

Liquid Admixture Batching Equipment Via volumetric flowmeter method



ManuFlo

® TM

Flow Measurement Products



V06-2020-ATM

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ManuFlo ® TM

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About ManuFlo

- Manu Electronics P/L began 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



Tens of Thousands in Operation ...

Manila
Philippines



ManuFlo products are:

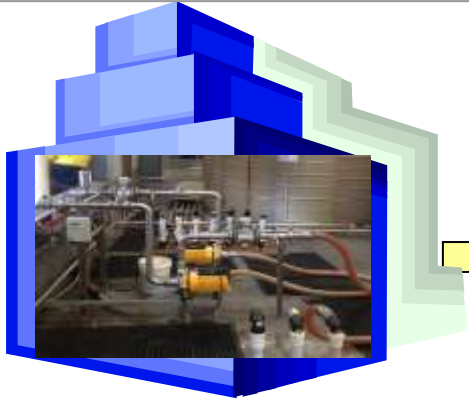
- **Used in over 95% of all pre-mix concrete production plants** throughout Australia/NZ
- **Exported** to regions including the Asia/Pacific, South America, Europe and the Middle-East
- Used in varied liquid measurement applications including concrete admixtures, shotcrete, chemical, mining, slurries,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

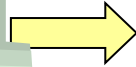
Selected distributors and end users use ManuFlo products for numerous applications worldwide.

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

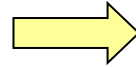
SCOPE - Measuring Admixtures in Production, Transfer and Use in Premix Concrete Plants



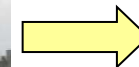
Admixture Production Plant



Admixture Delivery Tankers



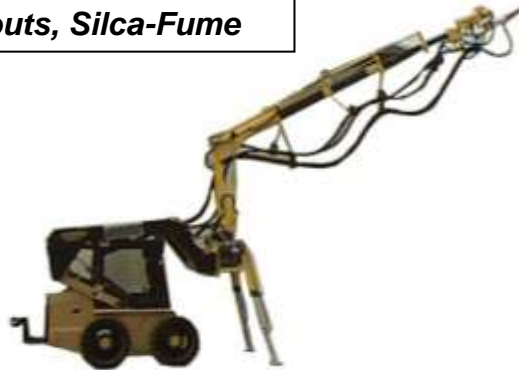
Premix Concrete Plant



Concrete Trucks

And Liquid slurries, Oxides, Grouts, Silca-Fume

ManuFlo - suppliers of liquid measurement application products since 1965.



Shotcrete



Pug Mill / Dosing



Measuring Admixtures via volumetric flowmeter method with ManuFlo safeties.

(first began in Australia in the 1970's)

= No more sight bottles or weigh canisters =
* No more water wash outs *
clean + efficient + maintenance savings



Canisters vs Flowmetering with ME2008 or ME995 Controllers

Feature	Bottle	Flowmeter	Flowmeter advantage
usage	<ul style="list-style-type: none"> chemical passes through Batch Room - must be mounted within sight and reach of the batch operator. can have accidental spillage. 	<ul style="list-style-type: none"> can be mounted outside Batch Room. cleaner Batch Room. 	<ul style="list-style-type: none"> cleaner to use.
installation space	<ul style="list-style-type: none"> bulky. heavy. 	<ul style="list-style-type: none"> compact. relatively light. 	<ul style="list-style-type: none"> less space to install.
support equipment	<ul style="list-style-type: none"> to fill and discharge, needs either 2 pumps or air pressure. 	<ul style="list-style-type: none"> only need 1 pump and/or solenoid. air not needed. 	<ul style="list-style-type: none"> less support equipment.
delivery	<ul style="list-style-type: none"> fill cycle required. 	<ul style="list-style-type: none"> direct delivery via 1 operation. half the time to dispense. 	<ul style="list-style-type: none"> fast, direct injection of chemical.
batch size	<ul style="list-style-type: none"> limited by bottle size. 	<ul style="list-style-type: none"> unlimited. 	<ul style="list-style-type: none"> no restriction on batch size.
maintenance	<ul style="list-style-type: none"> must wash out daily. 	<ul style="list-style-type: none"> virtually no maintenance. 	<ul style="list-style-type: none"> less maintenance.



- **Slow discharge time, Double handling.**
- **Messy, Large & cumbersome, Extra maintenance for cleaning = 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 offers ME2008 or ME995 (which incorporate safety features) with MES or AMM flowmeters in lieu of bottles or weighed.



New Technology wins new customers !!



8 x ME995
Or
4 x ME995-S12



Or



8 x BOTTLES

verses



1 x ME2008

Why settle for this, when all this can be replaced with the one ME2008 or ME995's.

Volumetric Flow Metered Measurement for Liquid Admixtures

MES Series PD Flowmeters

- Available in sizes 20, 25, 32 and 40mm.
- High resolution Digital Pulse-output
- Nutating Disc measurement allows a long operational life.
- MES-series flowmeters are the most commonly used device for measurement of admixtures (over 45,000 in use daily)



AMM & CMM Series Mag Flowmeters

- Available in sizes 15, 20 and 25mm
- No moving parts = near zero maintenance (for conductive fluids)



KMS Series Mag Flowmeters

- Available in sizes 4 mm up to 150mm
- added display with multiple features for the most demanding applications



Admixtures – Flowmeter Selection Guide

ADMIX Chemicals & Conditions	Positive Displacement Flowmeters					Electromagnetic Flowmeters							
	MES20	MES20-T	MES25	MES32	MES40	CMM10	CMM20	CMM25	AMM15	AMM20	AMM25	KMS25	KMS40
Water Based	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
Corrosive	—	✓	—	—	—	✓	✓	✓	✓	✓	✓	✓	✓
None Conductive	✓	✓	✓	✓	✓	—	—	—	—	—	—	—	—
Slurries / Oxides	—	—	—	—	—	—	—	✓	✓	✓	✓	✓	✓
1.5 - 70 Litres/min	✓	✓	—	—	—	0.5-30	✓	✓	0.5-40	✓	✓	✓	—
2.7 - 112 Litres/min	—	—	✓	—	—	✓	✓	✓	✓	✓	✓	✓	✓
3.8 - 185 Litres/min	—	—	—	✓	—	—	—	✓	—	—	✓	✓	✓
7.5 - 375 Litres/min	—	—	—	—	✓	✓	—	—	—	—	—	—	✓
> 375 Litres/min	—	—	—	—	—	—	—	—	—	—	—	✓	✓
*Pulses (> F) & (< R)	✓	✓	✓	✓	✓	—	—	—	—	—	—	✓	✓
Empty Pipe Detection	—	—	—	—	—	✓	✓	✓	✓	✓	✓	✓	✓
Pulses per litre	1000	1000	555	267	112	1000	500	100	1000	1000	500	1-1000	1-1000

* Pulses Forward & Reverse on same train



- + New "DSP-OC" Digital Smart Pulse output pulse-head
- + provides better performance & Vibration free pulsing.
- + New AMM-v2 _Magflow with empty pipe detection

- Simplistic technology easy to operate
- No issues with foaming product
- Most applications no solenoid valves required
- No flushing required
- Suitable for dosing applications
- Meet AS1379 & NMI NSS1672
- Easy calibration procedure & no need for expensive NATA approved personnel
-

MES Series Flowmeters

Primary admixture flowmeter
used worldwide since 1995 with
over 45,000 used daily.

- Available in sizes 20, 25, 32, and 40mm. (20mm sizes covers most applications)
- Digital Pulse high resolution output.
- Positive displacement Nutating Disc allows precise measurement.
- Proven Long operational measuring chamber life of over 20+ years.
- Accuracy virtually un-affected by Specific Gravity or viscosity changes.
- Measures SG's to 1.4. (or for more demanding apps. use Magflows).
- MES is the most cost effective flowmeter option.
- **Digital Smart Pulse "DSP-OC"** output pulse-head near endless life cycle.



POSITIVE DISPLACEMENT TYPE FLOWMETERS

MES Series – widely used for admixtures



MES Flowmeter Sizes - Specifications



MES20-NE



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



New DSP-OC pulse vibration resistant.

MES Flowmeter – Installation -Multiple

Examples of multiple wiring and plumbing MES20 installations



**MES Flowmeters are very easy to service.
Access to the measuring chamber is simple and easy
to replace if ever required**

Magnetic Flowmeter Options

Ideal for acidic or chemicals with solids
(conductivity requirement $\geq 20 - 50\mu\text{S/cm}$)

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 $\geq 50\mu\text{S/cm.}$, temp. to 90c, +24VDC
- 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 (20mm bore), 100 pulses/Litre, 5.0 - 250 L/min



NOTE: To assure accuracy and long term operation only use ManuFlo Magflows. ManuFlo are the Magflow experts.

Use optional 12-24VDC step-up voltage converter for ME995, ME3000 or select channel of ME2008.

Part #
CV12-24



AMM-v2 Series: Magflows (Direct upgrade swap for MES20)

- No moving parts or blockages, virtually maintenance free
 - **Pulses in forward flow direction Virtual empty pipe detection**
 - Pressure to 1000Kpa, Compact design all S/S316, $\geq 20\mu\text{S/cm.}$, BSP-m connection
 - **+12 to 24VDC powered –powered directly from ME995 or ME2008 +12vdc pwr rail.**
- AMM15: 15mm connection (8mm bore), 1000 pulses/Litre, 1 - 35 L/min.
AMM20: 20mm connection (12mm bore), 1000 pulses/Litre, 3 - 100 L/min.
AMM25: 25mm connection (15mm bore), 500 pulses/Litre, 5 - 180 L/min.



If backflow is a concern install a pneumatic valve,

ME995 Batch Controllers



Why still use sight bottles ? No need !

ME995's are simple to use, with inbuilt safety features, near zero maintenance, service on average once only every 15-25 years.

Incredible proven long lasting durability.

Simple swap over –unplug/plug-in with another, return to ManuFlo for service & re-use. Over 15,000 units used daily with MES20 flowmeters (+ others).

Many earlier models still in use since the 1980's (pictured below).
PLC/computer controlled options or fit-out later.



