Department of Hydrodynamic Systems

Measurement of pressure

5. measurement

Name, Neptun: ……

Course: ……

Lecturer: ……

Students:

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Location: ……

Date: ……

Signature: ……

1. Aim of the measurement:

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2. Short description of the measurement process:

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3. Sketch of the test rig:

1. test rig (Measurement of pressure and volume flow rate, Figure 8)

2. test rig (Calibration of a Bourdon gauge, Figure 11)

4. Formulae for evaluation (p_n, p_s, $Q_{orifice}$, Q_{VMT}, p_t):

5. Devices used during the measurement:

- Bourdon-tube gauge (Bg):
  - type:
  - serial number:
- Stopwatch:
  - type:
  - serial number:

- Calibrated Bordon-tube gauge:
  - type:
  - serial number:

6. Evaluation of the measurement:

6.1 Calculation of pressure p_n:

Measured (constant) values:

a_n = e_n = p_0=

Given (constant) values:

ρ_V = 1 000 kg/m^3

ρ_{Hg} = 13 600 kg/m^3

h_{n1}	h_{n2}	h_{n1}-h_{n2}	p_{nBg}	p_n absolute pressure		p_n gauge pressure	
[mm]	[mm]	[m]	[bar]	[Pa]	[bar]	[Pa]	[bar]

6.2 Calculation of pressure p_S:

Measured (constant) values:

a_s = e_s =

h_{s1}	h_{s2}	h_{s1}-h_{s2}	p_s absolute pressure		p_s gauge pressure	
[mm]	[mm]	[m]	[Pa]	[bar]	[Pa]	[bar]

6.3 Determination of the volume flow rate:

h_{p1}	h_{p2}	h_{p1}-h_{p2}	$Q_{orifice}$	α	Δm	Δt	Q_{VMT}
[mm]	[mm]	[m]	[dm^3/s]	[dm^3/mm]	[mm]	[s]	[dm^3/s]

Calculations:

6.4 Calibration of a Bourdon gauge

N.o.	$m+m_0$	$p_{read.}$	p_t
	[kg]	[bar]	[bar]
1.			
2.			
3.			
4.			
5.			
6.			
7.			
8.			

7. Summary of the measurement *(in a couple of sentences)*

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8. List of attachments:

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