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Experimental Investigation of the Effects of Aft Blowing with Various Nozzle Exit Geometries on a 3.0 Caliber Tangent Ogive at High Angles of Attack

Forebody Pressure Distributions

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Abstract

An experimental investigation of the effects of aft blowing on the asymmetric vortex flow of a slender, axisymmetric body at high angles of attack has been conducted. A 3.0 caliber tangent ogive body fitted with a cylindrical afterbody was tested in a wind tunnel under subsonic, laminar flow test conditions. Asymmetric blowing from both a single nozzle and a double nozzle configuration, positioned near the body apex, was investigated. Aft blowing was observed to alter the vortex asymmetry by moving the blowing–side vortex closer to the body surface while moving the non–blowing–side vortex further away from the body. The effect of increasing the blowing coefficient was to move the blowing–side vortex closer to the body surface at a more upstream location. The data also showed that blowing was more effective in altering the initial vortex asymmetry at the higher angles of attack than at the lower. The effects of changing the nozzle exit geometry were investigated and it was observed that blowing from a nozzle with a low, broad exit geometry was more effective in reducing the vortex asymmetry than blowing from a high, narrow exit geometry.

Nomenclature

A_{ref}	reference area, 40 × model base area
C_p	pressure coefficient, $(p - p_\infty)/q_\infty$
C_μ	blowing coefficient, $(\dot{m}_j u_j)/(q_\infty A_{ref})$
d	local diameter of the model
D	base diameter of the model
$\dot{m}_j$	mass flow rate through the blowing nozzle
p	local static pressure
p_∞	free stream static pressure
q_∞	free stream dynamic pressure
u_j	exit velocity from the blowing nozzle
x	axial distance from model apex
$\overline{y}$	distance from the surface of the model to the mean geometric center of the nozzle exit orifice
z_{max}	maximum width of the nozzle exit
α	angle of attack
ϕ	azimuthal location from windward meridian
ϕ_b	azimuthal location of the non–blowing nozzle from the windward meridian
ϕ_j	azimuthal location of the blowing nozzle from the windward meridian

Introduction

The flight of high–performance aircraft at high angles of attack is compromised by the effects of the forebody vortices which form and shed asymmetrically. These asymmetric forebody vortices can produce side forces and yawing moments which may render control of the aircraft difficult or even impossible. This problem is compounded at the higher angles of attack by the fact that the conventional control surfaces (vertical and horizontal stabilizers) are washed out by the wake of the fuselage and wings. The combat agility requirements of present and future generation high–performance aircraft dictate the need for controlled flight at high angles of attack, and thus there is a strong motivation to control the forebody vortex asymmetry in this flight regime.

A substantial body of evidence has been produced in experimental[1–4] and numerical[5–6] studies which indicates that the forebody vortex asymmetry configuration is produced by small imperfections in the tip of the forebody. Many techniques have been studied to control this vortex asymmetry; a recent review has been presented by Ericsson[7]. These techniques include nose bluntness, body reshaping, boundary layer trips, forebody strakes, and forebody suction and blowing. The forebody blowing techniques[8–17] include normal, forward and aft blowing with respect to the model surface. The previous research in the area of aft blowing has brought about much knowledge in the area of forebody vortex control. For example, a control mechanism has been suggested in references 13–14 for vortex control by jet blowing and is sketched in Figure 1. Once blowing is initiated on the leeward side of the body, the jet entrainment moves the blowing–side separation leeward, thus the vortex on the blowing side of the body moves closer to the body. Due to the coupling of the leeside vortices, the non–blowing–side vortex moves further from the body surface and the separation on the non–blowing side moves windward. Based on this control model, the jet blowing functions primarily to control the flow separation by entrainment due to the jet. Previous research has also shown that (1)the optimal axial location of jet blowing is found to be as close as possible to the forebody apex, since jet blowing at this position can most influence the flow separation and the strong interaction between the vortices; (2)the azimuthal location

of the jet blowing is found to be optimal in the range 120° to 150°, measured from the windward ray; and (3)the baseline system of vortices determines the effectiveness of vortex control by jet blowing. Namely, the jet blowing is more effective for control of the forebody vortex system if the baseline flowfield has only a small degree of vortex asymmetry.[12,13,18,19]

Although previous researches have demonstrated the potential of aft blowing to provide forebody vortex control, questions remain regarding the fluid dynamic nature of the aft blowing technique. Previous experiments have examined the overall effects of aft blowing on an aircraft configuration. Thus, in contrast to previous studies, an experimental study of the flowfield in the near–tip region of an isolated forebody model was conducted. The objective of this study is to obtain further insight into the mechanisms of aft blowing through detailed measurements of surface pressures and flow visualisation in the near–tip region. The effectiveness of asymmetric aft blowing from both a single nossle and a double nossle configuration was investigated. The effects of angle of attack, magnitude of blowing, and axial and asimuthal blowing nossle locations are examined. In addition, the effect of the nossle exit geometry on the blowing effectiveness is also investigated.

