

Table 2: RESULTS DATASHEETData collected by ZTT
Tuesday 20/10/2020.

ES2C5

PIPE FLOW EXPERIMENTPipe type: **Large & Rough**

Outer Diameter (m): 0.01920

Pipe length (m): 1

Inner Diameter D (m): 0.01355

Test No	1	2	3	4	5
Temperature (oC)	20.3	20.4	20.2	20.1	20.0
Pressure Drop (kPa)	5.14	9.60	14.98	20.01	25.57
Density ρ (kg/m3)	998.195	998.174	998.215	998.235	998.256
Dynamic viscosity η (Pa.s)	0.994*10^-3	0.991*10^-3	0.996*10^-3	0.999*10^-3	1.001*10^-3
Flow rate Q (m3/s)	0.208*10^-3	0.319*10^-3	0.417*10^-3	0.500*10^-3	0.569*10^-3
Um (m/s)	1.44	2.22	2.89	3.47	3.95
Re	1.97*10^4	3.02*10^4	3.92*10^4	4.70*10^4	5.34*10^4
f	0.0669	0.0531	0.0487	0.0452	0.0445

Relative Roughness ϵ/D	0.01
Roughness ϵ (μm)	135.5

Figure 3: Water flow calibration graph