



August 2008

Instrument Accuracy

How well you monitor or control a process depends on the quality of the information provided to your controlling devices. When choosing products be aware of the terms used in describing the 'quality' of measurement you can expect from an instrument:-

Accuracy

Precision

Repeatability

Imagine you are aiming for the 'bulls eye' of a dart board. You have three darts and throw three times.

Scenario A

You strike double 20, double 15 & double 16. Good repeatability but poor precision and accuracy.

Scenario B

You strike 'double 11' thrice. Excellent repeatability and precision but not the best accuracy.

Scenario C

The 'bulls eye' three times. Your throw is accurate, precise and the repeatability is first rate.

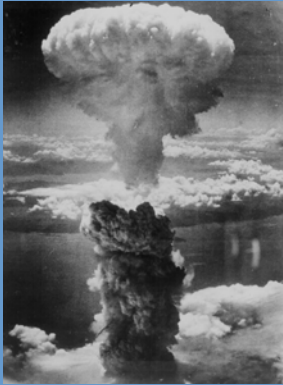
Scenario D

You miss the board entirely. You may have drunk too much or are purposely aiming at someone?



Dart Board: Missed by many a reveller

Historical August



9th August 1945

At 1102 local time, the atomic bomb nicknamed 'Fat Man' hits the Japanese City of Nagasaki. WWII would end 5 days later.



14th August 1948

Sir Donald Bradman plays his final Test match innings at The Oval, London. Bowled for no score he retired with a batting average of 99.94 runs.



25th August 1930

Actor Sean Connery is born in Fountainbridge, Edinburgh.

'Resolution' is also a term that is misused. The resolution of a measurement or signal depends on the number of 'steps' your digital device can divide a continuous analogue signal into (e.g. A/D converter or PLC input card). 8 bit = 256 steps, 12 bit = 4096 steps, 16 bit = 65536 steps etc etc.

Example

You have an 8-bit digital device reading an analogue signal to represent 0-200 deg C, the best resolution you can hope for is to around 0.8 deg C (200 deg C / 256 steps).

Resolution does not apply to analogue devices as they provide continuous signals (not broken into discreet 'steps').



"Everything looks fuzzy through these"

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Vader: Impressed by Intech



The Intech Affect

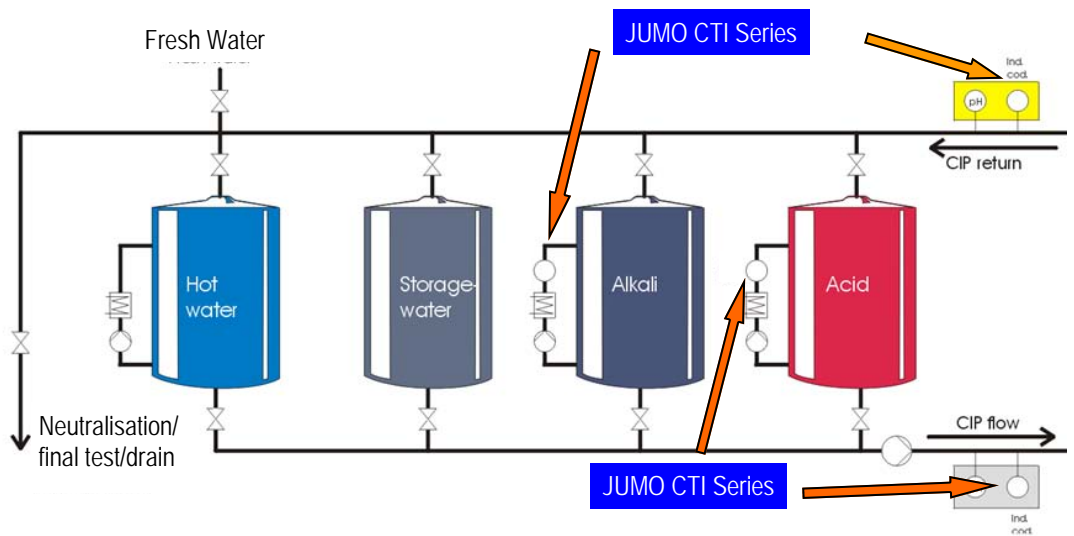


- ◆ New Zealand owned & operated
- ◆ Service & sales facilities
- ◆ 25 years in the industry
- ◆ Experience you can rely on



Clean In Process (CIP) with JUMO

Clean In Process (CIP) is a concept that allows disinfectant or cleaning solutions to sterilise a plant without the need to dismantle the equipment. Usually relatively high concentrations of Acid or Alkali are used. Typically such units are found at food and beverage plants such as breweries and dairy factories.



Good Gear: JUMO CTI

- Activation of up to four ranges
- Activation of up to four temperature coefficients
- Concentration measurement of
 - caustic soda NaOH
 - nitric acid HNO₃
 - a freely definable curve
- Fast-response temperature sensor
- Temperature compensation
 - linear
 - natural water
 - specific characteristic (learning function)
- Operation
 - via keypad and LC display
 - through PC setup program
 - user-friendly programming
 - plant documentation
- Learning function for the temperature coefficient
- Individual characteristic for concentration indication
- Dilution control