Apparatus and Procedure

Wind Tunnel

All experiments were conducted in the North Carolina State University Subsonic Wind Tunnel Facility, Figure 2. This is a closed return wind tunnel with a settling chamber to test section contraction ratio of 3:1. The settling chamber is equipped with 3 screens located upstream of the contraction section for the purpose of decreasing the free stream turbulence in the test section. The wind tunnel is ventilated to room pressure through a breather located at the downstream end of the test section. The test section is 0.81m in height, 1.14m in width and 1.17m in length and equipped with plexiglass sides and top to permit flow visualisation. The test section velocities were regulated by a variable pitch fan located downstream of the test section. The maximum attainable test section velocity was 17.2 m/s.

Ogive Model

The model used for testing was a 3.0 caliber tangent ogive body fitted with a removable nose tip and a cylindrical afterbody as shown in Figure 3. The model was hollow and of aluminum construction. Three circumferential rows of pressure taps were located on the ogive portion of the model, at the locations shown in Figure 3. The two rows of pressure taps located nearest the model apex, rows 1 and 2, had an asimuthal tap spacing of 15° while row 3, the row farthest from the model apex, had an asimuthal tap spacing of 10°. The locations of the pressure taps are tabulated in Table 1. The model was rigidly mounted on a circular arc sting balance. A stepper motor, attached to the sting balance and controlled by a computer, was used to provide variation of the angle of attack. A cylindrical plenum chamber, with internal dimensions of 8.1cm in length and a diameter of 2.1cm, was firmly secured to the internal wall of the model. Dried pressurised air, supplied from an external source, was routed along the sting, through the base of the model and to the plenum, while short lengths of tygon tubing supplied air from the plenum to the blowing nossle.

Figure 4 shows a schematic of a removable nose tip with the exit of the blowing nossle located at an axial location of $z/D = 0.125$. The blowing nossles were designed to blow aft, along a model meridian and tangential to the surface of the body. Previous work conducted by Moskovits[2] showed that as compared to a discrete surface perturbation of a pointed nose tip, a perturbation of a blunt nose tip was less likely to develop vortex asymmetries due to surface roughness or machining imperfections. Thus for the purposes of this study a blunted nose tip was used to minimise the possible effects of the differences in the geometries of the different blowing nossles that were tested, and thereby accentuate the effects of blowing.

Blowing Nossles

Table 2 shows the blowing nozzles that were manufactured for this research. Each blowing nossle was constructed of brass and was securely fitted to its own nose tip. The geometric mean height of the nossle exit orifice, $\overline{y}/d$, was used as a measure of the effective height from the surface of the body to the geometric center of the jet as it exits the blowing nozzle. The effective width of the jet was characterised by z_{max}/d, which represents the maximum width of the exit orifice. Blowing nozzles 1 – 5 all had the same exterior dimensions of 0.25cm high, 0.44cm wide and 0.51cm long. Each nozzle exit orifice had the same cross–sectional area, but different geometries. Nozzle 1 was a semi–ellipse with a horizontal major axis; 2 was a semi–circle with a horizontal axis; 3 was an ellipse with a horizontal major axis; 4 was a semi–ellipse with a horizontal minor axis, and 5 was a full circle. The numerical designation of the blowing nozzles, 1 – 5, indicated an ascending geometric mean height. For some test cases, a blank nozzle was positioned at a symmetric location to the blowing nozzle with respect to the windward ray. The purpose of this blank nozzle was to provide an initial vortex pattern that was less asymmetric when compared with a single nozzle being placed on the model. These blank nozzles were of the same exterior dimensions as the blowing nozzles and were glued directly onto the model surface.

Nozzle Calibration

A method of calibrating the blowing nozzles was developed to determine the level of blowing. A simple calibration apparatus, shown in Figure 5, was assembled for this purpose. It consisted of a pressure regulator used to vary the plenum stagnation pressure; a pressure transducer to measure the plenum pressure; and an in–line flow meter positioned between the plenum and the blowing nozzle to measure the volumetric flow rate of the jet. Prior to the nozzle calibration, the pressure drop across the flow meter was measured, and was observed to be negligible. Each section of tubing used in the calibration procedure was of the same length as that used during the subsequent wind tunnel testing.

From the calibration apparatus, the stagnation pressure and volumetric flow rate were measured while the stagnation temperature was taken to be the ambient laboratory temperature. The blowing coefficient, C_μ, was then calculated where A_{ref} was taken to be $40(\pi D^2/4)$. This reference area was chosen to enable comparison of the blowing coefficient with previous researches.

Test Instrumentation & Parameters

Surface pressures were measured using a pair of 8.9cm of water Validyne differential pressure transducers connected to a pair of 48–port Scanivalve modules and a Hewlett–Packard 9122 computer. The transducers' sampling time was 0.167 seconds, and thus time averaged pressures were obtained.

Wind tunnel testing was conducted at a free stream velocity of 13.7 m/s. This corresponded to a laminar flow Reynolds numbers, based on the model base diameter, of 84000. The angle of attack was varied from 40° to 60° in 10° increments, while sideslip was held constant at 0°. C_μ's investigated ranged from 0.01 to 0.02 for group B. A test case with the blowing nozzle sealed, i.e. $C_\mu = 0$, was also investigated. The azimuthal locations of the blowing nozzles were 90°, 120°, and 150° for the single nozzle configuration, while the 90° and 120° locations were tested for the double nozzle configuration.