Batch Controllers – model configuration options



ME995-1



ME995-1A



ME995-2



Rear View



ME995-2C



ME3000



ME995-3KH



ME995-3K



ME995-4



ME995-6



ME995-7



ME995-7D-S



<u>Order Code</u>	<u>Description</u>	<u>Input ppI⁽¹⁾</u>
ME995-1	MILLILITRES 5 digits 90000 maximum. 240 vac I/O.	1000
ME995-1A	MILLILITRES 4 digits 9000 maximum	1000
ME995-2	VARIABLE DOSERATE (mls x 10 / m ³), CUBIC METRES (Displays mls)	1000
ME995-2H	HIGH DOSERATE (mls x 10 / m ³), CUBIC METRES (Displays mls)	1000
ME995-2C	VARIABLE DOSERATE (mls x 10 / m ³), CUBIC METRES (Displays m ³)	1000
ME995-2CH	HIGH DOSERATE (mls x 10 / m ³), CUBIC METRES (Displays m ³)	1000
ME995-3	VARIABLE DOSERATE (mls x 10 / 100kg), KG OF CEMENT (Displays mls)	1000
ME995-3H	HIGH DOSERATE (mls x 10 / 100kg), KG OF CEMENT (Displays mls)	1000
ME995-3K	VARIABLE DOSERATE (mls x 10 / 100kg), KG OF CEMENT (Displays kgs)	1000
ME995-3KH	HIGH DOSERATE (mls x 10 / 100kg), KG OF CEMENT (Displays kgs)	1000
ME995-4	LITRES 99.990 maximum	1000
ME995-6	LITRES 99.9 maximum, with decimal point	1000
ME995-7	LITRES 9999 maximum, with K-factor calibration (x17 multiplier input)	1 - 999 (2)
ME995-7D	LITRES 999.9 maximum, with decimal point and K-factor calibration x1	1 - 999 (2)
ME995-7D-S	LITRES 99.9 maximum, with decimal point and K-factor calibration x1	1 - 999 (2)
ME999	MLS./LITRES Multi-role programmable batch controller (with RS232 print/log)	0.1 to 10000

Select batch volumes
from 10 millilitres
to 9000 litres

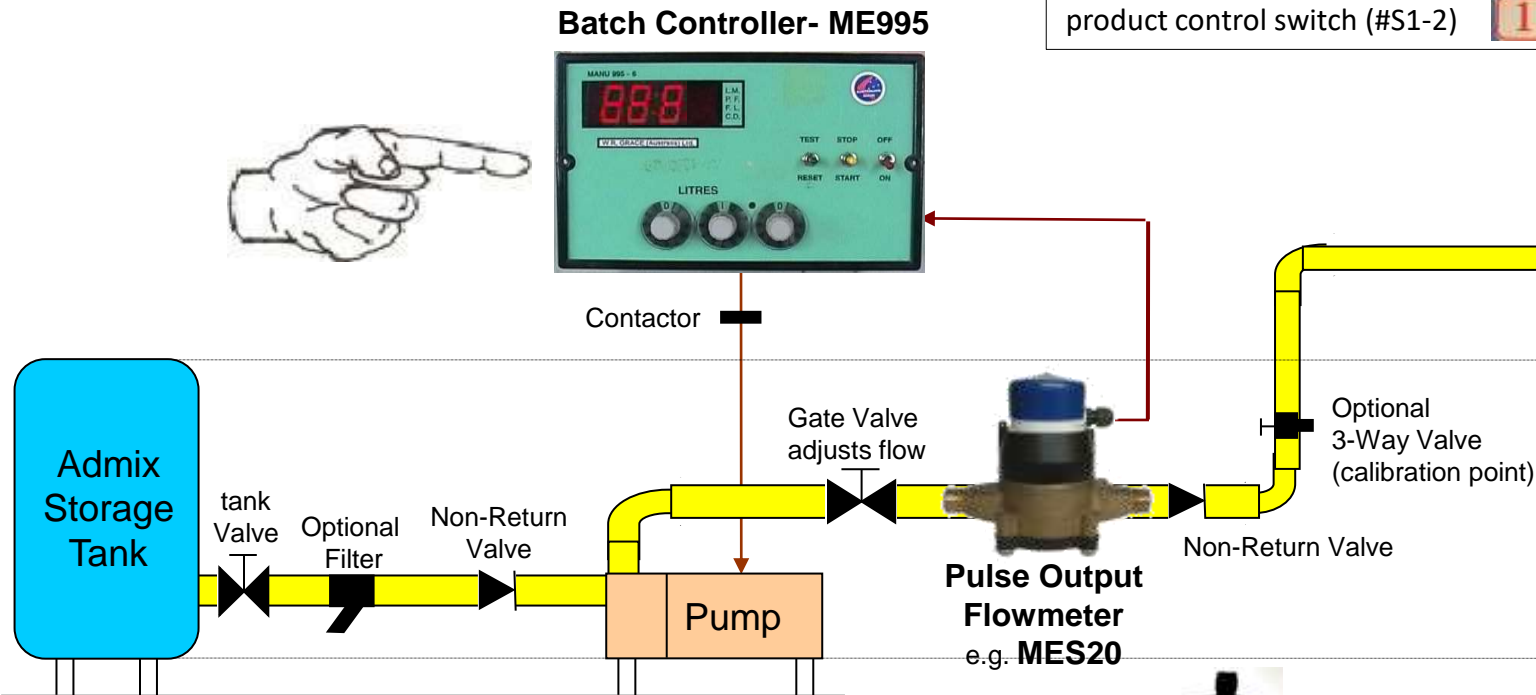
A) ME995 -Automatic Batching

Latest Country Install Ghana Africa
 – dispensing chemicals easily,
 safely, simply & reliably !!

Controllers can be configured to
 dispense 2 admixture products
 2pumps/2flowmeters via 2way
 product control switch (#S1-2)



Used worldwide



Quantity set by: Operator
 Delivery controlled by:
 ME995 Batch Controller with multiple safety features.
Some earlier models still in use since 1980 !!



AMM-v2 Mag-flowmeter options

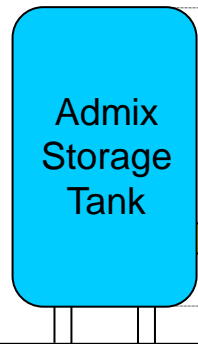
i) Operation of Batch Controllers

Batch Controller starts and stops flow so that a requested quantity is safely monitored accurately and dispensed.

(1) Operator sets batch quantity



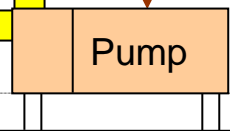
Contactor



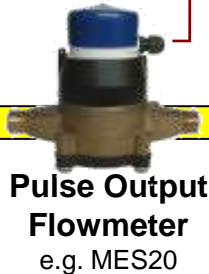
tank Valve



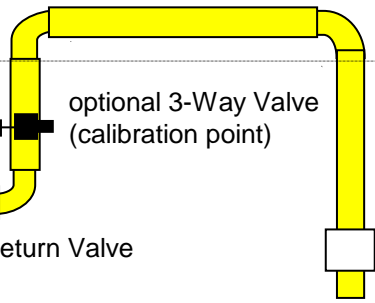
Non-Return Valve



Gate Valve restricts flow

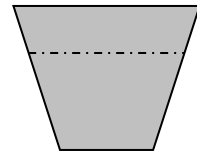


Non-Return Valve



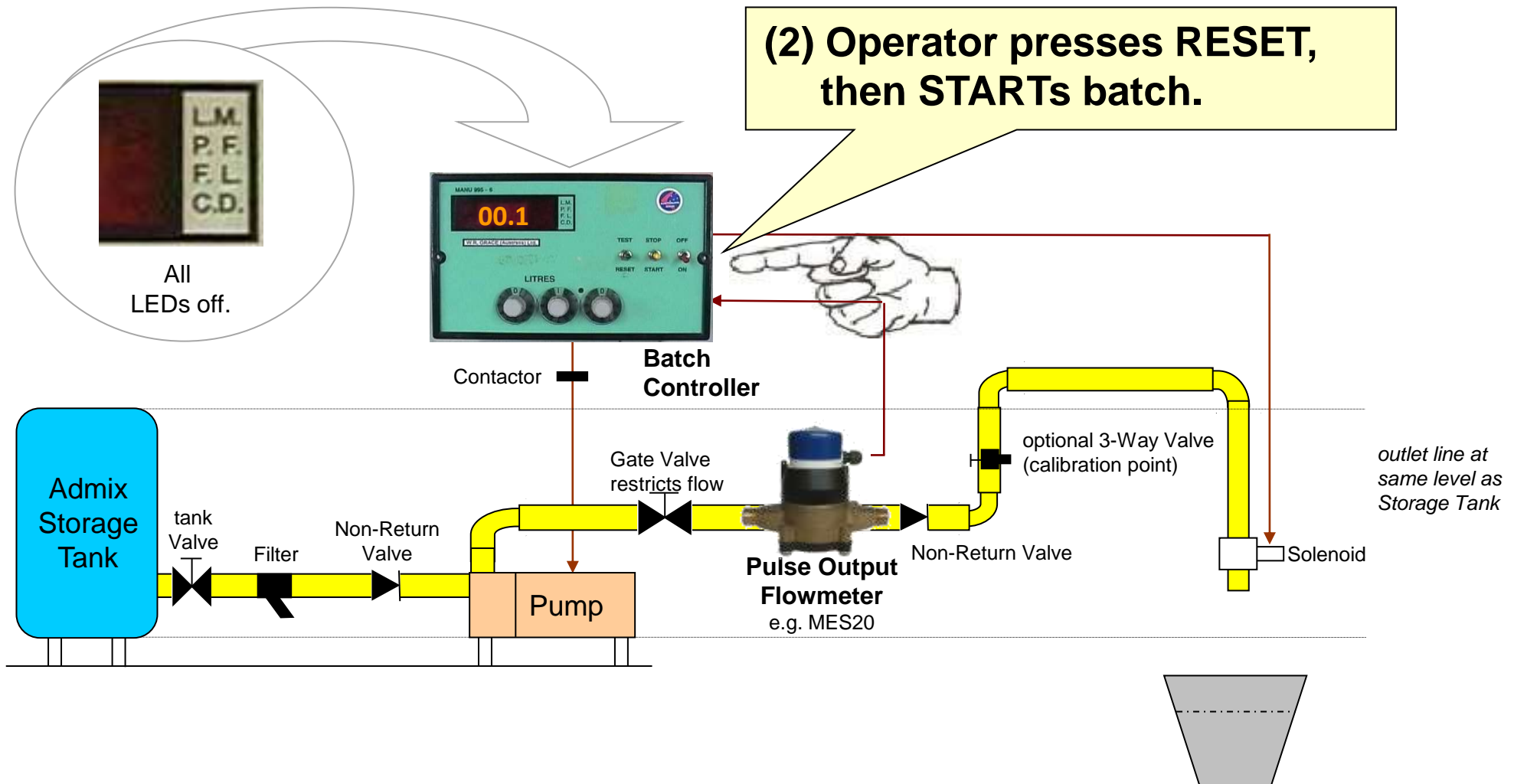
Outlet line at same level as Storage Tank

