



Batch Safety Interface with ME2008 overview

The **ManuFlo**
Advantage

WARNING:-
*On powering up
allow 30 seconds for
ME2000/08 to fully boot up
all functionalities before use.*



ME2000

2, 4 or 6 channel



ME2008

2, 4, 6 or 8 channel



ME2000-CV

2 channel Compact

Interfacing with ME2008



Or CMM / KMS
Mag-flowmeter options



ME2008
Microprocessor intelligent interface batch safety unit.



Flowmeter
measures
flow

MES

Pump

Admix
Storage
Tank

Up to 8 flowmeters



Batching Computer
sets/records
batch

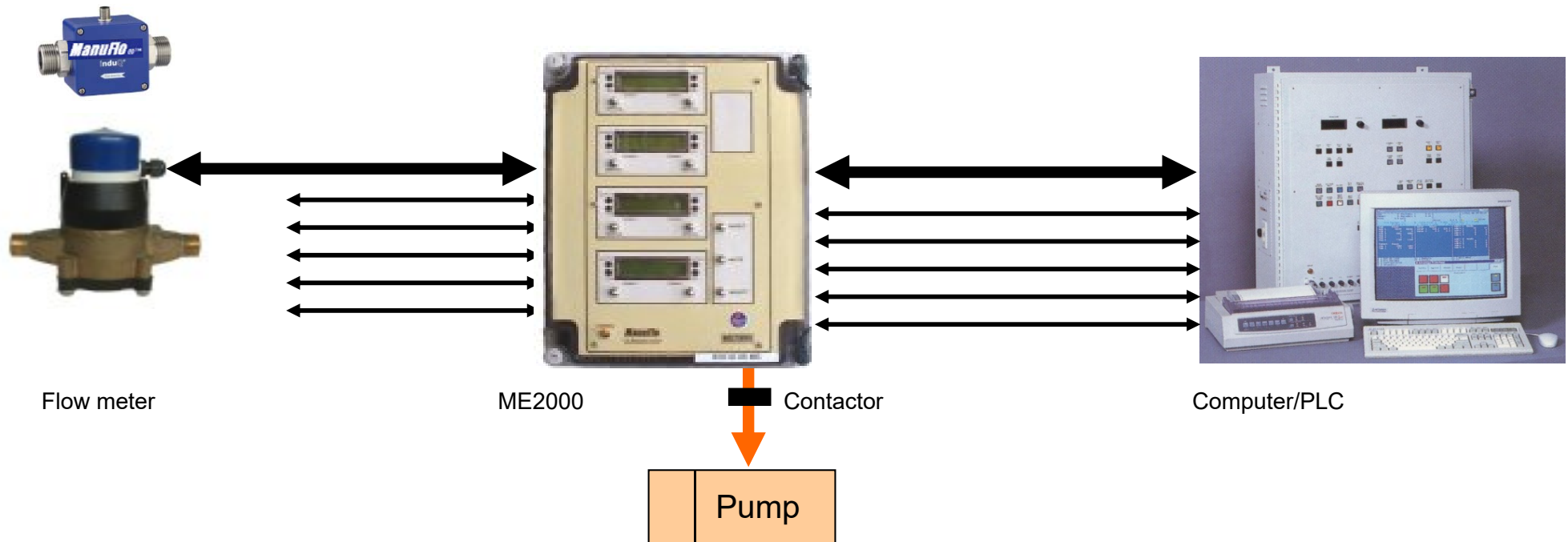
Eliminates Bottle Requirement

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



Flow meter

ME2000

Contact

Computer/PLC

Pump

- 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.
- 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.

PLC - ME2008 OPERATION SEQUENCING FLOW

CHART

1

2

3

4

The operator initiates the sequence at the PLC which signals the 'START & HOLD' command operation to the ME2008 & simultaneously starts and holds all pump contactors to begin chemical Admixture flow.

Flowmeters then transmit volumetric pulses back to the ME2008 which in turn transmits scaled pulses to inputs of the plant PLC.

Depending on the individual batch recipe the PLC waits until target pulse amounts are reached (volume), once reached the 'START' drive disengages the ME2008 Start drives to contactors.

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 in some cases by manual operator means) and the next batch is ready for repeat or new sequence to begin.