Results and Discussion

Tables 3 and 4 show the test cases and corresponding figures for the single and double nozzle configurations respectively. Each figure consists of the surface pressure data for all 5 blowing nozzles. Although a detailed discussion of the results is not presented here, interesting features regarding the data are noted. (For a more thorough analysis of the present data references 19 – 22 are suggested.)

The following observations were made from the data presented in this report. (i)When comparing the blowing cases with the non–blowing cases it was observed that aft blowing was effective in reducing the initial vortex asymmetry. Aft blowing moved the blowing–side vortex closer to the surface of the model while the non–blowing–side vortex moved farther away from the body. It was also observed that blowing moved the separation location of the viscous layer from the body to a more leeward location. (ii) As the angle of attack was varied aft blowing was observed to be more effective at the higher angles of attack than at the lower. It is believed that this was due to the more effective augmentation of the axial flow component over the model as the angle of attack was increased. (iii)Localised differences in the C_p distributions were observed as C_μ was varied. The effect of increasing the magnitude of the blowing coefficient was to move the blowing–side vortex closer to the model surface over a shorter axial distance. (iv)Finally low, broad nozzle cross–sectional exit geometries were observed to be more effective in reducing forebody vortex asymmetry than high, narrow cross-sections. This is consistent with the optimal conditions for the entrainment of the forebody flow by blowing, since the jet surface area is then maximum. This supports the previously proposed control mechanism of jet entrainment effects being responsible for forebody vortex control using aft blowing.

Conclusions

An experimental study has been conducted to examine the effectiveness of aft blowing as a method of forebody vortex control. A 3.0 caliber tangent ogive model fitted with a cylindrical afterbody was tested in subsonic, laminar flow conditions. Testing was conducted using both a single nozzle and a double nozzle configuration; for the double nozzle configuration, blowing was applied through only one nozzle. Blowing was optimized when a low, broad nozzle was used, when the blowing coefficient was maximized, and the model was at the highest angle of attack. The experimental results presented here will be useful for comparison with computational methods.

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Port	x(cm)	ϕ(deg)	Port	x(cm)	ϕ(deg)
1	-8.255	.0	43	-14.605	270.0
2	-8.255	15.0	44	-14.605	285.0
3	-8.255	30.0	45	-14.605	300.0
4	-8.255	45.0	46	-14.605	315.0
5	-8.255	60.0	47	-14.605	330.0
6	-8.255	75.0	48	-14.605	345.0
7	-8.255	90.0	49	-20.320	.0
8	-8.255	105.0	50	-20.320	10.0
9	-8.255	120.0	51	-20.320	20.0
10	-8.255	135.0	52	-20.320	30.0
11	-8.255	150.0	53	-20.320	40.0
12	-8.255	165.0	54	-20.320	50.0
13	-8.255	180.0	55	-20.320	60.0
14	-8.255	195.0	56	-20.320	70.0
15	-8.255	210.0	57	-20.320	80.0
16	-8.255	225.0	58	-20.320	90.0
17	-8.255	240.0	59	-20.320	100.0
18	-8.255	255.0	60	-20.320	110.0
19	-8.255	270.0	61	-20.320	120.0
20	-8.255	285.0	62	-20.320	130.0
21	-8.255	300.0	63	-20.320	140.0
22	-8.255	315.0	64	-20.320	150.0
23	-8.255	330.0	65	-20.320	160.0
24	-8.255	345.0	66	-20.320	170.0
25	-14.605	.0	67	-20.320	180.0
26	-14.605	15.0	68	-20.320	190.0
27	-14.605	30.0	69	-20.320	200.0
28	-14.605	45.0	70	-20.320	210.0
29	-14.605	60.0	71	-20.320	220.0
30	-14.605	75.0	72	-20.320	230.0
31	-14.605	90.0	73	-20.320	240.0
32	-14.605	105.0	74	-20.320	250.0
33	-14.605	120.0	75	-20.320	260.0
34	-14.605	135.0	76	-20.320	270.0
35	-14.605	150.0	77	-20.320	280.0
36	-14.605	165.0	78	-20.320	290.0
37	-14.605	180.0	79	-20.320	300.0
38	-14.605	195.0	80	-20.320	310.0
39	-14.605	210.0	81	-20.320	320.0
40	-14.605	225.0	82	-20.320	330.0
41	-14.605	240.0	83	-20.320	340.0
42	-14.605	255.0	84	-20.320	350.0

Table 1 – Pressure Port Locations

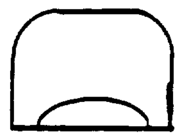
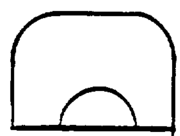
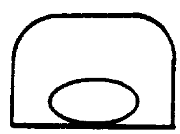
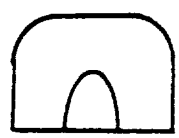
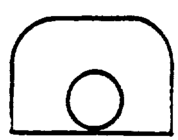
Blowing Nozzle	Exit Geometries	x/D	$\bar{y}/d$	z_{max}/d
1		0.125	0.0354	0.334
2		0.125	0.0499	0.235
3		0.125	0.0588	0.235
4		0.125	0.0627	0.167
5		0.125	0.0836	0.167

