



# Facts Sheet Interlaboratory Comparison

## Calibration of a liquid flow meter for Hydrocarbon (65 to 2000 m<sup>3</sup>/h) Round 1

**Visiting Address:**

VSL  
Thijsseweg 11  
2629 JA Delft  
The Netherlands

**Mail Address:**

VSL  
P.O. box 654  
2600 AR Delft  
The Netherlands

**Coordinator:**

Peter van Otterloo  
+31 15 269 1500  
ComPass@vsl.nl

**Information about the artifacts to be circulated:**

- 1) M&T 6 inch 32 path Ultrasonic flow meter in metering package (see details page 2).
- 2) M&T 10 inch Helical turbine flow meter in metering package (see details page 2).

**Quantity to be measured:**

- 1) 100% (650 m<sup>3</sup>/h), 80%, 60%, 40%, 20%, 10% and two or three cardinal points chosen on Reynolds number based on the participating companies.
- 2) 100% (2000 m<sup>3</sup>/h), 80%, 60%, 40%, 20%, 10% and two or three cardinal points chosen on Reynolds number based on the participating companies.

Test liquid is hydrocarbon @ ambient conditions or @ controlled conditions. Up to the participant to get close to the required viscosity and Reynolds numbers. A participant can choose to do the comparison with two liquids but then needs to test all points.

**Estimate number of participants:**

Minimum number of participants: 4  
Maximum number of participants: 8

**Measurements protocol:**

The protocol will be provided in advance before final participation. Participants have two weeks to perform the calibration.

**Fee:**

€ 5450.00 (ex. VAT & transport) for participating with one test liquid or € 6500.00 (ex. VAT & transport) for two test liquids. Transport cost due to the distance between participating facilities and heavy equipment (between €5000 and €9000). When participating facilities are known a quote is asked from the transport company used.

This will be communicated and the final costs are based on.

**Evaluation and reference values of the comparison:**

The weighted mean of the participants according the Cox method.

Evaluation by  $E_n$  value from the weighted mean with an uncertainty budget matching the participant's scope. All participants will receive a report and certificate of the interlaboratory comparison within two months after ending the comparison cycle.

**Accreditation:**

The organisation of this Interlaboratory Comparison is in accordance with the requirements of the ISO/IEC-17043.

**Confidential statement:**

"VSL keeps all data regarding the performance of individual participants, or groups of participants, strictly confidential. Data is accordingly protected and stored in areas on networks with restricted access. The relationship between results and the laboratories that submitted them will never be disclosed. Only the laboratory is granted access to its performance through the assigned code number."

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**Requirement 5.9 ISO/IEC 17025:**

*Assuring quality of testing and calibration results:* The laboratory will have quality control procedures for monitoring test validity and calibrations undertaken. This monitoring will be planned and validated and may include the following: *participation in interlaboratory comparisons or proficiency-testing programmes.*



Dutch  
Metrology  
Institute

**Schedule:**

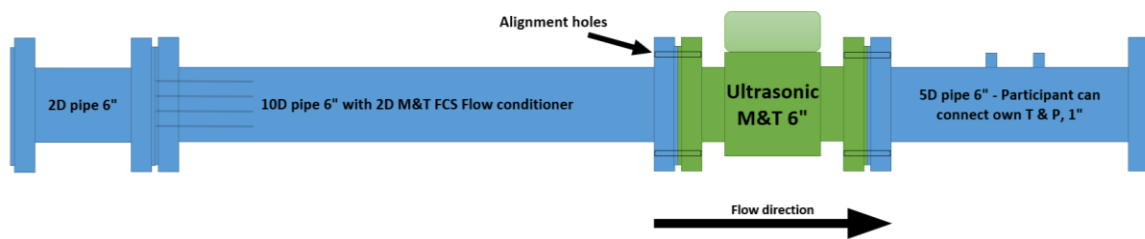
Registration until 1 June 2015

Estimated start of the comparison cycle: June 2015

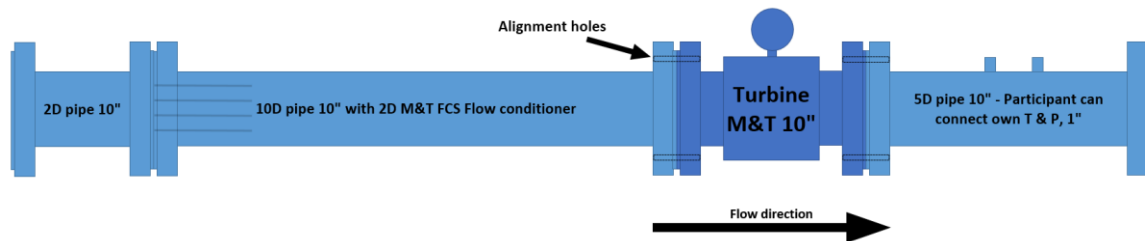
Estimated end of the comparison: November 2015

**Pipe configuration:**

6" M&T Ultrasonic flow meter



10" M&T Turbine flow meter



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# Registration for Interlaboratory Comparison

## Calibration of a liquid flow meter for Hydrocarbon (60 to 2000 m<sup>3</sup>/h)

### Round 1

Organisation/Laboratory:	
Contact person	
Title:	
Name:	
Tel:	
Fax:	
E-mail address:	
Correspondence address	
Street / P.O. Box:	
Postal code:	
City:	
State / Province:	
Country:	
Delivery Address	
Street: <i>(do NOT use a P.O. box here)</i>	
Postal code:	
City:	
State / Province:	
Country:	
Invoice Address	
Street / P.O. Box:	
Postal code:	
City:	
State / Province:	
Country:	

#### Participation in:

- ILC-Liquid Flow HC € 5450.00 @ one test fluid  
 ILC-Liquid Flow HC € 6500.00 @ two test fluids

Remark: 15% discount @ 6-8 participants

My Purchase Order number:	
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**Registration until 1 June 2015, minimum: 4 participants, maximum: 8 participants!**

#### Note:

- VSL reserves the right to cancel the ILC in case the number of participants is smaller than anticipated
- No refunds will be given for failure to take part in the ILC
- Upon receipt of payment, the report will be published.
- General Terms and Conditions of VSL B.V. are applicable
- Prices (EUR) are exclusive VAT and shipping costs

Signature: \_\_\_\_\_

Date: \_\_\_\_\_

#### Please return form to:

VSL, Peter van Otterloo, P.O. Box 654, 2600 AR Delft, The Netherlands  
Fax +31 15 261 2971 or E-Mail to [ComPass@vsl.nl](mailto:ComPass@vsl.nl)