

Experiment 3 - Flow Around an Airfoil

Data Sheet

Note: Please note the units of the quantities which are being measured, when recording data. For example, when measuring voltage, if the voltmeter reads 16mV, then write down 16mV instead of just 16.

Dimensions of Airfoil: $c = 101.6$ mm, $s = 304.8$ mm

Part I: Prediction of Drag from Wake Measurements

$p_{t_\infty} - p_\infty =$ _____

Streamwise Location: $x/c = -1$

$x/c = -1$		
(y [mm])	$p_{t_2} - p_2$	$p_{t_2} - p_\infty$
-45		
-39		
-33		
-27		
-21		
-17		
-14		
-12		
-10		
-8		
-6		
-4		
-3		
-2		
-1		
0		

$x/c = -1$		
(y [mm])	$p_{t_2} - p_2$	$p_{t_2} - p_\infty$
1		
2		
3		
4		
6		
8		
10		
12		
14		
17		
21		
27		
33		
39		
45		

Streamwise Location: $x/c = 1$

$x/c = 1$	
$(y \text{ [mm]})$	$p_{t_2} - p_2$
-45	
-39	
-33	
-27	
-21	
-17	
-14	
-12	
-10	
-8	
-6	
-4	
-3	
-2	
-1	
0	

$x/c = 1$	
$(y \text{ [mm]})$	$p_{t_2} - p_2$
1	
2	
3	
4	
6	
8	
10	
12	
14	
17	
21	
27	
33	
39	
45	

Streamwise Location: $x/c = 1.5$

$x/c = 1.5$	
$(y \text{ [mm]})$	$p_{t_2} - p_2$
-45	
-39	
-33	
-27	
-21	
-17	
-14	
-12	
-10	
-8	
-6	
-4	
-3	
-2	
-1	
0	

$x/c = 1.5$	
$(y \text{ [mm]})$	$p_{t_2} - p_2$
1	
2	
3	
4	
6	
8	
10	
12	
14	
17	
21	
27	
33	
39	
45	

The student has performed the experiment satisfactorily and has cleaned the work area properly.

TA Signature

Date