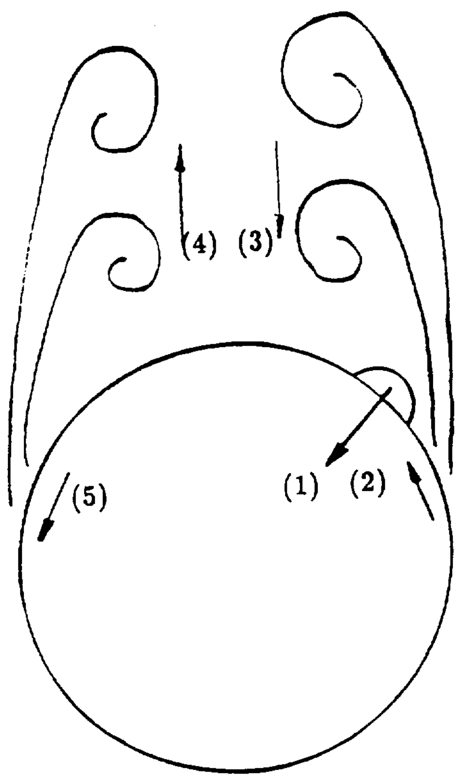
Table 1 – Blowing Nozzle Specifications

Figure	α (deg)	ϕ_j (deg)	C_μ
6	40	90	.01
7	40	90	.02
8	40	120	.00
9	40	120	.01
10	40	120	.02
11	40	150	.01
12	40	150	.02
13	50	90	.01
14	50	90	.02
15	50	120	.00
16	50	120	.01
17	50	120	.02
18	50	150	.01
19	50	150	.02
20	60	90	.01
21	60	90	.02
22	60	120	.00
23	60	120	.01
24	60	120	.02
25	60	150	.01
26	60	150	.02

Table 3 – Test Matrix
Single Nozzle Configuration

Figure	α (deg)	ϕ_j (deg)	ϕ_b (deg)	C_μ
27	40	90	270	.00
28	40	90	270	.01
29	40	90	270	.02
30	40	120	240	.00
31	40	120	240	.01
32	40	120	240	.02
33	50	90	270	.00
34	50	90	270	.01
35	50	90	270	.02
36	50	120	240	.00
37	50	120	240	.01
38	50	120	240	.02
39	60	90	270	.00
40	60	90	270	.01
41	60	90	270	.02
42	60	120	240	.00
43	60	120	240	.01
44	60	120	240	.02

Table 4 – Test Matrix
Double Nozzle Configuration



(1) Blowing is initiated.
(2) Separation is moved leeward due to entrainment.
(3) Blowing–side vortex moves towards body.
(4) Non–blowing side vortex moves away from body.
(5) Separation is moved windward.

Figure 1 – Effects of Aft Blowing on the Leeside Vortices (ref. 14)