START AGAIN

ADMIX BATCH TARGET REACHED

ALL ADMIX BATCH TARGETS REACHED

OPERATOR/PLC COMMENCES SEQUENCE

START & HOLD COMMAND

ENGAGES CONTACTOR

PUMPS START FLOW

FLOWMETER PULSE OUTPUT

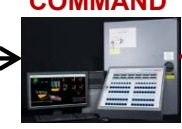
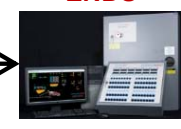
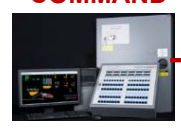
START COMMAND ENDS

DIS-ENGAGES CONTACTOR

STOPS FLOW

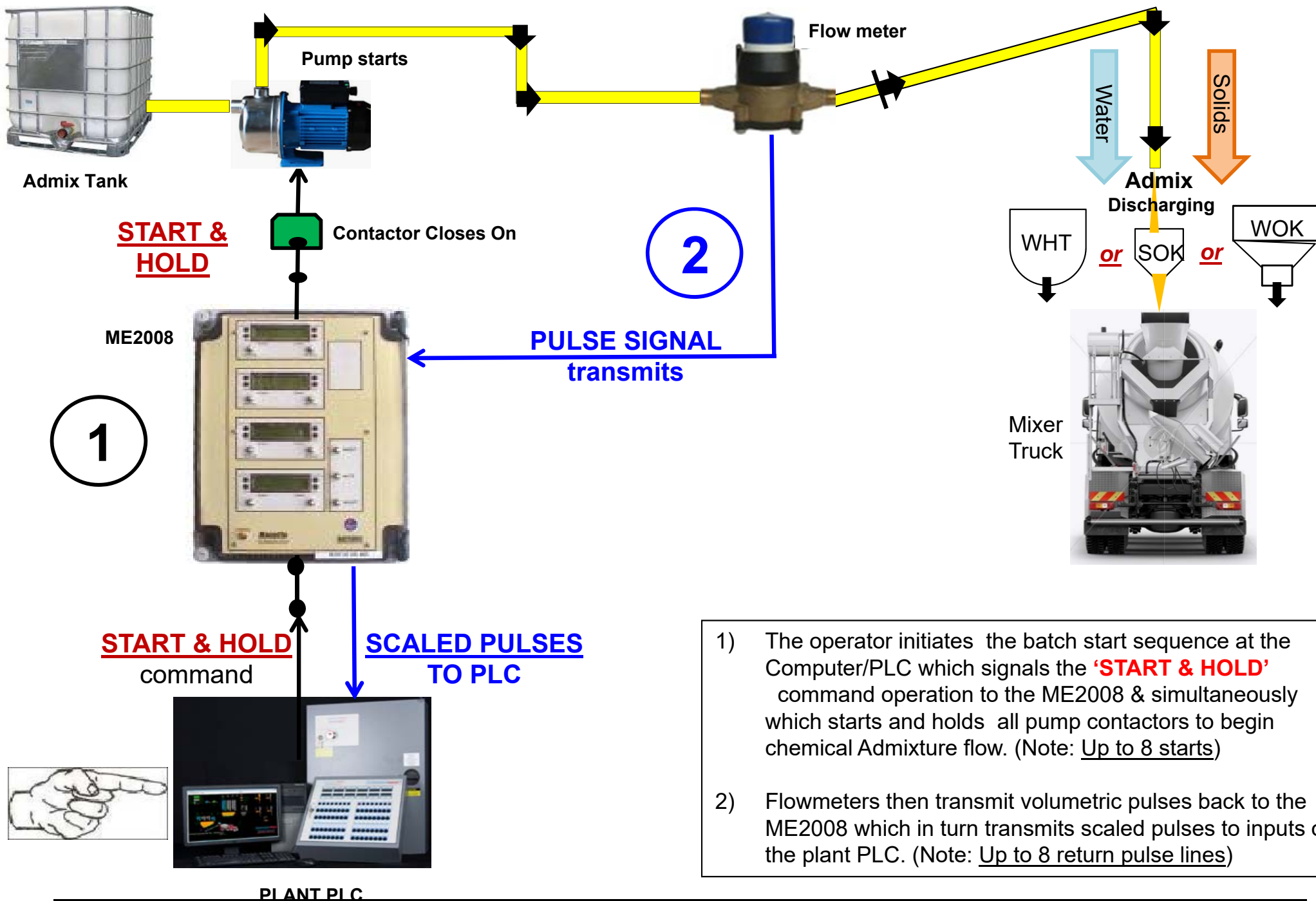
MASTER RESET COMMAND

READY FOR NEXT SEQUENCE

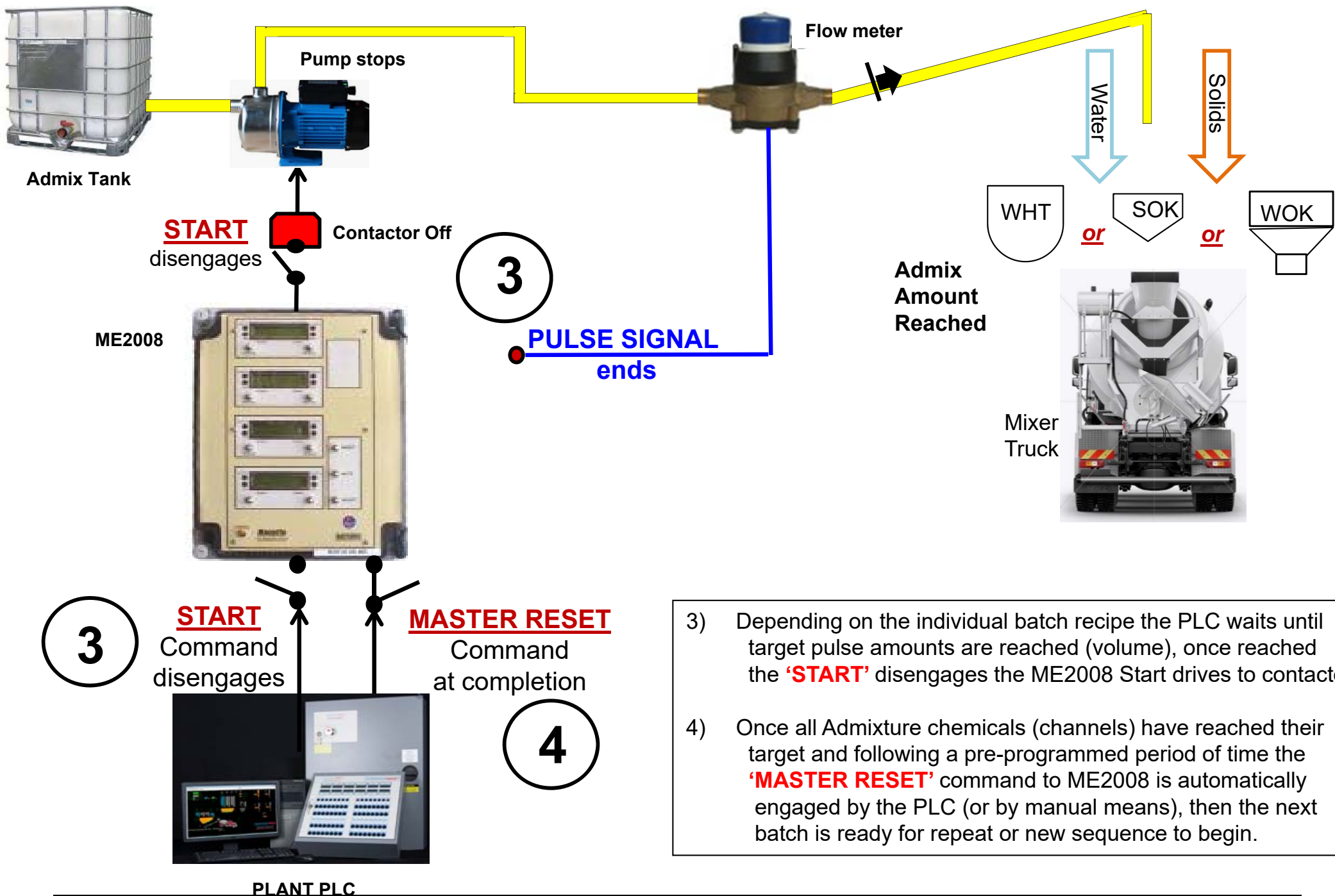


PLANT PLC

PLANT PLC



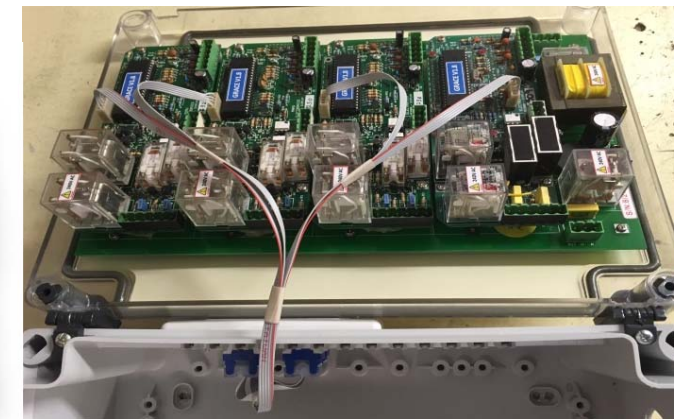
- 1) The operator initiates the batch start sequence at the Computer/PLC which signals the '**START & HOLD**' command operation to the ME2008 & simultaneously which starts and holds all pump contactors to begin chemical Admixture flow. (Note: Up to 8 starts)
- 2) Flowmeters then transmit volumetric pulses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

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**. Pulse-fail 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).
- Can be used for water channels e.g. RDFS-P paddlewheel.



