



**KELTON**

*Delivering Measurement Excellence*

# Desktop Calculation Software

The confidence you need for all your flow  
measurement and uncertainty calculations

```
..._mod = modifier_ob.modifiers.new("...")
... object to mirror_ob
..._mod.mirror_object = mirror_ob

... == "MIRROR_X":
..._mod.use_x = True
..._mod.use_y = False
..._mod.use_z = False
... == "MIRROR_Y":
..._mod.use_x = False
..._mod.use_y = True
..._mod.use_z = False
... == "MIRROR_Z":
..._mod.use_x = False
..._mod.use_y = False
..._mod.use_z = True

... at the end -add back the de
..._select= 1
..._ob.select=1
..._st.scene.objects.active = modifier
..._lected" + str(modifier_ob)) # modif
..._ob.select = 0
..._text = selected_objects[0].name
..._objects[one.name]

OPERATOR CLASSES
... mirror to (to create object""
..._st.mirror_mirror_x"
..._st.mirror_mirror_x"

..._text):
..._st.active_object is not None
```

“Even the smallest change in measurement **uncertainty** can have a big impact on your **operational** and **financial** performance. KELTON's range of Desktop Calculation Software gives you **confidence** in your design and calculation **accuracy**, helping you to make **informed** decisions and giving you **peace of mind**.”

- Iain Pirie, Managing Director



## KELTON

Fully accredited, KELTON™ is the leading independent flow measurement consultancy and software developer for the oil and gas industry.

Whether clients require inspection, auditing or certification as part of System Compliance; uncertainty calculations for System Assurance; or general System Support – in KELTON they find a partner they can trust.

### Experience

Since 1991, KELTON has provided consultancy services to some of the biggest names in the oil and gas industry – including both international and national oil companies – to ensure their full flow measurement compliance with industry regulations.

Having completed over 2,500 audits and trained more than 5,000 flow measurement professionals, KELTON has earned a worldwide reputation for the provision of outstanding flow measurement consultancy, independent audit and training services.

### Expertise

Drawing upon their vast experience, KELTON has developed a range of software solutions to support the design, operation and management of your flow measurement system.

Expertly designed by measurement engineers for measurement engineers, users can benefit from the most comprehensive set of calculations available. And with full traceability of all calculations to the latest industry standards, KELTON's applications support continued system performance and compliance.

# Desktop Calculation Software

The confidence you need for all your flow measurement and uncertainty calculations

## The cost of calculation error

Understanding and controlling your flow measurement system uncertainty is of paramount importance.

Regardless of where you are in the process – from design to manufacturing, or site acceptance testing to operation – errors in your measurement system can have contractual and regulatory implications resulting in dispute, litigation and reputational damage. It can also impact your bottom-line through incorrect hydrocarbon accounting.

It is therefore essential for flow measurement engineers and operators to have confidence in their measurement system, and be able to validate and prove its performance. But with multiple systems, varying parameters and process conditions, different regulatory standards and consequently thousands of calculation permutations, accurate assessment is difficult.

## Expert simplicity

KELTON Desktop Calculation Software combines over 30 years of industry experience and flow measurement consultancy expertise into two easy-to-use solutions – giving you the confidence you need for all your flow measurement and uncertainty modelling calculations.



The most comprehensive set of calculations available to flow measurement engineers



The desktop solution to remove the uncertainty from your uncertainty modelling

## Features at a glance

### FLOCALC™

- Extensive library of verified calculations
- Aligned to the latest industry standards
- Full traceability on all calculations
- Includes current and historical standards
- Microsoft Excel compatible
- Compatible with KELTON MeterManager
- Save, retrieve and export results

### UNCERTAINTYPLUS™

- Aligned to the latest industry standards
- Full traceability on all calculations
- 95% confidence level
- Enables modelling across a range of process conditions and production profiles
- Modules available for different measurement stations
- Uncertainty estimate calculated for common secondary instrumentation

**Backed by more than 30 years of industry experience and flow measurement consultancy expertise**

# FLOCALC™

The most comprehensive set of calculations available to flow measurement engineers

## Cutting through the complexity

Designed by measurement engineers for measurement engineers, FLOCALC helps you to break through the complexity of flow measurement calculations.