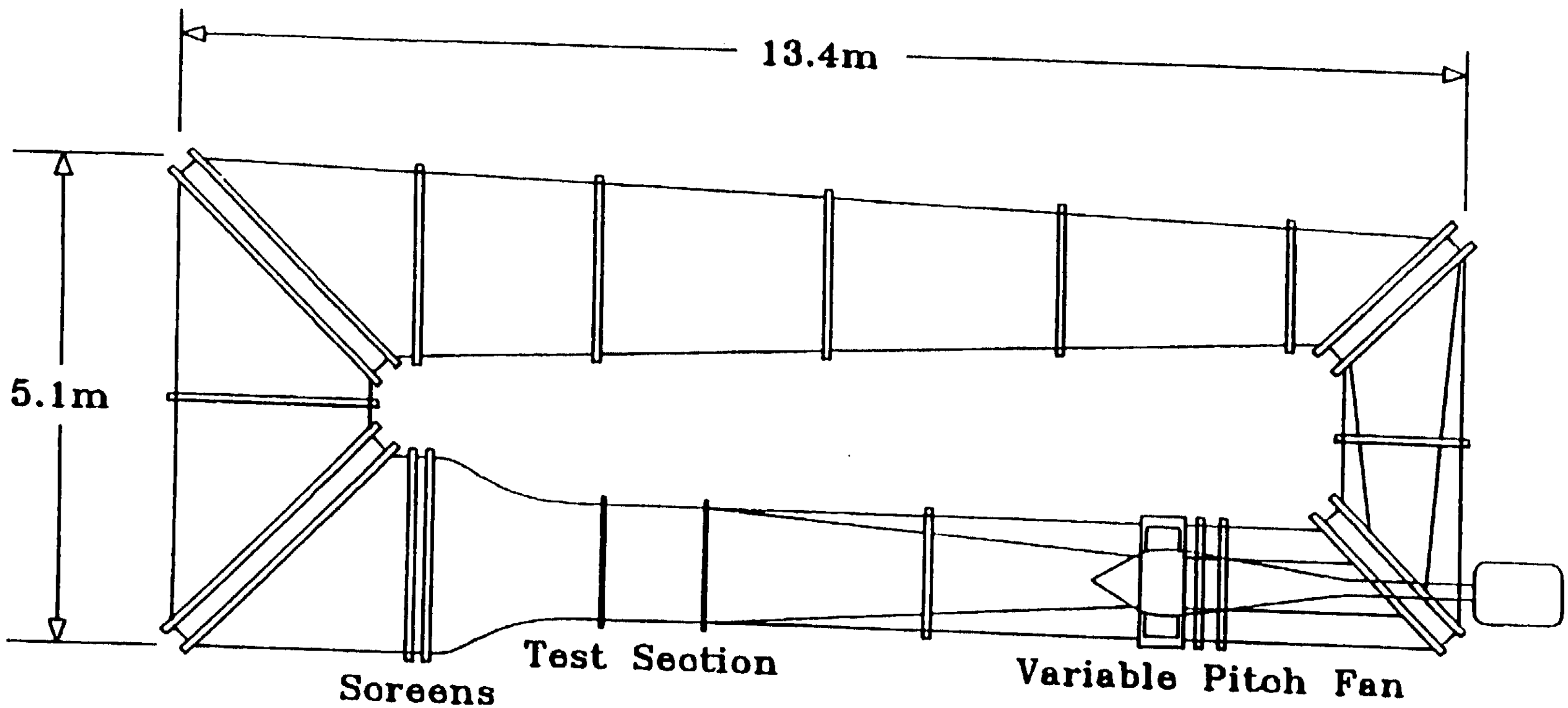


Figure 2 – North Carolina State University Subsonic Wind Tunnel Facility

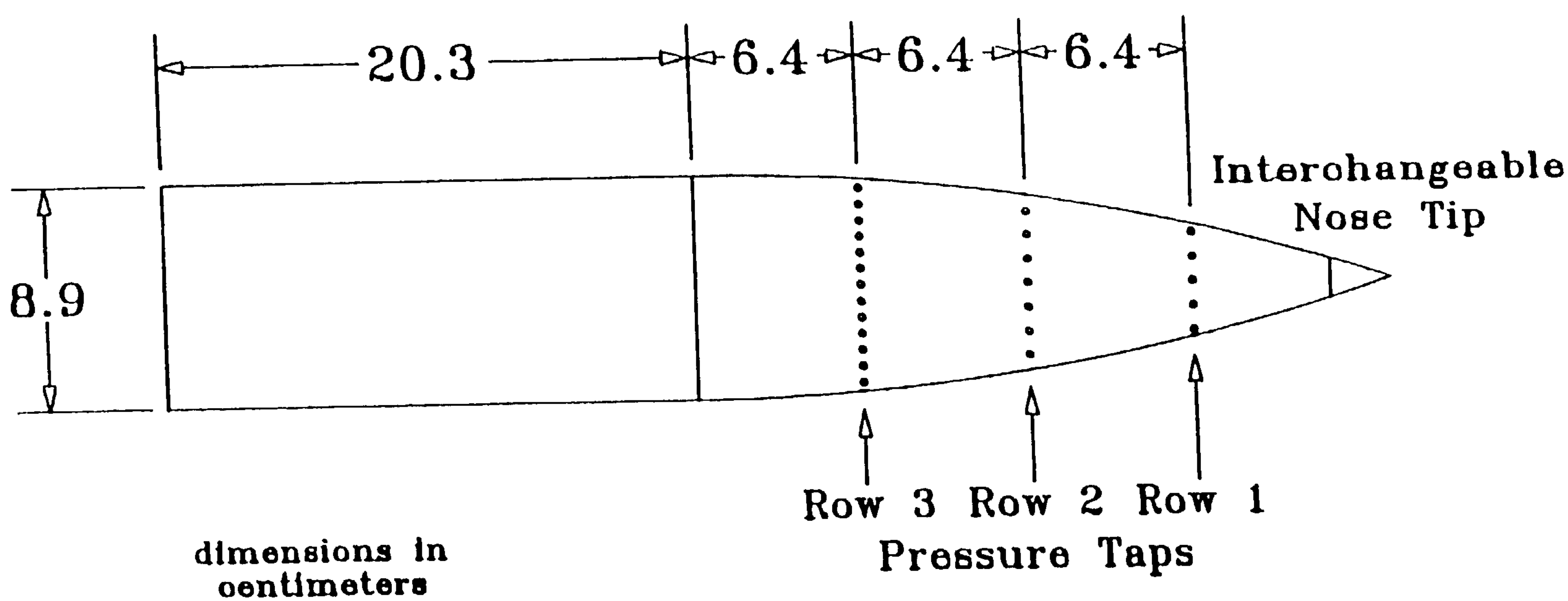


Figure 3 – 3.0 Caliber Tangent Ogive Model

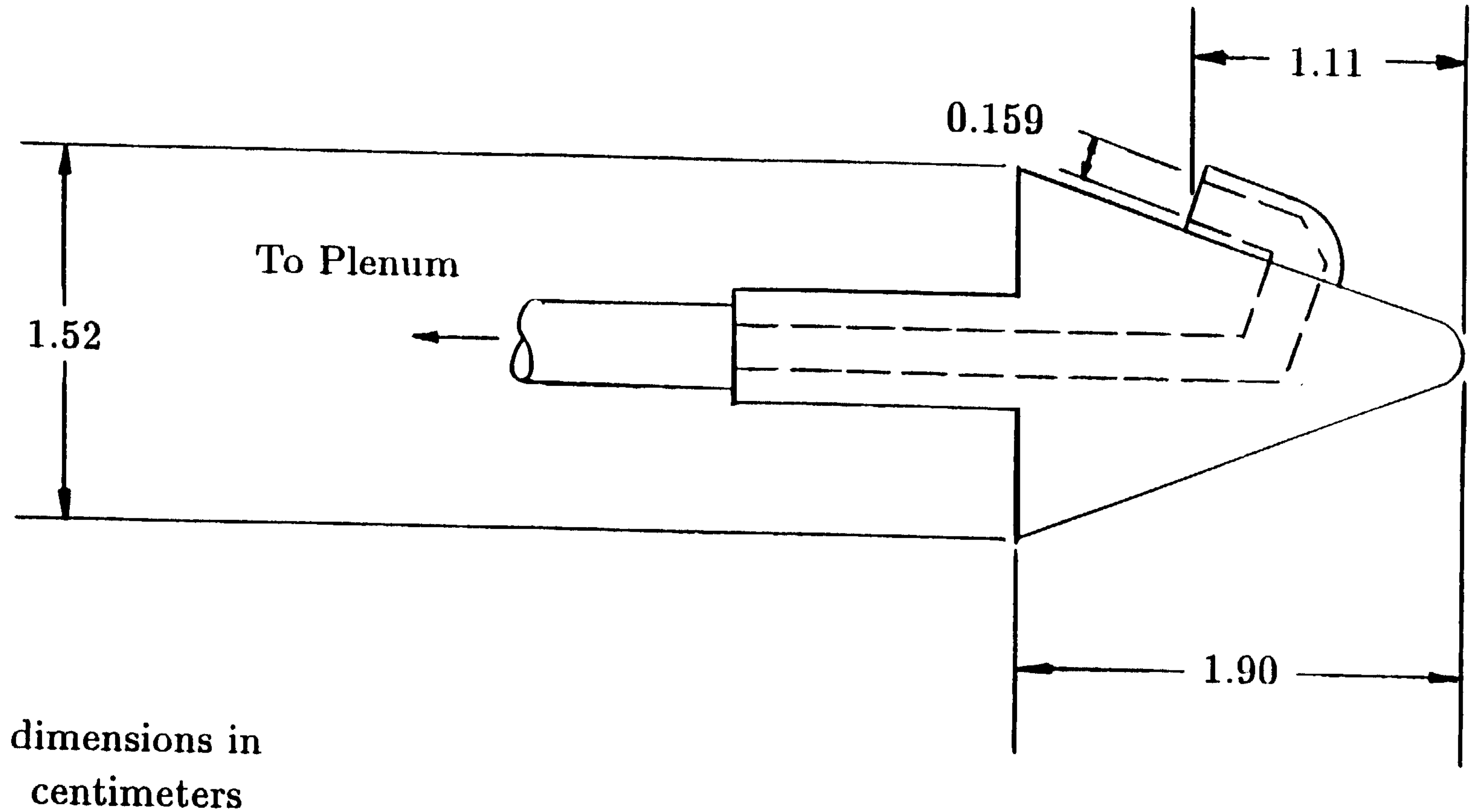


Figure 4 – Removable Nose Tip with Blowing Nozzle

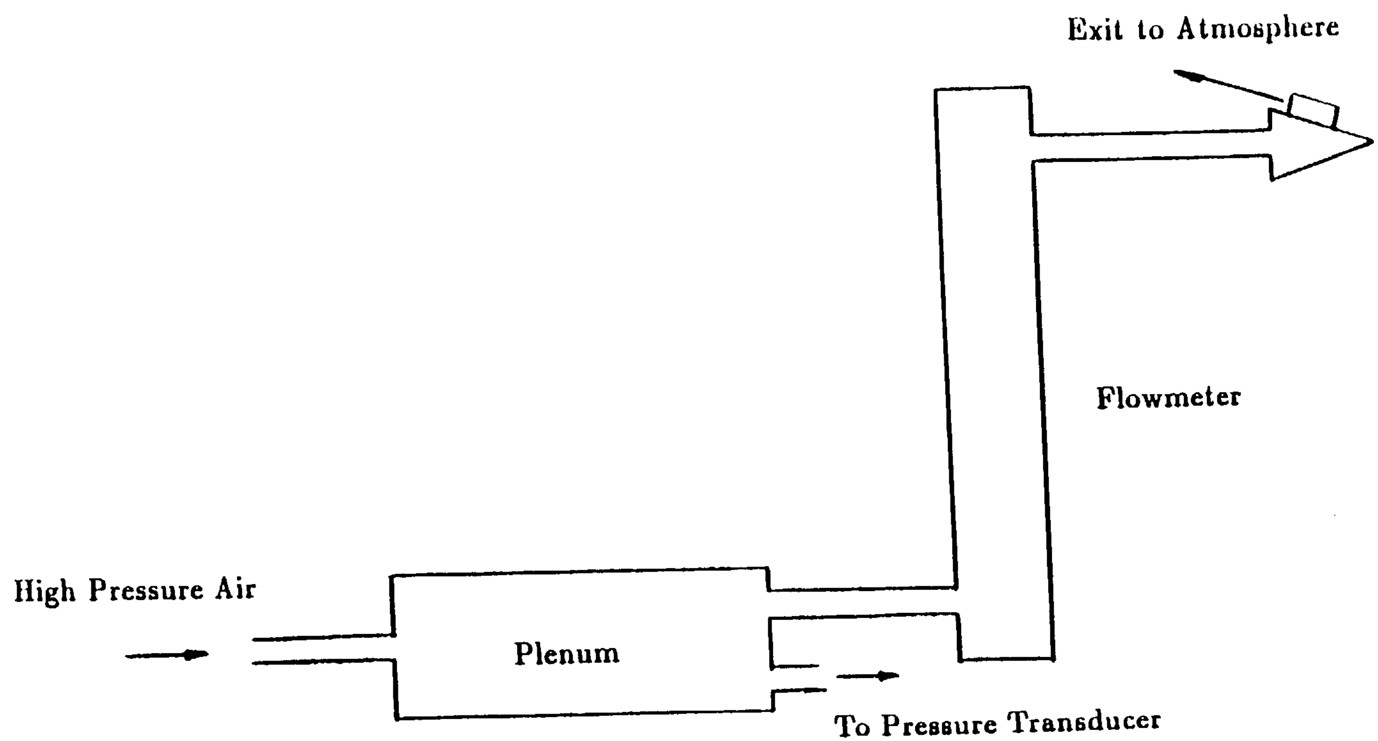


Figure 5 – Blowing Nozzle Calibration Test Schematic

Pressure Port	Blowing Nozzle				
	1	2	3	4	5
1	.678	.674	.670	.648	.637
2	.552	.563	.570	.594	.552
3	.307	.322	.341	.409	.358
4	-.121	-.093	-.083	.009	-.028
5	-.550	-.507	-.507	-.391	-.413
6	-.506	-.474	-.494	-.385	-.391
7	-.795	-.772	-.792	-.715	-.714
8	-.907	-.886	-.765	-.661	-.780
9	-1.244	-1.180	-1.421	-1.227	-1.221
10	-.941	-.915	-.919	-.861	-.919
11	-.827	-.822	-.909	-.889	-.851
12	-.604	-.598	-.610	-.613	-.618
13	-.534	-.551	-.530	-.529	-.539
14	-.979	-.980	-.994	-.914	-.882
15	-1.082	-1.033	-1.111	-1.183	-1.093
16	-1.162	-1.162	-1.140	-1.140	-1.095
17	-1.217	-1.203	-1.218	-1.293	-1.203
18	-1.241	-1.246	-1.194	-1.251	-1.181
19	-1.318	-1.317	-1.316	-1.391	-1.309
20	-1.093	-1.087	-1.086	-1.172	-1.085
21	-.806	-.798	-.846	-.943	-.865
