

**MES20LCD6DP series for Shotcrete Chemicals.**
- 20mm resettable flowmeter.
- Ideal for batching.
- LCD shows total Litres -1 dec.pl. & or Rate.
- Closing lid resets to zero.
- Flowrange @ ±1.5% accuracy: repeat 0.2%
  at 1.5 - 75 Litres/min.
- PD-disc type measuring chamber.
- Internal Lithium battery powered
- Options: Teflon-coated body.
  sizes 20, 25 & 32mm

**FRT303-MM15**
- Complete package wired

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Admix Delivery Truck Mounted Batching Printer System

- Batch Controller and Printer for automatic ticketing.
- Ideal for admixture delivery trucks or loading and discharge locations where custody transfer docket is required.
- Prints Batch ID, quantity, time and date.
- Paper easily changed.
- Rugged IP64 hinged enclosure, with key lock.
- Contains wired and mounted ME3000-SC Batch Controller and TTP-A5 thermal compact docket/ticket printer.

The TMP interfaces to other equipment on the truck:
- controls pump and/or solenoid; and
- receives pulses from flowmeter.
Flowmeters used in Admixture Plants

For the batching & blending in production plants

For the tank farm and admix truck loading point

Locations include: Dubai, Egypt, Saudi Arabia, Bahrain, Indonesia, Malaysia, Philippines, Vietnam, Thailand, Laos, Burma, China, HK, Singapore, Australia, NZ, Chile and many other sites.
Equipment for Water Measurement in Admix / Concrete Plants
**CONCRETE INDUSTRY WATER MEASUREMENT PRODUCTS**

ManuFlo servicing & supplying the concrete industry for over 50 years, quality custom built flow measurement and batching system products, with rapid stock support and service!

---

**Water Supply**

- **Overhead Tank** (Fresh water / Mains)
  - **OR**
  - **Ground Pit** (Recycled water)

---

**Batch Room**

- **Batch Monitor**
  - ME6008M
    - (8 Channel Monitor)

- **Batch Controllers**
  - ME3000
    - (Keypad Version)
  - ME995-7
    - (Rotary Switch Version)

- **Resettable Totaliser**
  - ME5-T-A
    - (Dual display slumpstand)

---

**Flowsensor**

- **RPFS**
  - Paddlewheel type
    - (Fresh water/Mains)

- **KMS**
  - Electromagnetic Flowmeter
    - (Fresh /Recycled water)
  - **RMS**
    - NO MOVING PARTS

---

**Solenoid Operated Valve**

- **MRTU4**
  - Resettable Battery Powered Flowmeter
    - (MANUAL BATCHING)
    - Size: 25-100mm
  - e.g B50
    - 50mm Butterfly valve

---

**Slumpstand**

- **MRTU4-GAL25-T2**
  - (standalone or dual display (-P) slumpstand flowmeter)

- **ME4T with CMM25**
  - (Magflow for recycle water)

---

**Water Discharge**

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**ManuFlo also supplies equipment for:**

- Grout mix
- Shotcrete
- Admixtures
- Tradewaste

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**Reconditioning Service Available**

**Save $$$ !!!**

---

**ManuFlo Flow Measurement & Control Products**

Web: www.manuelectronics.com.au
Email: sales@manuelectronics.com.au

**ManuFlo**

**MANU ELECTRONICS PTY LTD**

41 Carter Rd, Brookvale
Sydney NSW 2100 Australia
Ph: + 61 2 9905-4324, 9938-1425
Fax: + 61 2 9938-5852
ME995-7 Preset Batch Controller
- 9999 Litres Preset Batch Controller.
- 4 Digit LED display.
- Counts in Litres up to 9999.
- 4 x LED status indicators.
- Preact function.
- Preset maximum limit.
- Missing pulse detection.
- Optional PLC & computer interface.
- K-factor (calibration) adjustment.
- Compatibility with most flowmeters.

ME3000 Preset Batch Controller
- 6 digit LCD Microprocessor Batch Controller. Panel mount type.
- Front keypad. IP64.
- Displays batch in ml / Litres
- Flowrate display.
- Fully programmable.
- Batching safety features.
- With logic, pulse, and current output options.