Solenoid

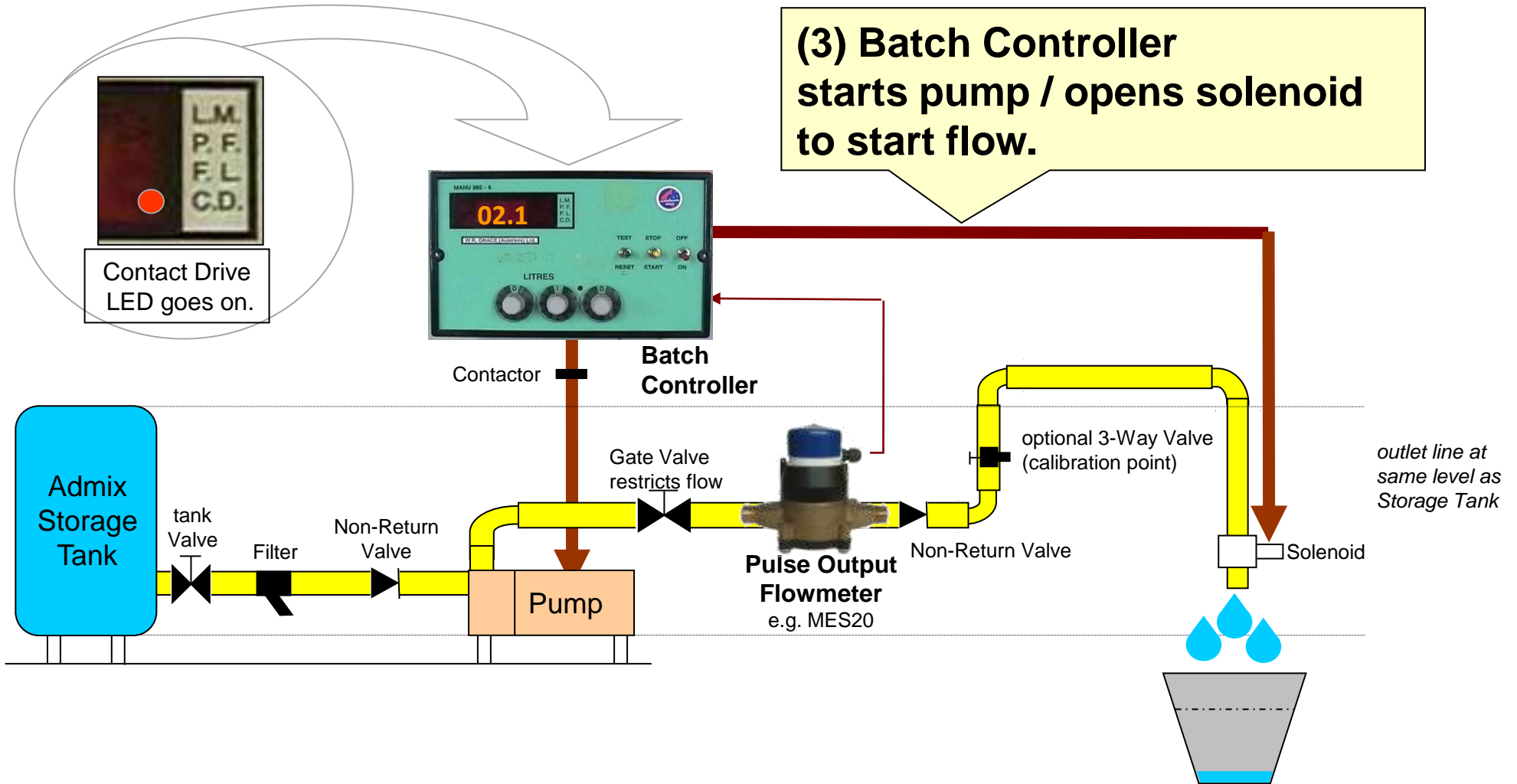


In use in various countries.
e.g. Australia/NZ, Asia-Pacific,
South America, Middle-East

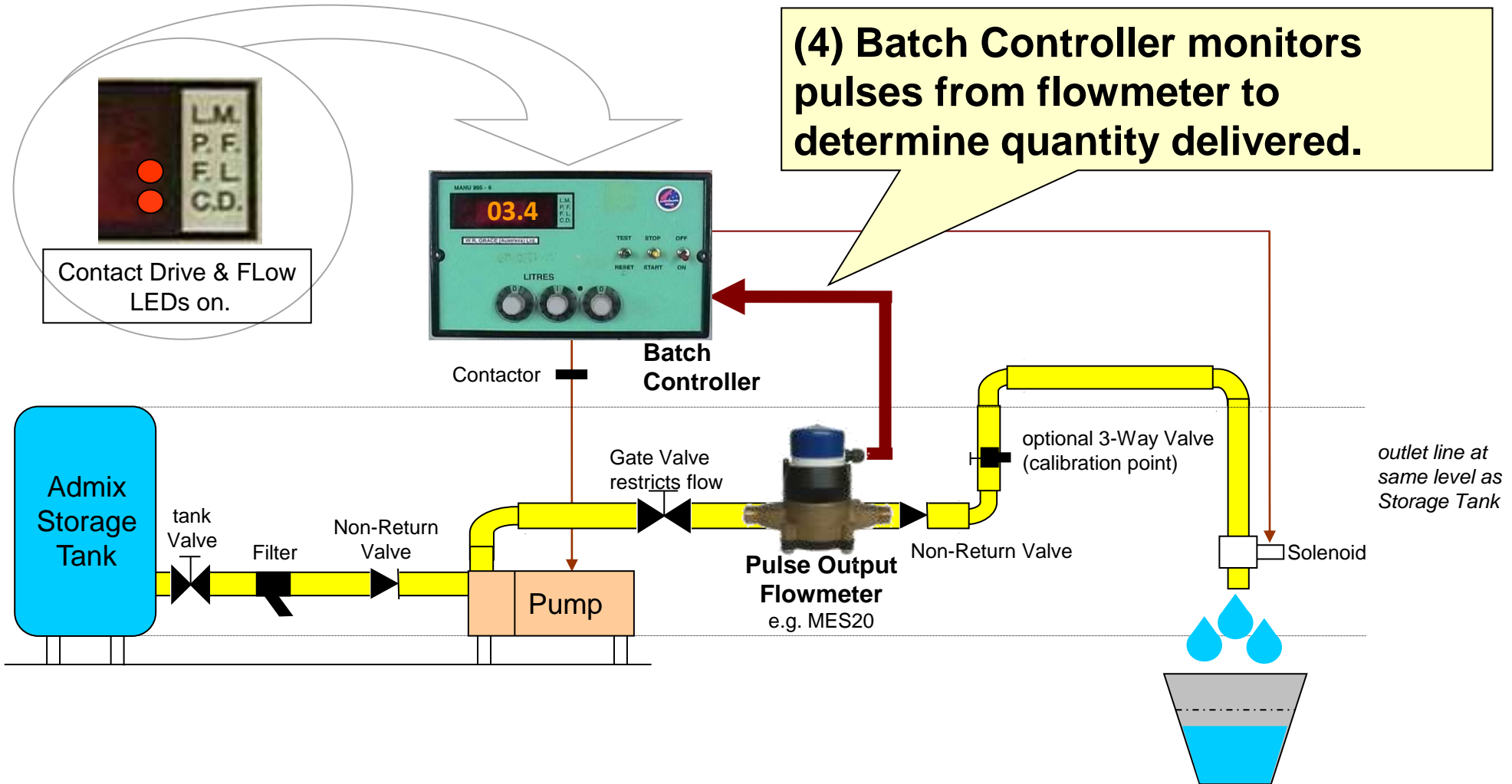
ii) Operation - Automatic Batching



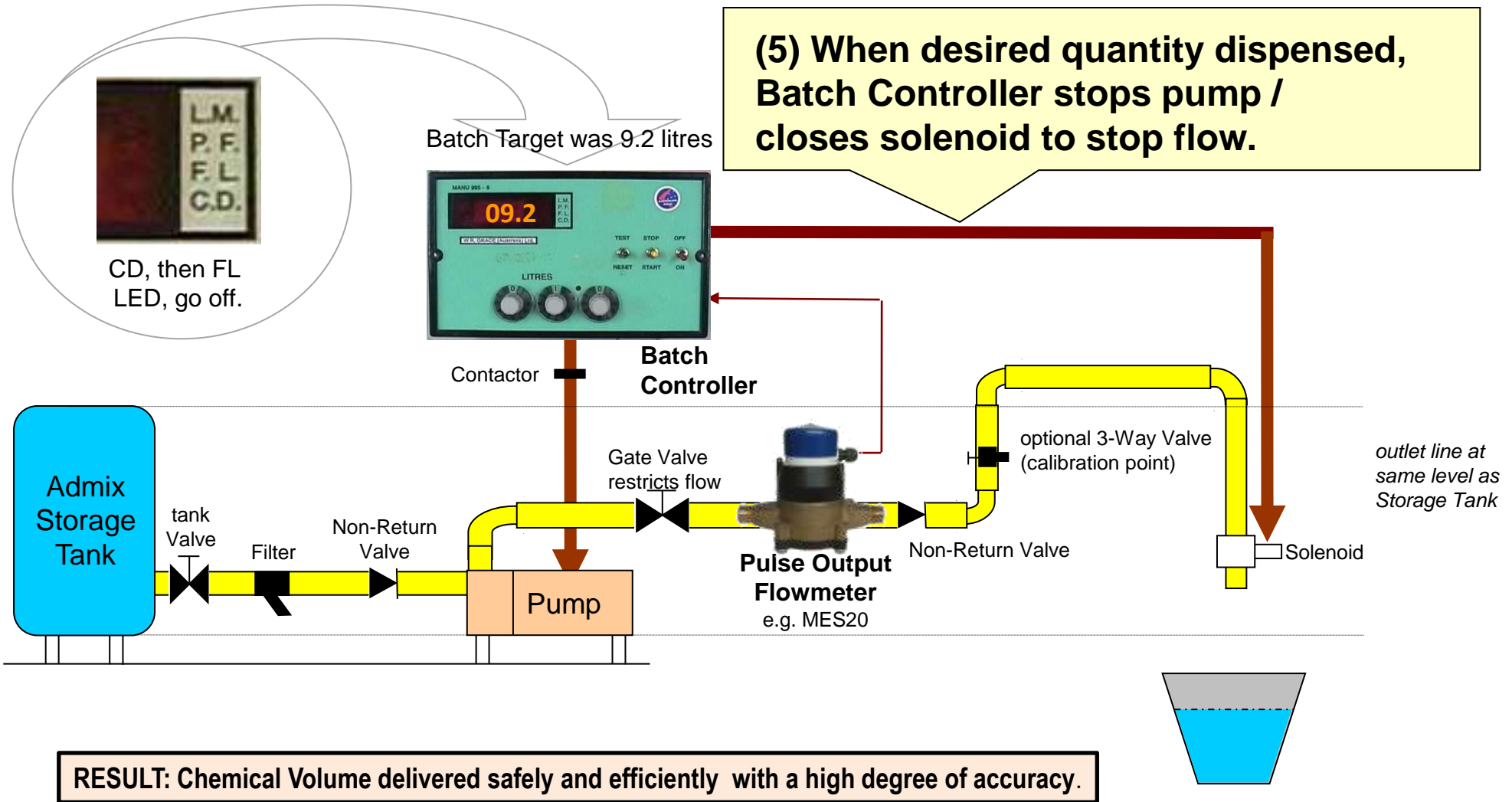
iii) Operation - Automatic Batching



iv) Operation - Automatic Batching

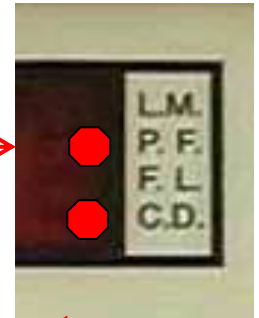


v) Operation - Automatic Batching



ME995 Series Batch Controllers - Safety Features

- **LIMIT (LM) LED** - illuminates if:
 - batch cycle reaches locked internal maximum limit, or
 - circuit diagnostics detect internal chip problem, with subsequent automatic shutoff of voltage contact drive.
- **PULSE FAIL (PF) LED** - activates if:
 - no flowmeter pulses arrive within initial 1.5 seconds (variable), or
 - pulses are interrupted or intermittent during batch cycle (fall below variable pulse scanning time, typical 30 Hz) with subsequent automatic shutoff of voltage drive to pump.
- **FLOW (FL) LED** - indicates pulses coming from field flowmeter, or if test is used.
- **CONTACT DRIVE (CD) LED** - output drive activated to pump or solenoid.