22	-.338	-.329	-.374	-.471	-.411
23	.148	.157	.102	.024	.063
24	.449	.459	.419	.368	.376
25	.487	.489	.481	.461	.458
26	.414	.417	.420	.434	.403
27	.191	.191	.226	.281	.237
28	-.168	-.158	-.117	-.050	-.093
29	-.658	-.645	-.611	-.498	-.543
30	-.936	-.914	-.885	-.776	-.813
31	-1.152	-1.098	-1.117	-1.011	-1.034
32	-1.033	-.992	-.994	-.907	-.923
33	-1.189	-1.151	-1.156	-1.063	-1.079
34	-.657	-.642	-.654	-.589	-.618
35	-.641	-.650	-.677	-.582	-.620
36	-.426	-.429	-.430	-.408	-.429
37	-.478	-.486	-.472	-.434	-.470
38	-.981	-.998	-.798	-.729	-.897
39	-1.043	-1.082	-1.039	-1.046	-1.027
40	-1.136	-1.147	-1.047	-1.066	-1.092
41	-1.146	-1.157	-1.141	-1.198	-1.130
42	-1.097	-1.106	-1.060	-1.134	-1.071

Figure 6 – Pressure Coefficients
$\alpha = 40°$, $\phi_j = 90°$, $C_\mu = .01$

Pressure Port	Blowing Nozzle				
	1	2	3	4	5
43	-1.255	-1.261	-1.238	-1.317	-1.243
44	-1.082	-1.083	-1.070	-1.160	-1.082
45	-.900	-.884	-.921	-1.008	-.932
46	-.503	-.486	-.533	-.614	-.555
47	-.049	-.033	-.086	-.173	-.111
48	.253	.269	.223	.167	.194
49	.415	.409	.407	.395	.380
50	.403	.404	.420	.433	.405
51	.237	.234	.261	.298	.264