DSSS-1 Dual Display Slump Stand / Batch Room
- water measurement system package

ME6008M Batch Monitor
- Monitors up to 8 channels.
- For manual batch plants that need QA printout of flowmetered additives or water.
- Automatic end-of-batch printing and datalogging. Used with serial printers LX-300+II or DP8340.
- Optional: 1 channel available ME600M1

MRP20-T2 or MRT20-T2
- 20mm LCD Resettable Counter Flowmeter.
- Screwed & Slip insertion types.
- Custom designed & built primarily for use on Concrete Transit Mixers.
- 4 digit Large LCD counts in LITRES.
- (-P) for pulse output option.
  for remote GPS tracking

RPFS-P Flow Sensor
- Paddlewheel type.
- For fresh/mains water.
- Fits into pipe adapters of various types and sizes 20 - 150mm.
- e.g. SS25
  25mm Stainless Steel pipe adapter

MRP20-T2 or MRT20-T2
- 20mm LCD Resettable Counter Flowmeter.
- Screwed & Slip insertion types.
- Custom designed & built primarily for use on Concrete Transit Mixers.
- 4 digit Large LCD counts in LITRES.
- (-P) for pulse output option.
  for remote GPS tracking

KMS or RMS Electromagnetic Flowmeters
- In sizes from 25 to 250mm.
- No moving parts.
- Virtually maintenance free.
- For heavy recycled water.
- Optional connection kits available in PVC or Gal.

Solenoid Valves
- Fast acting solenoid valves.
- For water.
- In various types and sizes.
- With or without air assist.

Consult for connection to PLC controlled Batch Systems.
OPTIONS: - Flow Metered Plant Water
Batching via PLC/Computer Control

1/ RPFS-P Paddlewheels for fresh water
2/ KMS or RMS Magflows for fresh & recycle / slurry water

Flowmeter measures flow.
RPFS (for clean water)
or RMS (for slurry water)

Batch Controller controls batch delivery
ME995-7 or ME3000

Batching computer sets/records batch

Optionally incorporated into a ME2008-8 Interface ADMIX unit

NEW!
ME6008M Batch Monitor Printer Driver Unit

Provides multi-channel batch log/printout for manual premix concrete batch plants.

Monitors/prints up to 8 channels of admixture or water.

- Provides an automatic QA end-of-batch printout, for use in concrete batch plants.
- Internally logs at least 500 batch events, downloadable to your laptop/PC now via optional front-access DB9 RS232 connector (comes with RS232-to-USB adapter).
- All records are time stamped from the unit’s Real Time Clock, and have a Batch Number ID, time and date.
- Simply parallel flowmeter pulses and connect to the ME6008M, which then connects to a serial printer or PC.
- Grand Totals and the Batch History can also be printed (or dumped to a PC) on demand.
- Fully programmable, and the user can set parameters including K-Factors (PPL).
- Simple to install - same size as the ME995-series Batch Controllers, with same cutout.

New features:
- Extra RS232 connector on front, for easy access to download log to laptop.
- Units (mL or L) indicated in printout.
- NEW “-E” version for remote PLC command functionality
# Load/Weigh Cells vs Flowmeters for Batching

## The ManuFlo Advantage

<table>
<thead>
<tr>
<th>Feature</th>
<th>Load/Weigh-Cell -VOLUMETRIC</th>
<th>Flowmeter (MES –positive displacement) - VOLUMETRIC</th>
<th>Flowmeter Advantage</th>
</tr>
</thead>
</table>
| **Usage** | • Not widely used in Australia. | • Wide use in Australia / S.E.Asia / Pacific  
• MES nutating disc positive displacement  
• Ex-stock equipment | • Deal with 50+ years experience  
• Ex-stock equipment for rapid support and installation of systems worldwide |
| **Application** | • In general, well suited for applications where dry materials are being measured  
• Generally can only handle limited dedicated volumes of admix  
Load Cell accuracy can be affected by moisture, dust, dirt etc | • Well suited for applications needing simultaneous liquid batching and where precise measurement over a broad range of flow conditions is required  
• Measurement of precision volumes from 1 millilitre resolution  
• High volume speed batching possible | • Application throughput, versatility  
• Unlimited system setups  
• ME2008 batch safety system technology with digital signal flowmeter monitoring technology  
New upgraded ME2008-V1.8.  
New Software, + greater power efficiency |
| **Accuracy affected by** | • Fluid instability (splashing or agitation)  
E.g. Excessive foaming possible of product as it is charged into canisters.  
• Poor mechanical isolation from other devices (pumps, conveyors)  
• Simultaneous flows into a batch vessel  
• (leaky valves, bad sequencing)  
• Physical changes (e.g. build-up on exterior)  
• Calibration issues with varying specific gravity of liquids | • Small impurities can pass system  
ManuFlo Magflows are an alternative  
**MAGFLOWS –high-end option.**  
No Moving Parts, High accuracy Maintenance Free | • Easier to maintain accuracy.  
• Calibration unaffected by specific gravity variations  
• Precision measurement to 1 millilitre  
• New “DSP” Digital Smart Pulse. |
| **Delivery** | • The mechanical analogue system must reach a stable condition for final accurate measurement and dispensing  
• Double handling | • For faster delivery, can pump faster or use bigger flowmeters  
• Digital pulse | • Faster delivery possible  
• No double handling, one stage process  
• Digital signal, less errors |
## Load/Weigh Cells vs Flowmeters for Batching