Audible ALARM sounds:

- momentarily upon completion of batch cycle,
- continuously if **PULSE FAIL** or **LIMIT** occurs LEDs are activated or if overflow runs 1000 ml (variable) past selected batch quantity.



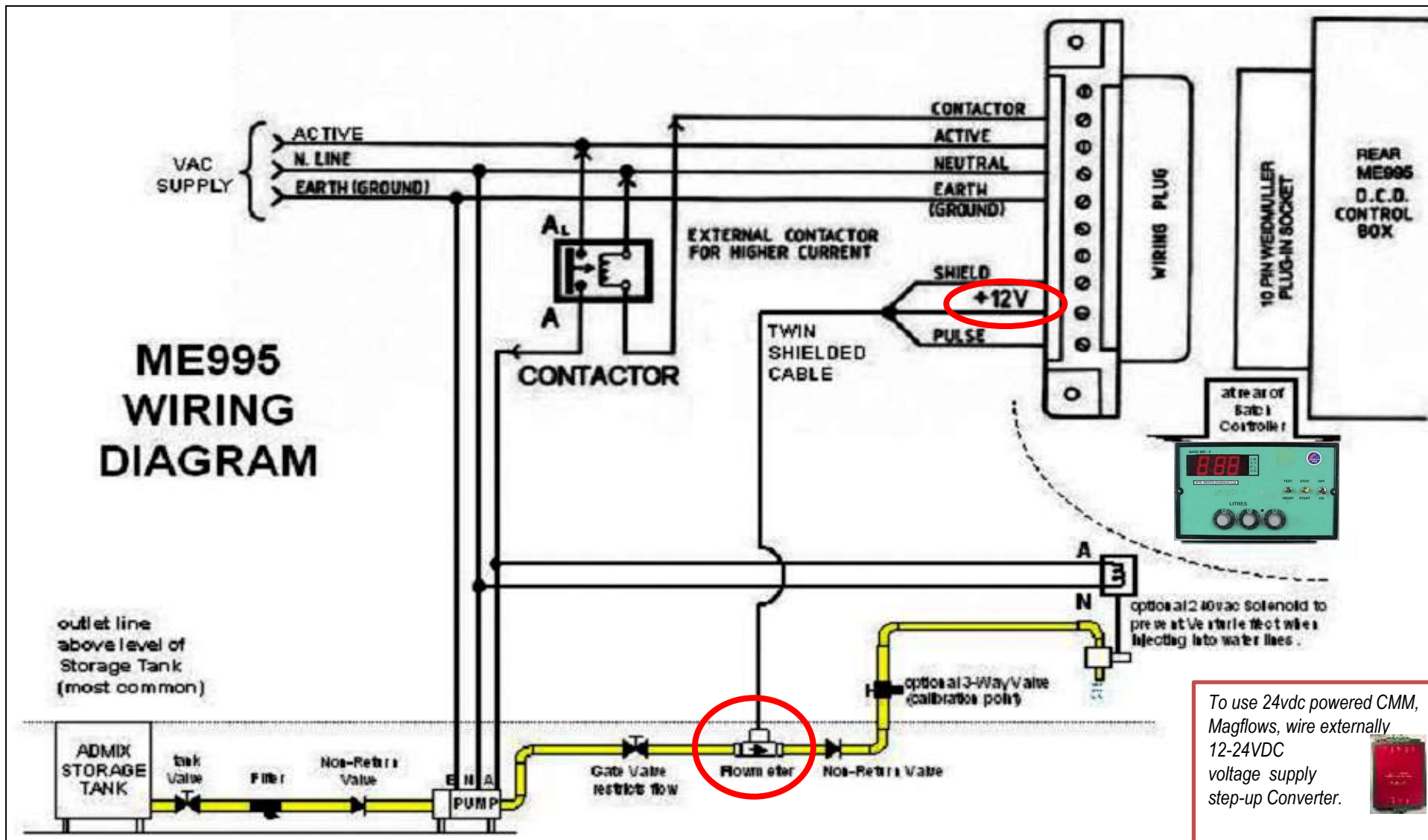
Warning: If **Contact or **Flow LED** indicators are on,**

but controller is not counting, discontinue use –consult troubleshoot guide or call for service.


ME995 Batch Controller Wiring

▪ 240vac i/o standard

(other voltage options/outputs available)



To use 24vdc powered CMM, Magflows, wire externally 12-24VDC voltage supply step-up Converter.



PLC/Computers incorporated with ManuFlo equipment

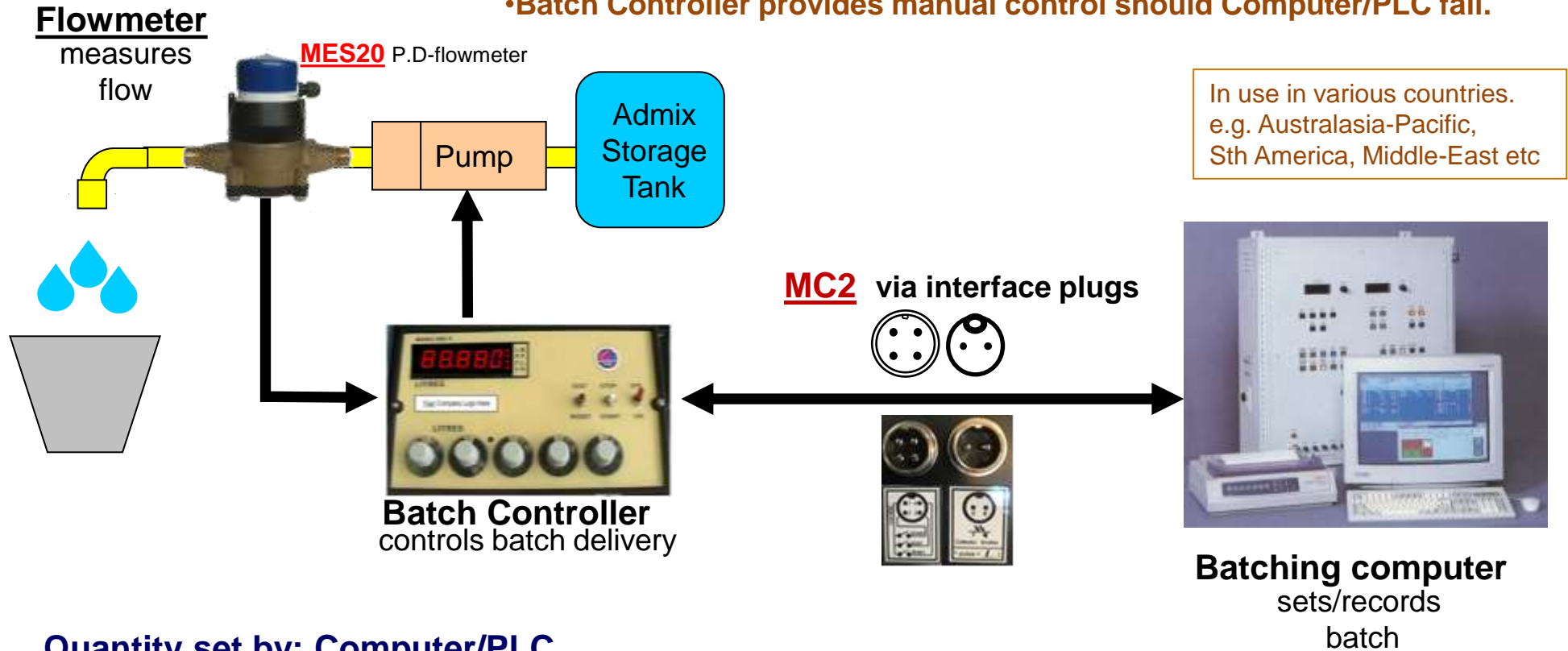
- Types of Batching Computers include:
 - Command-Batch, Eagle/Alkon (see <http://www.commandalkon.com>)
 - Jonel-Archer (see <http://www.jonel.com/readyMixBatch.htm>)



- PC based systems include CompuBatch C500, Axion, Eagle by IPE, Batch-Tec, Matcon-Matic, United-Software, Dorner and others
- **ManuFlo do not supply Batching Computers but our equipment & or flowmeters interface with PLC/computers in customer installations.**
- Call ManuFlo if you are unsure as to the interface required.

B) “-MC2” 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.