Containing an extensive calculation library, FLOCALC supports all your calculation needs – offering a complete calculation suite within an intuitive user interface. This includes calculations to:

- assess the value and quantity of hydrocarbons
- validate flow computer calculations
- calculate mismeasurements
- support system design
- convert quantities between different process conditions
- determine the energy value required for fiscal transactions.

## Delivering calculation confidence

Accessible through its common interface, FLOCALC allows the selection of calculation options, engineering units and measurement resolution for complete confidence in the calculation being validated. And to support prompt decision making, all calculations can be saved and shared with relevant stakeholders across your network.

Available on a licenced basis, all calculations within FLOCALC are regularly checked for accuracy and updated to ensure continued compliance with the latest industry standards. With full and provable traceability between the required calculation and relevant industry standard, FLOCALC gives you the confidence you need for all your flow measurement calculations.



I absolutely love your product and have no questions whatsoever. It can calculate whatever I need without hassle. Please give my regards to your development team.  
A happy user, warmest regards.



***Gijs van den Top  
Service Engineer  
Krohne Australia Pty Ltd***



### **Seamless integration**

When combined with KELTON MeterManager – the fully integrated software suite to manage all your flow measurement activities – dynamic uncertainty and measurement values can be automatically read from and written into FLOCALC through open platform communications to give real-time performance insight.

For enhanced flexibility, to support comparison to other metrics or even just for a familiar look and feel, live FLOCALC calculations can also be included within Microsoft Excel workbooks. Integrated directly into Microsoft Excel, FLOCALC calculations can be performed using any common metric or imperial engineering unit within a Microsoft Excel workbook.

### **Supported by the experts**

Developed in-house by KELTON's measurement engineers and Microsoft accredited software specialists, FLOCALC was originally used to support their industry-leading Consultancy service.

Underpinned by over 30 years of flow measurement experience and expertise, FLOCALC continues to be used by our Consultancy experts today and is the trusted calculation tool used by operators the world over – including some of the biggest names in the oil and gas industry.

Regularly updated to meet the evolving demands of measurement engineers and industry regulations alike, and with full support included as part of the annual licensing agreement – providing you with access to KELTON's in-house expertise and experience when required – FLOCALC continues to spearhead industry standards in measurement software excellence.

# UNCERTAINTYPLUS™

The desktop solution to remove the uncertainty from your uncertainty modelling

## **Simplifying uncertainty, demonstrating compliance**

Demonstrating the uncertainty of a measurement system is a contractual and regulatory requirement. Not maintaining an uncertainty budget can result in exposure to conditions such as measurement error bias, and without a prior and agreed knowledge of the estimated uncertainty, a meaningful comparison between target and actual performance cannot be achieved – resulting in dispute.