Interface - ME2000/ME2008 - Displays

On powering up the unit allow 30 seconds for ME2000/08 to fully boot up all functionalities before use.

- Switch on power to the ME2000 interface safety unit.
- Scroll through the settings by pressing SELECT.
- Go to the desired display to change a parameter via re-programming.



⇒ Power On:

**MANU ELECTRONICS
ME2000 V1.8**

⇒ 1. Push Select:

**000.000 000.000
000.000 000.000**

**Channel 2
Flowmeter A
Flowmeter B**

Batching function display in "LITRES" to 3 decimal places. At anytime you can skip functions and return to normal by pushing RESET (You cannot reset while pumping is in progress).

**Channel 1
Flowmeter A
Flowmeter B**

⇒ 2. Push Select:

**Flow (Lt./sec)
00.000 00.000**

Flow Rate Function in Litres/second (to 3 decimal places).

Use Software ver: V1.8 or at least V1.7. Versions 1.6, 1.5, 1.4 should be upgraded

New option to enable/disable comparator function

⇒ 3. Push Select:

**Total (Litres)
000000 000000**

Grand Total accumulation.
To reset: push 2 buttons at once on 4 button programmer.

⇒ 4. Push Select:

**Input (p/l)
1000.00 1000.00**

K-factor / Calibration:
sets pulse input value per litre, according to flowmeter used e.g. MES20 1000pulses/litre, MES25 0555pulses/litre.

⇒ 5. Push Select:

**Output (l/p)
00.010 00.010**

Pulse Output Volume Value (Litres /pulse).
Sets division of output pulses to suit computer/PLC.
Resolution from 1ml. Example shows 10ml.
See also "Program Record Sheet" (page 9).

Interface - ME2000/2008 - Displays

⇒ 6. Push Select:

<p>Min. Flow (l/s)</p> <p>00.010 00.010</p>	<p>Minimum flowrate (set this according to flowmeters' recommended minimum). Pump will be stopped if the flowrate falls below this value. Previously known as <u>Pulldrop</u> in ME697, ME995/188 units.</p>
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⇒ 7. Push Select:

<p>Max. Flow (l/s)</p> <p>01.000 01.000</p>	<p>Maximum flowrate (set this according to flowmeters' recommended maximum). Pump will be stopped if the flowrate exceeds this value.</p>
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⇒ 8. Push Select:

<p>Dose Limit (l)</p> <p>010.000 010.000</p>	<p>Sets maximum acceptable limit per batch (overrides computer selection). If limit is reached, pump is stopped and "Overdose" warning will be displayed.</p>
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⇒ 9. Push Select:

<p>Max Backflow (l)</p> <p>000.100 000.100</p>	<p>The Backflow function raises an alert if the check (non-return) valves leak. Set to the desired maximum allowance of backflow.</p>
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⇒ 10. Push Select

<p>Difference (%)</p> <p>05.0 05.0</p>	<p>COMPARATOR (5% = ± 2.5%) This function is used to compare 2 flowmeters in series. If the flowmeters differ by more than the allowed percentage, the pump will be stopped and an alarm triggered. From software Version 1.5 onwards, the comparator function only operates during batching.</p>
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Interface - ME2000/2008 – Displays

⇒ 11. Push Select

Start Delay (s) 02.0 02.0	Start Delay is the time (in seconds) allowed for pump to start before the Pulse Fail safeties activate. After the Start Delay period, the safeties will shut down the pump drive if no flowmeter pulses are received.
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⇒ 12. Push Select:

Stop Delay (s) 02.0 02.0	Stop Delay is the time (in seconds) allowed for the pump to settle after stopping, before back flow detection commences.
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⇒ 13. Push Select

Max Out Rate (Hz) 0012	Max Out Rate is the maximum allowed rate of output pulses to the computer. If the maximum is exceeded, then the pump stops, then the ME2000 memory sends extra pulses to the PLC/Computer's AC Yellow Optos (under the 12 Hz max. input rate) or low scan rate systems.
AC = 15 Hz DC = 40 Hz	Extra pulses received (above the allowed rate) represent actual extra volume measured by the flowmeter and ME2000, but which would have otherwise not been fully counted by the PLC/Computer system. (This situation is different to actual "inflight overflow", where a DEDUCT value must be programmed in the computer system to stop the pump earlier).