Quantity set by: Computer/PLC

Delivery controlled by: Batch Controller/Computer/PLC

Eliminates Bottle Requirement

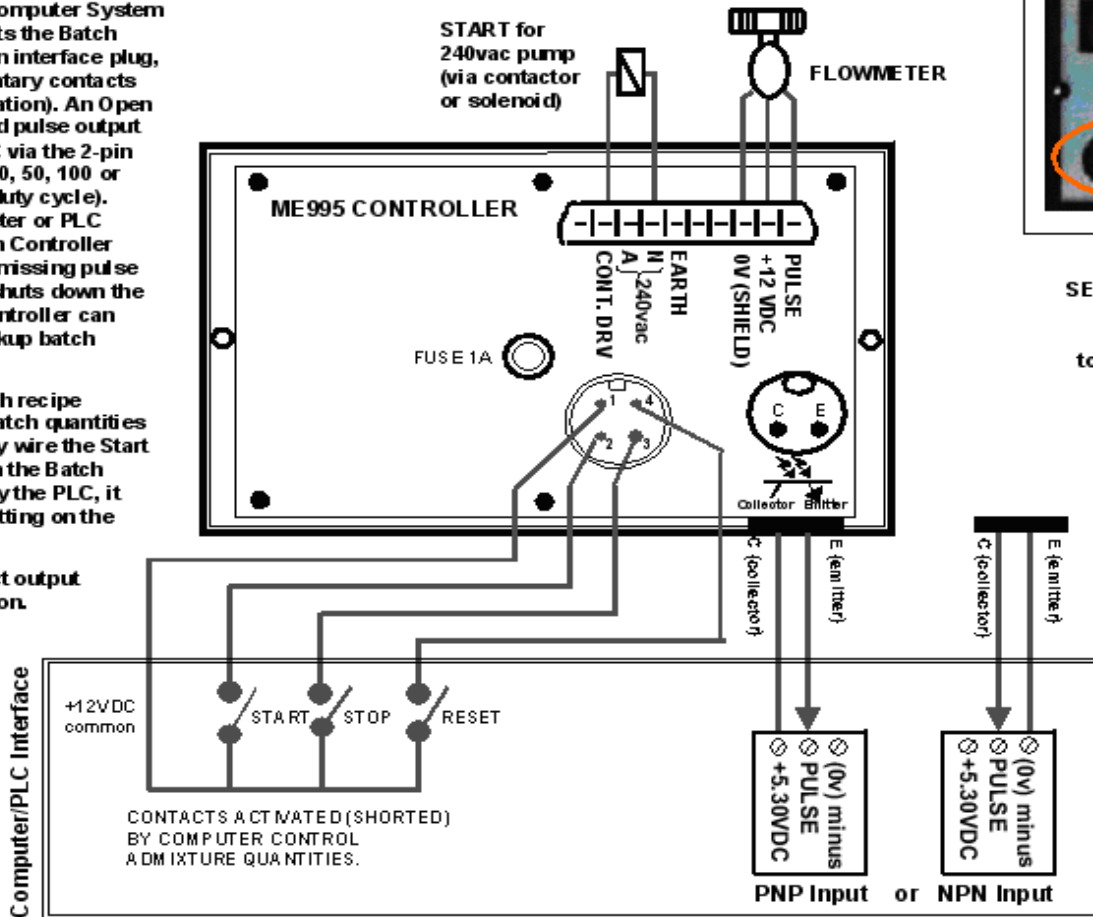
(B) Interfacing to PLC using – MC2

OPERATION OF BATCH CONTROLLER WITH PLC CONTROLLED SYSTEM

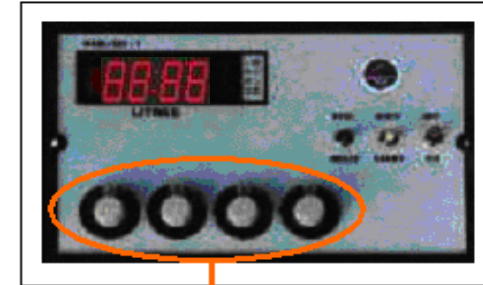
A maximum batch limit is set using the front selector switches of the Batch Controller. The PLC/Computer System starts, stops and resets the Batch Controller via the 4-pin interface plug, using volt-free momentary contacts (minimum 0.5 sec duration). An Open Collector opto-isolated pulse output is provided to the PLC via the 2-pin plug (fixed value 10, 20, 50, 100 or 1000 mls/pulse; 50% duty cycle). In the event of flowmeter or PLC malfunction, the Batch Controller overrides through its missing pulse detection safety and shuts down the system. The Batch Controller can also be used as a backup batch facility.

If the PLC has no batch recipe software control (or batch quantities are repeatable), simply wire the Start and Reset lines. When the Batch Controller is started by the PLC, it will batch up to the setting on the front dials.

Note: An alarm contact output is available as an option.



ME 995 series Batch Controller



SET ON MAXIMUM QUANTITY WHEN OPERATING IN COMPUTER MODE to set maximum batch limit.

Model Defaults:

- 1ml/p = -1 to -6
- 0.1ltr/p = -7D, -7DS
- 1ltr/p = -7

PULSE OUTPUT value is fixed at factory setting of:

- 1 ml 20 mls
- 10 mls 50 mls
- 100 mls
- 1 Litre

WIRING DIAGRAM: ME995 Batch Controller and Computer Batching System.

C) Interfacing/batching with **ME2008**



Or CMM / AMM
Mag-flowmeter
options



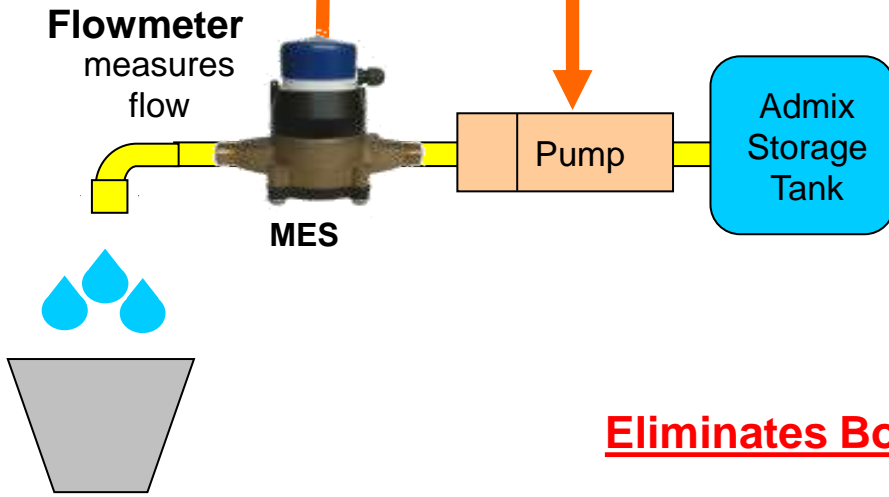
ME2008
Microprocessor intelligent
interface batch safety unit.



ME2000 units in use -HK



Batching Computer
sets/records
batch



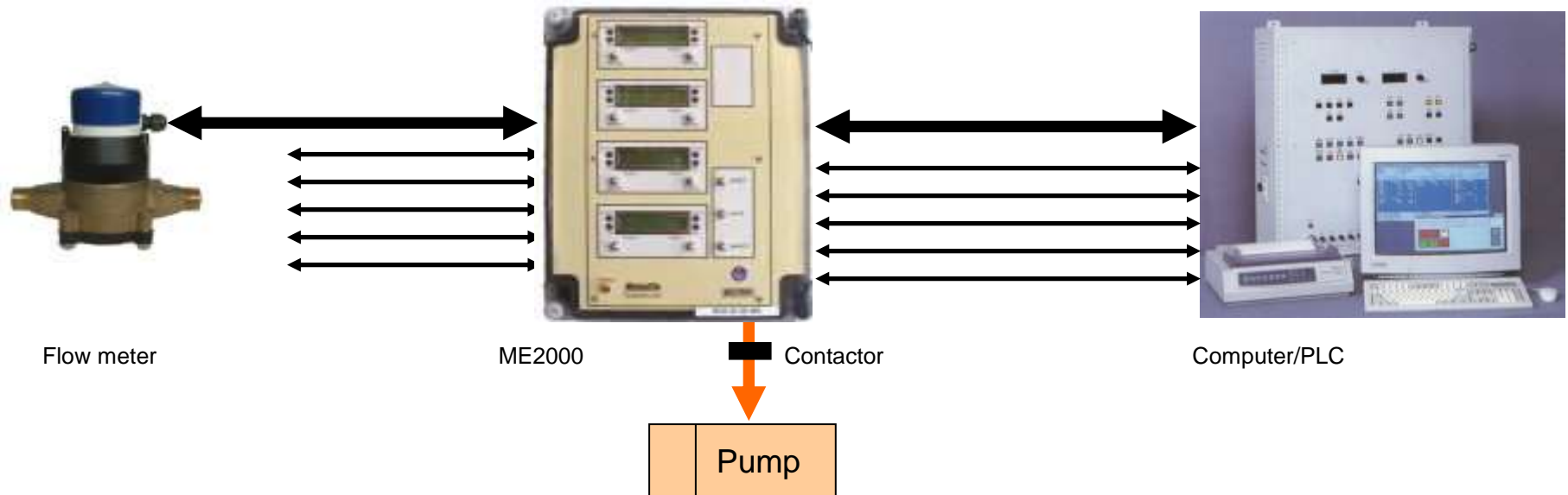
Eliminates Bottle Requirement

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

In use in Australia,
NZ, HK, Nth China

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

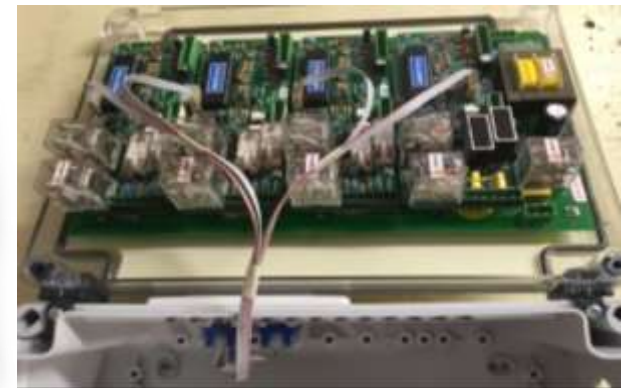
Interface – ME2000/2008



- The ME2000 and ME2008 are microprocessor-based batch safety interface units for management of flowmetering admixture liquids in the concrete production industries.
- **Designed at the request and requirement of suppliers/producers/users of construction chemical products for safely dispensing chemicals replacing the need of sight bottles or load cell canisters**
- A sophisticated **safety management** watches for any malfunction in the flowmeter or batch Computer during the batch cycle. If a fault is detected, the ME2000/2008 will override and shutdown the faulty channel, and will alarm with a message on the display.