**The ManuFlo Advantage**

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| **Operation Throughput** | • If admixture first pumped to bottles/canisters then transferred to mix: extends batch cycle time  
• Double handling is slower and inefficient  
• If batch materials added sequentially - results in longer batch time | • Allow simultaneous batching (adding multiple ingredients at the same time)  
• Batch can be continuously mixed for continuous dosing or shotcreting applications | • Reduced total batch time due to simultaneous batching, increasing the effective capacity of the batch operation |
| **Installation**   | • Ensuring that the load cell is isolated from its environment is often accomplished at increased project costs.  
• Often, a multi-disciplinary team, including structural, mechanical, and process engineers, is needed to maintain load cell installations, involving coordination time/cost.  
• Limited number of admixtures can be dispensed  
• Difficult to add additional products once in place | • Easy install by local plumber/electrician.  
• Modular systems, easy to mix match or upgrade or add additional admixtures.  
• Plant infrastructure already in place | • Lower setup costs  
• More cost effective to operate  
• Reliable digital technology  
• Unlimited amount of admixtures can be dispensed with flowmeter systems  
• Lower infrastructure costs  
• In most batch plants, infrastructure is already in place |
| **Maintenance**    | • Routine system cleaning needed of scales and canisters  
• Flushing of system required with water (wastage) | • Easy maintenance.  
• No ongoing flushing required | • Lower maintenance time and lower ongoing costs  
• Flushing system not required |
| **Calibration**    | • Issues with varying specific gravities of liquids  
• Calibration can be time consuming  
• Higher ongoing calibration compliance costs | • Measurement of wide range of varying viscosity and specific gravity liquids with minimal calibration variations | • Lower ongoing calibration compliance costs  
• Flowmeters supplied calibrated comparable to National Measurements Institute reference NMI-NSS-1671.  
• AS1379 allows +/-5% yet MES positive displacement flowmeters +/- 1.5% accuracy performance |
### Load/Weigh Cells vs Flowmeters for Batching

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<tr>
<td>Re-calibration</td>
<td>Can only be performed by dedicated personnel</td>
<td>Simple calibration check procedure</td>
<td>AS1379 requirement +/-5%, Allows greater flexibility and lower compliance costs via flowmeters</td>
</tr>
<tr>
<td>Interfacing</td>
<td>Analogue output</td>
<td>Digital output.</td>
<td>No conversion errors</td>
</tr>
<tr>
<td></td>
<td>Subjected to deterioration by noise during transmission and write/read cycle, reducing accuracy.</td>
<td>Can be noise-immune without deterioration during transmission and write/read cycle.</td>
<td>ManuFlo ME2008 Batch Safety Monitoring Software Technology</td>
</tr>
<tr>
<td></td>
<td>Analogue hardware is not flexible.</td>
<td>Digital hardware is flexible in implementation. Denoted by square waves.</td>
<td>ME995 Missing Pulse Detection</td>
</tr>
<tr>
<td></td>
<td>Analogue instruments usually have a scale which is cramped at lower end and give considerable observational errors.</td>
<td>Digital instruments are free from observational errors like parallax and approximation errors.</td>
<td></td>
</tr>
<tr>
<td>Safeties</td>
<td>Unknown</td>
<td>ME2008 digital batch safety software technology</td>
<td>Early detection management and threshold safety features safeguards batching system</td>
</tr>
<tr>
<td>Traceability</td>
<td>Unknown</td>
<td>Via the PLC/Computer batch log. New Internal GSM/IOT log option in Development coming 2021</td>
<td>Optional dual flowmeter comparator safety detection system</td>
</tr>
<tr>
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<td></td>
<td>Full independent reporting capability</td>
</tr>
</tbody>
</table>

**Common issues with weigh-batch.**

Washout / Rinse spray jets block, leading to build up inside weight canisters, causing major issues. Solenoids fail leading to undetected overdoses.
YES WE REPAIR ITEMS & stock / supply spare parts

• Batch Controller reconditioning upgrades and modifications
• Flowmeters reco’s
• ME2000/08 upgrades
• In-house calibration tests
ManuFlo equipment used in major construction projects globally since 1965

Sydney Harbour Tunnel, Lap Kok Airport HK, M4/M5 upgrades, Dam projects, High Rise Towers. Wherever concrete chemical additives are used ManuFlo products have their presence in some capacity large and small.
ManuFlo Website

www.manuelectronics.com.au
www.manuflo.com

There is an abundance of information and resources available on the ManuFlo website. If you still have any queries however, please feel free to call us for application advice, product recommendations, calibrations, equipment servicing, etc.

ONLINE TECHNICAL SUPPORT GUIDES / DATASHEETS:-