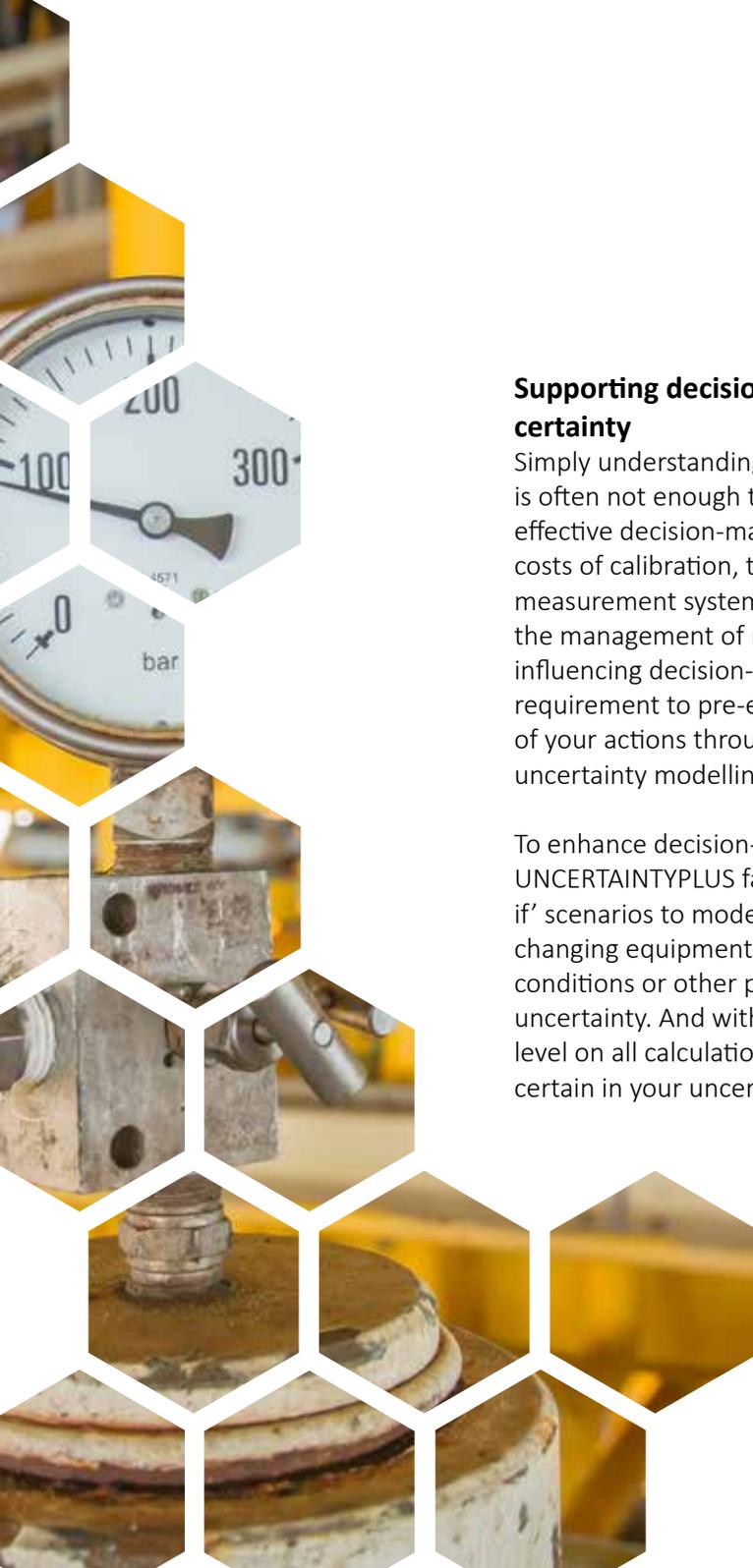
Measurement uncertainty should therefore be considered throughout the entire life of a flow measurement system – from system design and engineering prior to installation, and whilst in operation.

However, there are multiple systems, designs and configurations which can be used to measure oil and gas; each with varying impacts on measurement uncertainty.

The uncertainty in your flow measurement will depend on the meter selected, the standards used for the calculations, the manufacturer, model and range for each item of primary and secondary instrumentation, and factors such as whether density is measured using a densitometer or calculated from the composition – all adding to the complexity of measurement uncertainty.

UNCERTAINTYPLUS removes the uncertainty from your uncertainty assessment by enabling designers, flow measurement engineers and operators to determine the estimated uncertainty of a flow measurement system for a given set of operating conditions. Furthermore, it will validate and prove the actual uncertainty performance aligned to the required standards.





### **Supporting decision-making certainty**

Simply understanding your uncertainty is often not enough to support effective decision-making. With high costs of calibration, the need for measurement system performance and the management of risk exposure all influencing decision-making, there is a requirement to pre-empt the impact of your actions through effective uncertainty modelling.

To enhance decision-making processes, UNCERTAINTYPLUS facilitates 'what-if' scenarios to model the impact of changing equipment conditions, process conditions or other parameters on your uncertainty. And with a 95% confidence level on all calculations, you can be certain in your uncertainty modelling.

### **Delivering measurement excellence: Delivering peace of mind**

Aligned to the latest industry standards, all calculations within UNCERTAINTYPLUS are regularly validated and are fully traceable to the relevant regulation. And with full support included as part of the annual licensing agreement – providing you with access to KELTON's in-house expertise and experience when required – UNCERTAINTYPLUS gives you peace of mind in your uncertainty calculations and flow measurement system decisions.

## Benefit from the KELTON experience



### Other specialist applications from KELTON

#### KELTON MeterManager™

Combining five fully auditable applications into a common user interface, KELTON MeterManager is the single software solution to manage, assess and prove the performance of your measurement system.

KELTON MeterManager. Be certain about your uncertainty.





## Contact Us

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