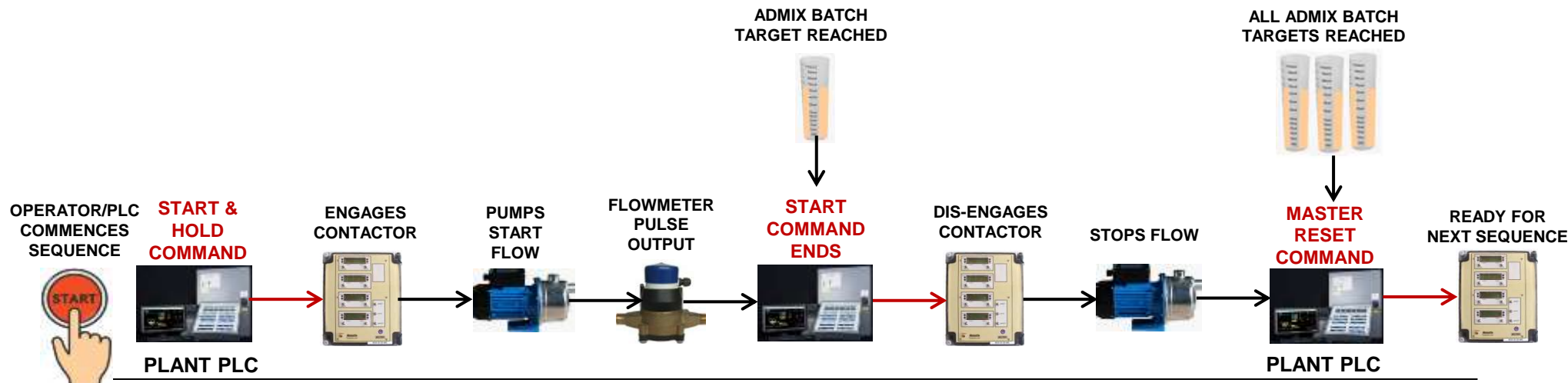
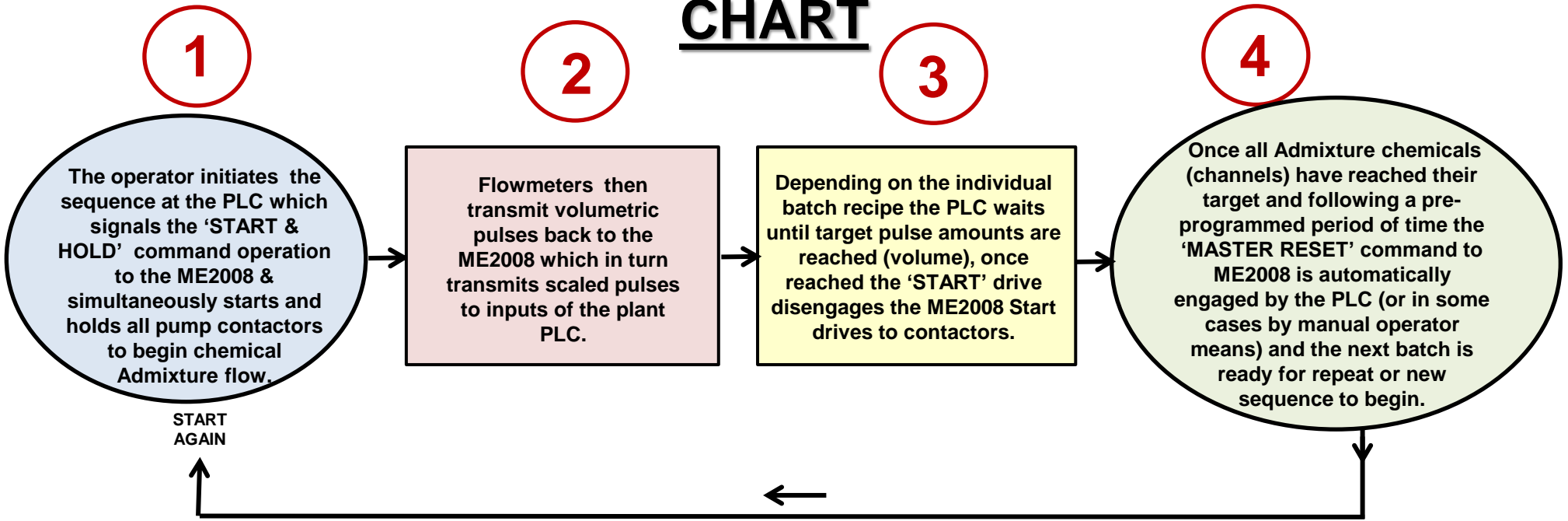
Interface – ME2000/2008

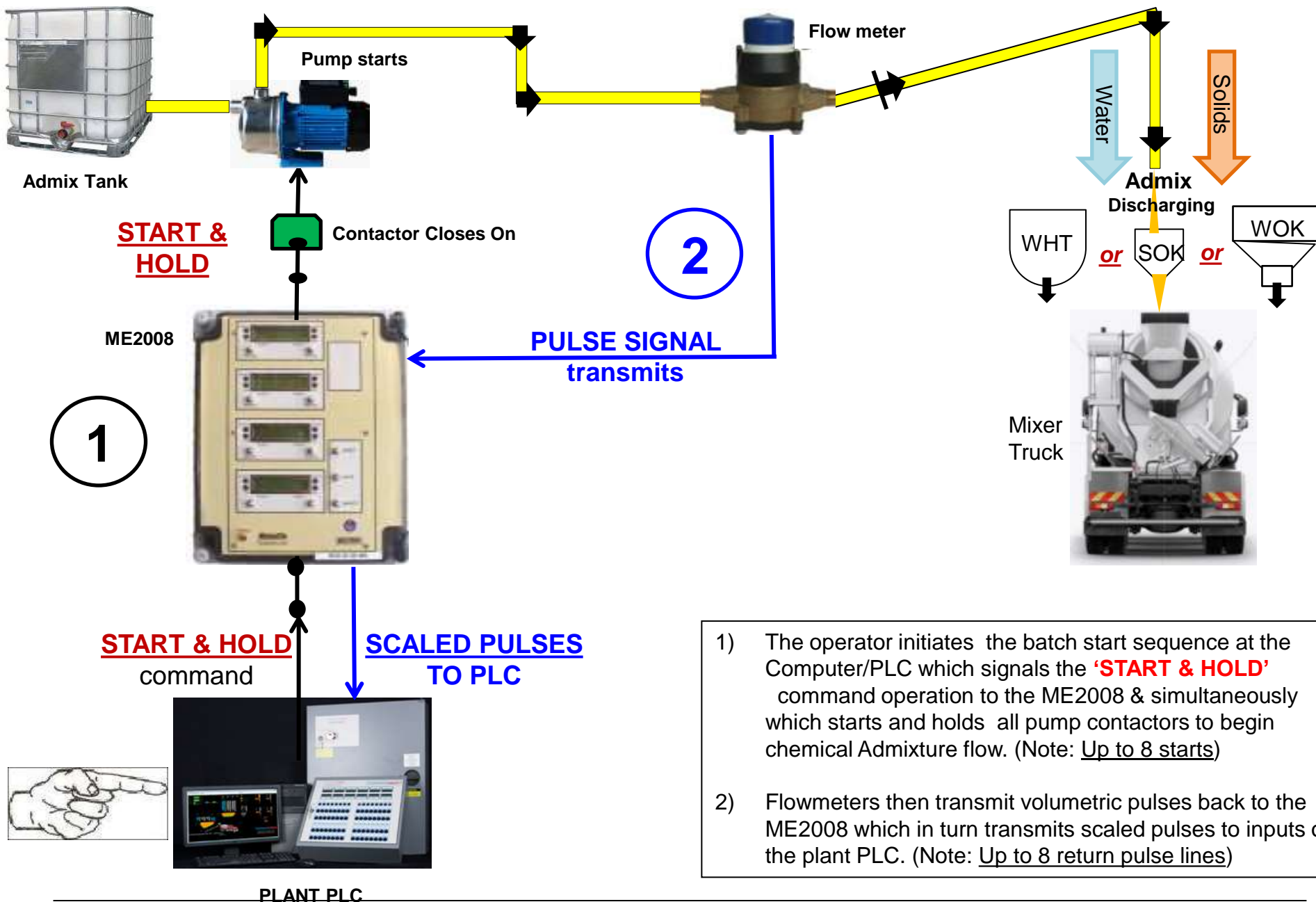
- All parameters and entries are **fully programmable** via a plug-in hand held keypad.
- **Dual-Channel Modules** (mount up to 4) on motherboard, for creation of 2, 4, 6 or 8 channel unit.
- Optional Pulse Comparator for Dual Flowmeter system.
- Optional Dual Display Counters for each channel (for Comparator 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 Pulse-fail Safety.**
- **Low and High Flow range settings.** Real-time Pulse-fail Safety monitoring 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).
- Can be used for water channels e.g. RDFS-P paddlewheel.



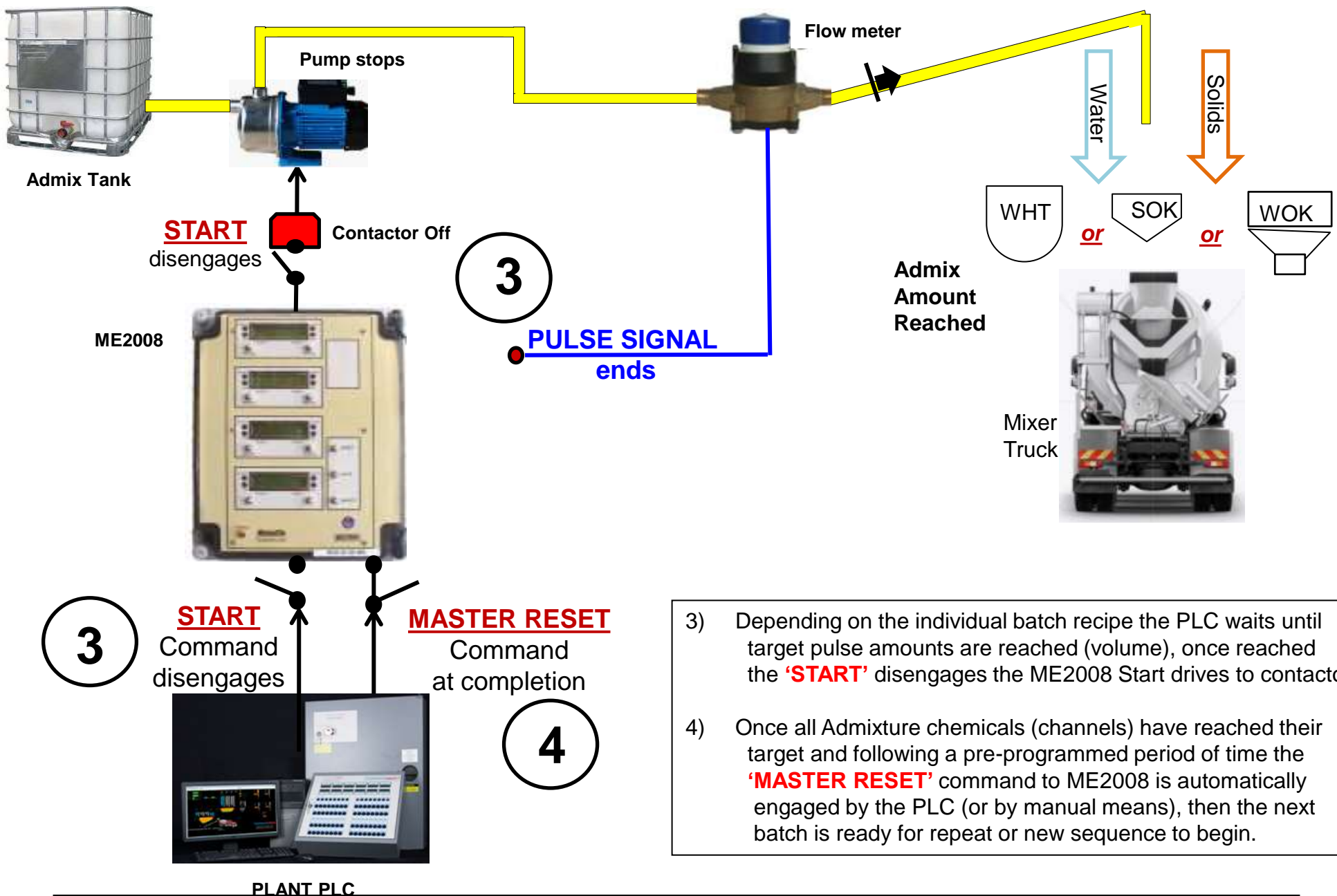
PLC - ME2008 OPERATION SEQUENCING FLOW

CHART





- 1) The operator initiates the batch start sequence at the Computer/PLC which signals the '**START & HOLD**' command operation to the ME2008 & simultaneously which starts and holds all pump contactors to begin chemical Admixture flow. (Note: Up to 8 starts)
- 2) Flowmeters then transmit volumetric pulses back to the ME2008 which in turn transmits scaled pulses to inputs of the plant PLC. (Note: Up to 8 return pulse lines)



- 3) Depending on the individual batch recipe the PLC waits until target pulse amounts are reached (volume), once reached the '**START**' disengages the ME2008 Start drives to contactor.
- 4) Once all Admixture chemicals (channels) have reached their target and following a pre-programmed period of time the '**MASTER RESET**' command to ME2008 is automatically engaged by the PLC (or by manual means), then the next batch is ready for repeat or new sequence to begin.