15Hz for AC

35Hz for DC

⇒ 14. Push Select

MANU ELECTRONICS ME2000 V1.6	Latest is V1.8 Returns to intro display.
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⇒ 15. Push Reset:

000.000 000.000 000.000 000.000	Returns to the Batch function. Display is in "LITRES" to 3 decimal places.
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Interface – ME2000/2008 Order Codes

Refer to: ManuFlo Catalogue

Order Code	Description
ME2008-8	MICROPROCESSOR INTERFACE BATCH SAFETY UNIT. (inbuilt rate +inventory totals) <ul style="list-style-type: none"> • Accepts most flowmeter types. Interfaces with computer/PLC systems. • Dot-matrix dual LCD counters, 4x plug-in dual-channel modules. • 8 channels (8 admixtures) on motherboard, variable pulse divisions, AC triac or DC opto output pulse switching with pulse limiter. • Standard unit comes with 240vac supply and start/reset/pulse logic, 240vac pulse output (suits COMMANDbatch etc). Wall mount enclosure. • with a hand held plug-in keypad programming module.
ME2008-6	<ul style="list-style-type: none"> • as for ME2008 above, but with plug-in modules for 6 admixtures. • has 3x dual counter/processor modules (can fit 1 more dual module), in motherboard.
ME2008-4	<ul style="list-style-type: none"> • as for ME2008 above, but with plug-in modules for 4 admixtures. • has 2x dual counter/processor modules (can fit 2 more dual module), in motherboard.
ME2000-6	<ul style="list-style-type: none"> • Similar to ME2008 above, but motherboard has maximum of 6 channels. • has 3x dual counter/processor modules (can't fit more), plugged into motherboard.
ME2000-4	<ul style="list-style-type: none"> • as for ME2000 above, but with 4 channels (2x dual module) for control of 4 admixtures.
ME2000-2	<ul style="list-style-type: none"> • as for ME2000 above, but with 2 channels (1x dual module) for control of 2 admixtures.
ME2000-2-CV	<ul style="list-style-type: none"> • as above, but ADMIX COMPACT VERSION. 2 channels only (no expansion). • Box size (mm) : 225 L x 180 W x 90 D

Options	Description
6CAT5E	For 6-channel ME2000: 3-way external panel, for programming up to 3 dual-ch modules. (Includes HP-CAT5E programmer with CAT5E plug – only when ordered with a ME2000).
8CAT5E	For 8-channel ME2008: 4-way external panel, for programming up to 4 dual ch modules. (Includes HP-CAT5E programmer with CAT5E plug – only when ordered with a ME2008).
-IR	Independent Reset, per 2-channel module in the ME2008.
-USoz	USA units (non-metric) - Display in US ounces
-V1.8	Software version IC to enable/disable the display/comparator function (replacement/upgrade).
-AO	Alarm logic output. Open contact relay.
WSC	Wima suppression capacitors, with long leads. 0.1µF, 275 volts (placed across contactor coils)
RP10	5watt 12K ceramic resistors (for possible leak voltage suppression for 240vac optos) 1 pack of 10
4N33	IC: 5-30 VDC white OPTO (for U3 & U4 sockets of ME2000/2008, for DC pulse output)
MOC3043	IC: 24-240 vac Triac OPTO (for U1 & U2 sockets of ME2000/2008, for ac pulse output)

Supply Voltage (Motherboard)

-1A	240 vac power supply
-1B	110 vac power supply
-1C	24 vac power supply
-1D	24 VDC power supply

WARNING: +24VDC powered models must be powered by a UPS with pure regulated Voltage type of 120W+

Start Input/Output Drives and Master Reset (Modules)

-2A	240 vac start/reset relay logic fitted
-2B	110 vac start/reset relay logic fitted
-2C	24 vac start/reset relay logic fitted
-2D	24 VDC start/reset relay logic fitted

Pulse output

-3A	240 vac (Moc3041) triac pulse output switching (only with -1A 240v power supply option)
-3B	Same ac voltage as for the start/reset option (i.e 24 vac or 110 vac)
-3C	5-30 VDC open collector pulse output. Suits Jonel/Compubatch/Autocon computers.





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.

Pictured is a batch plant in California -USA

Bottles vs Flowmetering / ME2008 & Batch 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, 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 CMM flowmeters in lieu of bottles.

New Technology wins new customers !!