52	.012	.008	.051	.119	.065
53	-.241	-.249	-.202	-.116	-.166
54	-.597	-.579	-.536	-.439	-.483
55	-.827	-.812	-.769	-.669	-.698
56	-1.131	-1.108	-1.086	-.970	-1.004
57	-1.200	-1.181	-1.161	-1.050	-1.080
58	-1.201	-1.165	-1.189	-1.085	-1.102
59	-1.130	-1.087	-1.095	-.996	-1.021
60	-1.191	-1.151	-1.182	-1.086	-1.102
61	-1.123	-1.085	-1.093	-1.009	-1.018
62	-1.343	-1.180	-1.198	-1.098	-1.125
63	-1.119	-1.084	-1.085	-1.056	-1.181
64	-.540	-.489	-.521	-.449	-.468
65	-.507	-.500	-.530	-.454	-.510
66	-.345	-.357	-.391	-.317	-.329
67	-.434	-.429	-.464	-.369	-.395
68	-.841	-.834	-.765	-.697	-.741
69	-1.025	-1.039	-.891	-.985	-1.014
70	-1.191	-1.173	-1.033	-1.123	-1.142
71	-.953	-.962	-.919	-1.006	-.957
72	-1.061	-1.068	-1.045	-1.147	-1.068
73	-.919	-.934	-.913	-.986	-.911
74	-.975	-.986	-.985	-1.081	-.981
75	-.922	-.934	-.913	-.996	-.914
76	-1.061	-1.079	-1.054	-1.148	-1.048
77	-1.020	-1.035	-1.011	-1.102	-1.021
78	-1.010	-1.021	-1.029	-1.134	-1.036
79	-.807	-.817	-.822	-.923	-.849
80	-.585	-.588	-.627	-.733	-.649
81	-.308	-.315	-.341	-.442	-.377
82	-.014	-.025	-.068	-.149	-.089
83	.184	.173	.145	.081	.116
84	.396	.396	.379	.343	.343