D) With UIC Interface Card

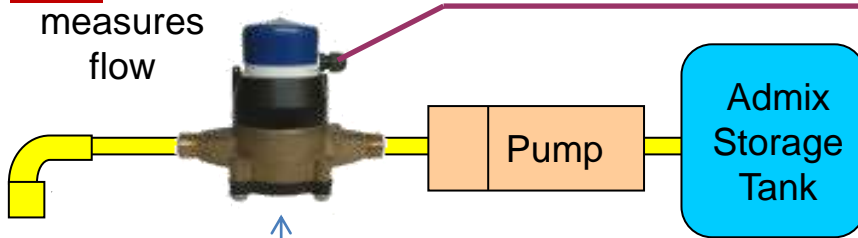
The UIC **Universal Interface Card** provides: signal **scaling** and an **isolation interface** to pulse flowmeter outputs, and re-transmits to PLC/computer inputs.

Models available: **UIC/A2** = 24-240vac switching or **UIC/D** = 5-30vdc switching.

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

MES PD Flowmeter

measures flow



UIC Interface Card



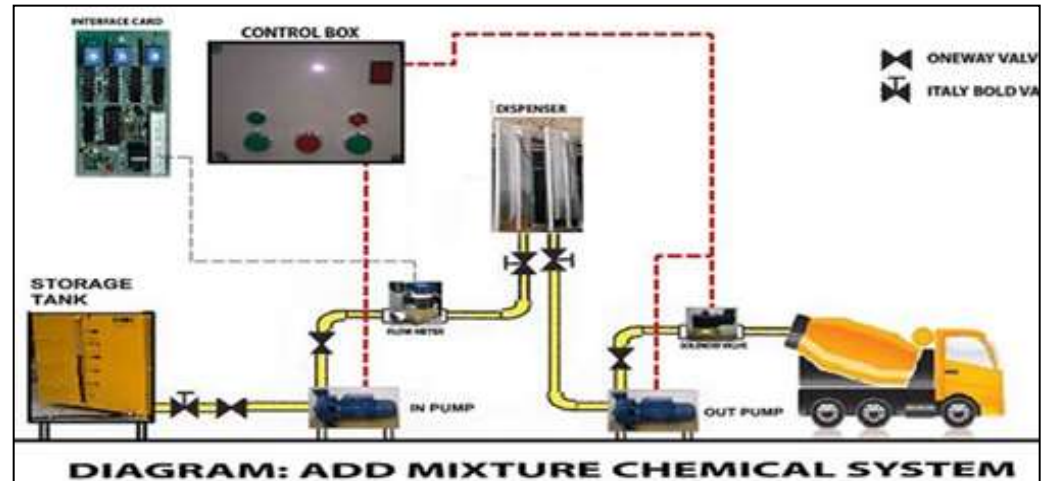
pulse/voltage scaling



Batching computer
sets/records batch



or AMM Mag Flowmeters

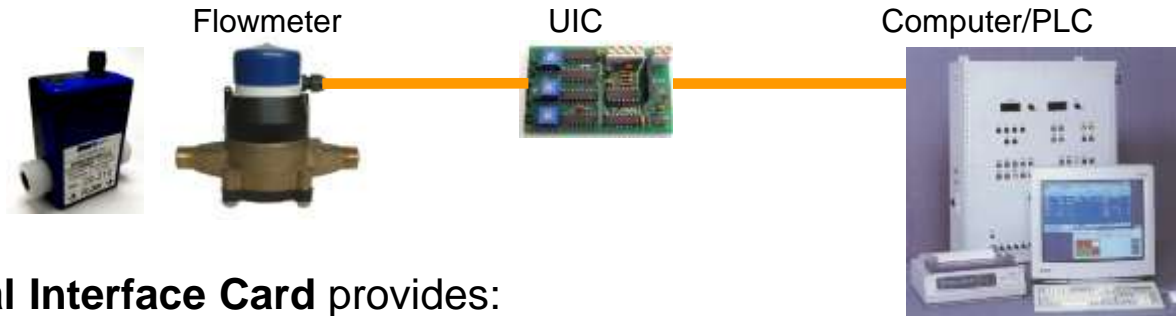


Quantity set by: Computer/PLC
Delivery controlled by: Computer/PLC

Usually used for bottle systems in Asia with Computers

Interface Cards – UIC for Admixtures

Usually used
with
Bottle Systems
Mainly in Asia.



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:

- 1) **UIC/A1** : 110-240 **vac** pulse switching via a triac opto
- 2) **UIC/A2** : 24-250 **vac** pulse switching via a **heavy duty** triac opto
- 3) **UIC/D** : 5- 30 **VDC** NPN/PNP (sink/source) pulse switching via a 4N33 opto

4) **-24DC** : **for 24VDC powered option**



UIC/A1



UIC/A2



UIC/D

Flowmeters used in Admixture Plants



Admix plant in Singapore

For the batching & blending in production plants

For the tank farm and admix truck loading point



Portable trolley for filling IBCs with Magflow's



Admix Plant Jakarta Indonesia



Admix plant in Sydney



Locations include: Dubai, Egypt, Saudi Arabia, Bahrain, Indonesia, Malaysia, Philippines, Vietnam, Thailand, Laos, Burma, China, HK, Singapore, Australia, NZ, Chile and many other sites.



Admix Continuous Dosing Flowmeters

PLC or manually operated



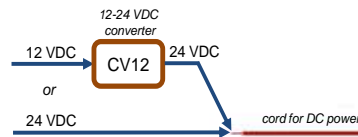
For a resettable total + flowrate remote larger display screen use with

MM15 Mag or MES20 PD-flowmeters

- or shotcrete applications.
- All S/S316 construction, to 16bar.
- Very compact. Light weight. IP67.
- 15 & 20mm BSP (male) threaded ends.
- Flowrange: from 0.1 - 25 Ltrs/min. or 1 to 75 litres./min. (or others)
- For liquid conductivity $\geq 20\mu\text{S/cm}$.
- **Other options available.**

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.



FRT303-MM15
Complete package wired

MES20LCD6DP-F Chemicals.



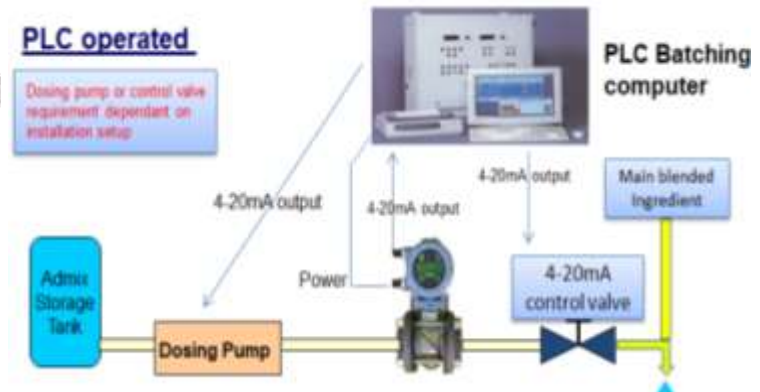
- 20mm resettable flowmeter.
 - Ideal for batching.
 - LCD shows total Litres -1 dec.pl. & Rate.
 - Closing lid resets to zero.
 - Flowrange @ $\pm 1.5\%$ accuracy: repeat 0.2% at 1.5 - 75 Litres/min.
 - PD-disc type measuring chamber.
 - Internal Lithium battery powered
 - Options: Teflon-coated body.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



Manually operated

PLC operated

Dosing pump or control valve requirement dependant on installation setup



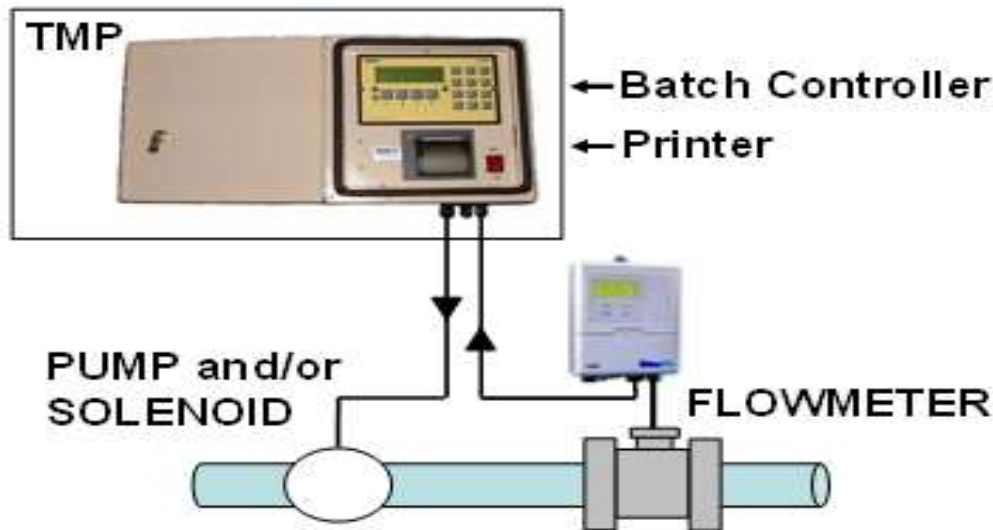
Admix Delivery Truck Mounted Batching Printer System

- **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.



```
* BATCH DISPENSED *  
B0111 18/02/05 13:29  
0000002.1 L
```

Batch Ticket



The TMP interfaces to other equipment on the truck:

