



ESDU-SPF-M12-2

Sept.09: Fluid dynamic gauging

**Unamended
Issued October 2010**



**UNIVERSITY OF
CAMBRIDGE**

Fluid Dynamic Gauging

Sub-project F

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Documents
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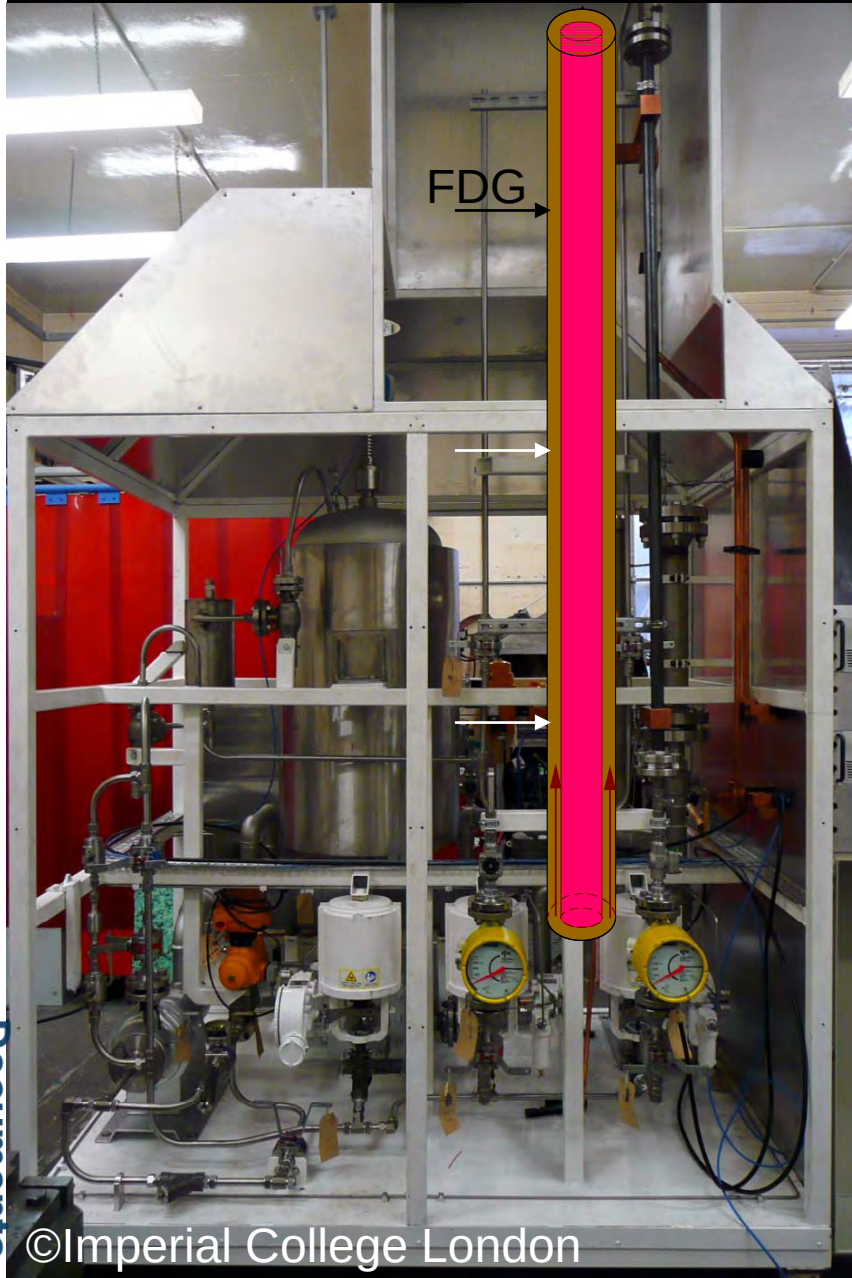
Aim

Fouling affects:

- Δp (t)
- R_f (t)