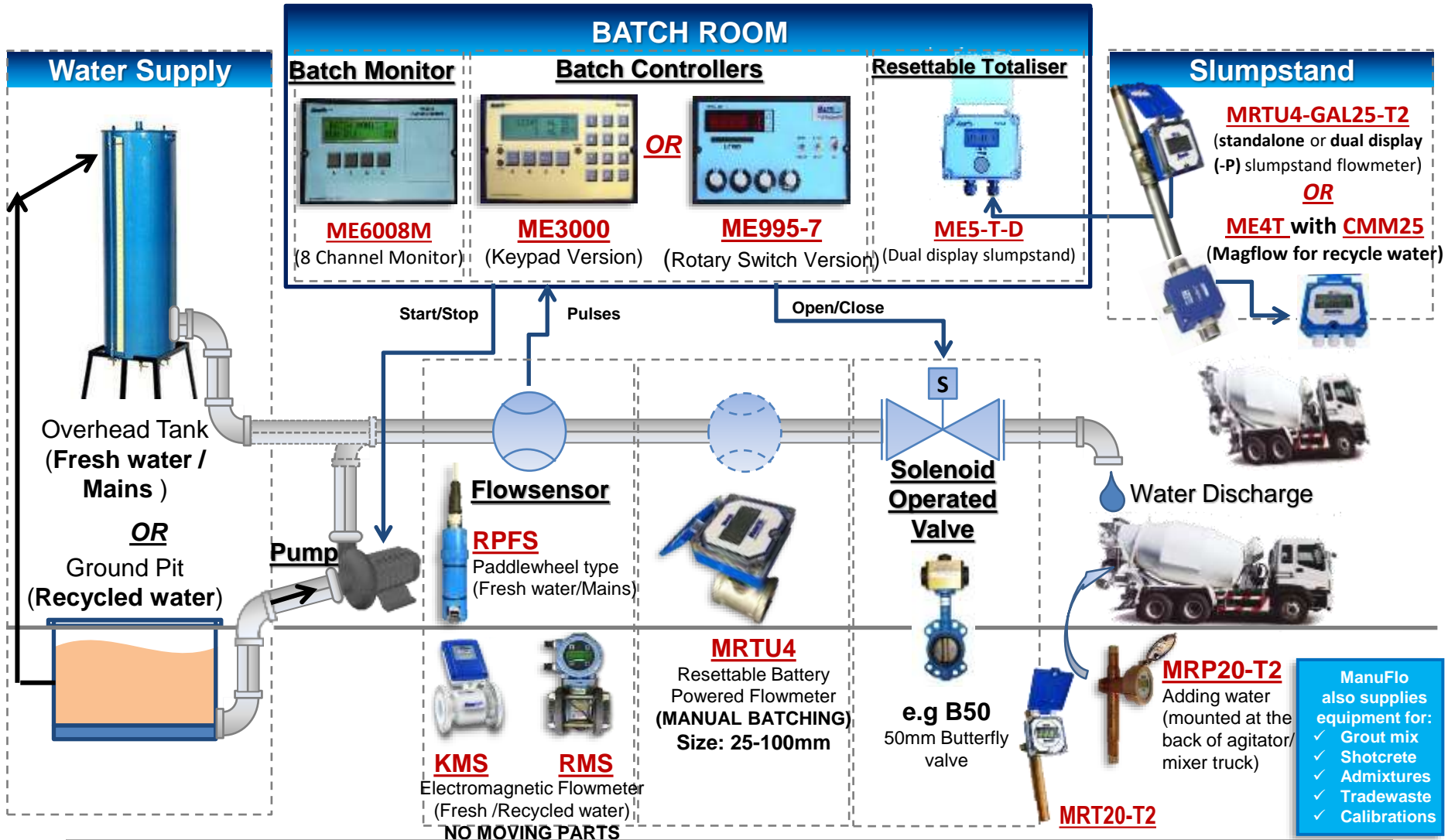
- **controls pump and/or solenoid; and**
- **receives pulses from flowmeter.**





CONCRETE INDUSTRY WATER MEASUREMENT PRODUCTS

ManuFlo servicing & supplying the concrete industry for over 55 years, quality custom built flow measurement and batching system products, with rapid stock support and service!



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Flow Measurement & Control Products

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Ph: + 61 2 9905-4324, 9938-1425

Fax: + 61 2 9938-5852



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!



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 + Preset maximum limit.
- Missing pulse detection.
- Optional PLC interface.
- K-factor (calibration) adjustment.
- Compatibility with most flowmeters.



MRP20-T2 & MRT20-T2

- 20mm LCD Resettable Counter Flowmeters.
- Screwed & Slip insertion types.
- Custom designed & built primarily for use on Concrete Transit Mixers.
- 4 digit counts in LITRES.
- (-P) for pulse output option.



RPFS-P Flow Sensor

- Paddlewheel type.
- For fresh/mains water.
- Fits into pipe adapters of various types and sizes 20-200mm.



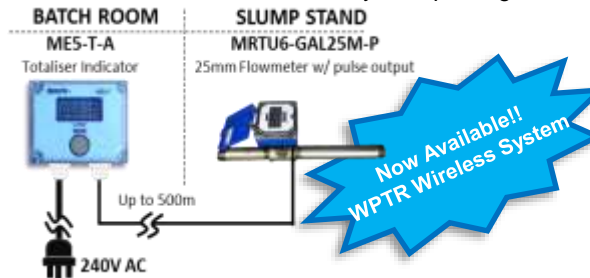
e.g **SS25**
25mm Stainless Steel pipe adapter



ME3000 Preset Batch Controller

- 6 digit LCD **Microprocessor Batch Controller**. Panel mount
- 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



KMS



RMS

KMS or RMS Electromagnetic Flowmeters

- In sizes from 4-250mm.
- No moving parts.
- Virtually maintenance free.
- For heavy recycled water.
- Optional connection kits available in PVC or Gal.



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 also available **ME600M1**



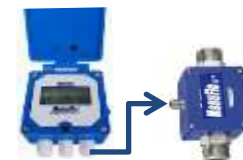
MRTU4-GAL25-T2

- 25mm slump stand meter.
- 4-digit LCD shows total Litres.
- Closing lid resets Litres count.
- Flowrange: 18-235 Litres/min.
- Available in larger sizes for manual batching of plant water
e.g. 50mm MRTU4-GAL50M.



Solenoid Valves

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



ME4T with CMM25 (Magflow for recycle water)



Flow Measurement & Control Products

Web: www.manuelectronics.com.au

Email: sales@manuelectronics.com.au

a division of

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Sydney NSW 2100 Australia

Ph: + 61 2 9905-4324, 9938-1425

Fax: + 61 2 9938-5852

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

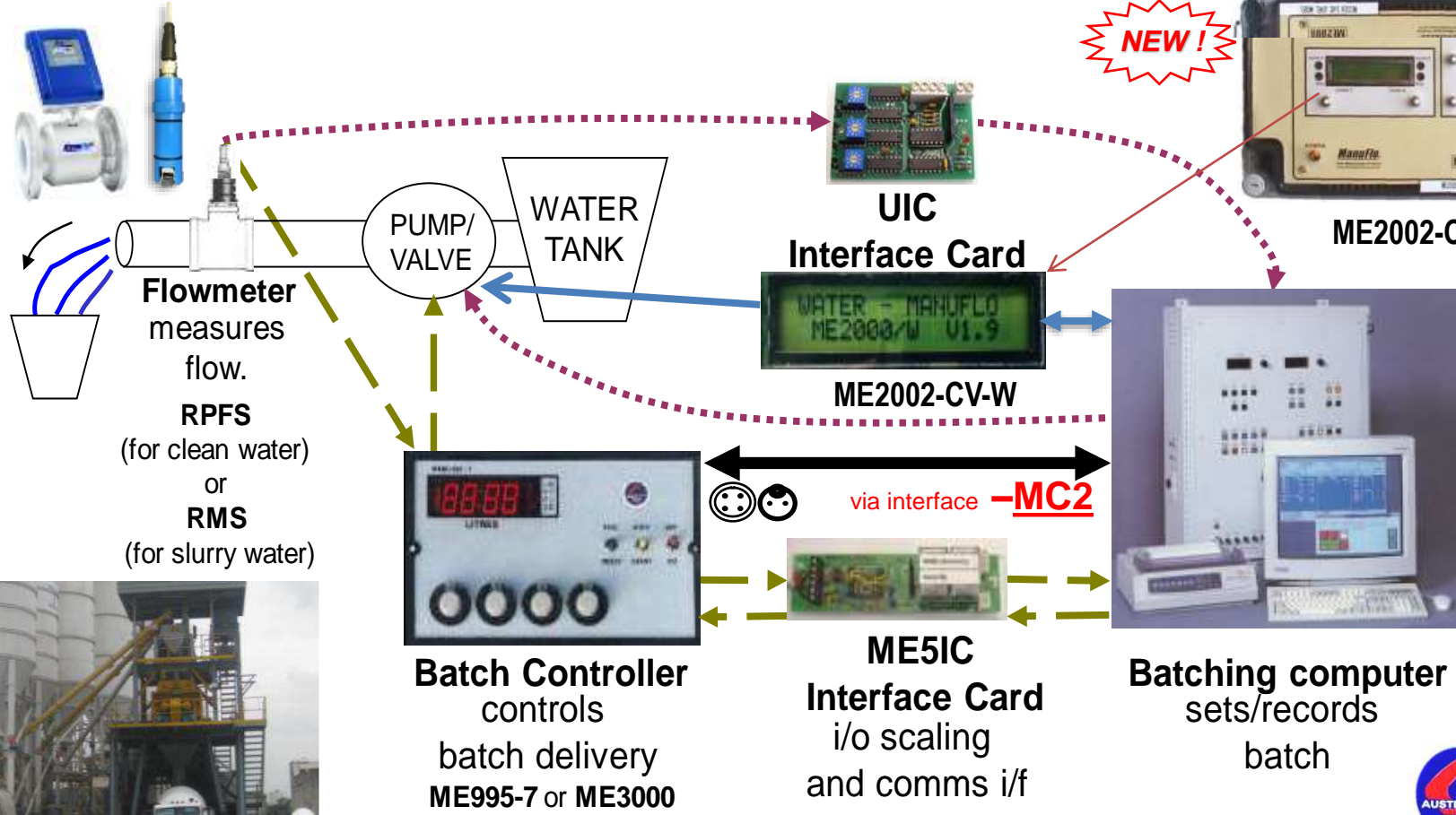


Optionally incorporated into a ME2008-8 Interface ADMIX unit

NEW!



ME2002-CV-W



YES WE REPAIR ITEMS & stock / supply spare parts

- Batch Controller reconditioning upgrades and modifications
- Flowmeters reco's
- **Chemical Compatibility Tests**
- ME2000/08 upgrades
- In-house calibration tests

MANUFLO SAVES ITS CLIENTS \$\$\$\$\$\$\$\$
By maintaining / reconditioning equipment



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.