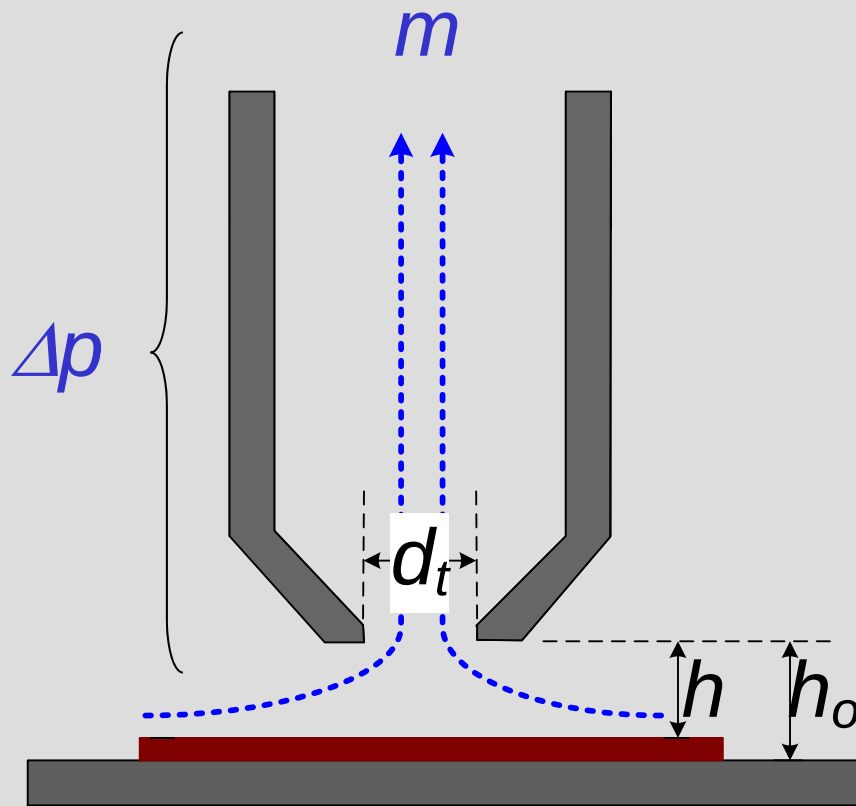
Measuring fouling thickness:

- $\lambda_f(t) = \delta / R_f(t)$



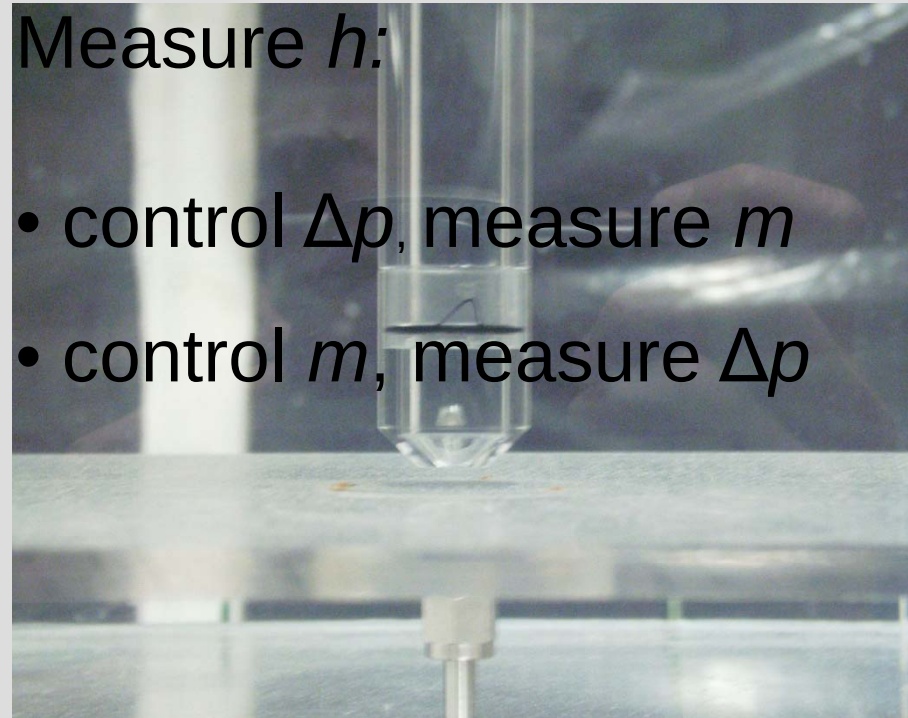
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Fluid dynamic gauging (FDG)



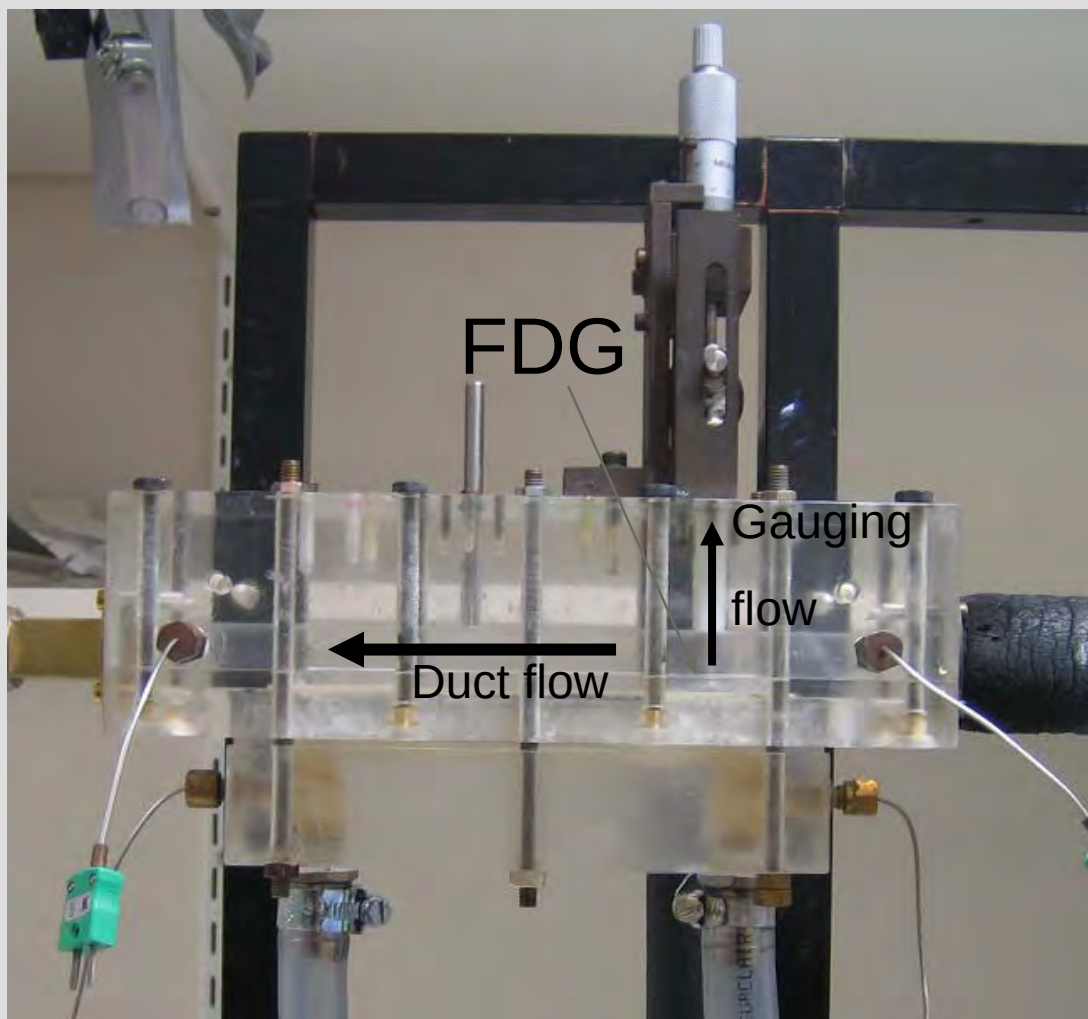
Measure h :

- control Δp , measure m
- control m , measure Δp



$$\text{Foulant thickness} = h_o - h$$

Duct flow FDG



CFD