Figure 6 (continued) – Pressure Coefficients
$\alpha = 40°, \phi_j = 90°, C_\mu = .01$

Pressure Port	Blowing Nozzle				
	1	2	3	4	5
1	.684	.686	.665	.646	.638
2	.556	.559	.583	.594	.574
3	.317	.331	.353	.449	.374
4	-.076	-.073	-.115	.097	.009
5	-.470	-.477	-.582	-.256	-.355
6	-.362	-.381	-.624	-.228	-.298
7	-1.187	-.884	-.936	-.558	-.925
8	-1.678	-1.252	-1.441	-.769	-1.278
9	-1.437	-1.436	-1.671	-1.135	-1.587
10	-1.062	-1.001	-.849	-.846	-1.056
11	-.892	-.873	-.909	-.861	-.910
12	-.584	-.554	-.539	-.600	-.589
13	-.540	-.540	-.486	-.564	-.480
14	-.964	-1.014	-.981	-.987	-.975
15	-1.070	-1.035	-1.130	-1.266	-1.068
16	-1.158	-1.165	-1.141	-1.227	-1.108
17	-1.220	-1.223	-1.214	-1.393	-1.184
18	-1.244	-1.241	-1.199	-1.339	-1.188
19	-1.333	-1.343	-1.294	-1.498	-1.291
20	-1.100	-1.090	-1.095	-1.242	-1.098
21	-.824	-.820	-.829	-1.029	-.848
22	-.359	-.342	-.375	-.526	-.401
23	.141	.148	.105	-.025	.076
24	.441	.444	.431	.333	.401
25	.490	.492	.468	.459	.443
26	.410	.415	.435	.434	.418
27	.197	.201	.222	.309	.235
28	-.162	-.148	-.115	-.014	-.094
29	-.618	-.623	-.557	-.409	-.520
30	-.879	-.860	-.842	-.671	-.806
31	-1.069	-1.038	-1.043	-.867	-.972
32	-.928	-.903	-.940	-.747	-.873
33	-1.020	-.950	-.968	-.911	-.956
34	-.780	-.832	-.876	-.546	-.863
35	-.618	-.594	-.644	-.541	-.627
36	-.541	-.546	-.608	-.408	-.619
37	-.511	-.505	-.508	-.447	-.525
38	-.998	-1.017	-.852	-.863	-.924
39	-1.090	-1.138	-.976	-1.150	-1.026
40	-1.141	-1.136	-1.077	-1.164	-1.095
41	-1.166	-1.188	-1.092	-1.303	-1.113
42	-1.094	-1.089	-1.084	-1.212	-1.069

Figure 7 – Pressure Coefficients
$\alpha = 40°$, $\phi_j = 90°$, $C_\mu = .02$

Pressure Port	Blowing Nozzle				
	1	2	3	4	5
43	-1.265	-1.280	-1.219	-1.429	-1.209
44	-1.080	-1.067	-1.090	-1.224	-1.082
45	-.911	-.898	-.909	-1.094	-.911
46	-.504	-.477	-.537	-.668	-.551
47	-.059	-.048	-.078	-.194	-.109
48	.242	.256	.240	.150	.206
49	.412	.402	.411	.379	.389
50	.411	.409	.412	.438	.401
51	.237	.238	.268	.313	.264
52	.012	.019	.054	.142	.069
53	-.244	-.230	-.193	-.078	-.160
54	-.580	-.567	-.522	-.392	-.483
55	-.802	-.776	-.770	-.597	-.715
56	-1.117	-1.092	-1.058	-.891	-.999
57	-1.177	-1.133	-1.166	-.951	-1.102
58	-1.178	-1.151	-1.147	-.974	-1.101
59	-1.091	-1.048	-1.091	-.898	-1.047
60	-1.179	-1.147	-1.143	-.994	-1.103
61	-1.103	-1.065	-1.094	-.906	-1.054
62	-1.137	-1.094	-1.112	-.989	-1.065
63	-1.157	-1.063	-1.086	-.915	-1.250
64	-.511	-.515	-.569	-.431	-.530
65	-.522	-.513	-.550	-.421	-.583
66	-.371	-.384	-.417	-.308	-.372
67	-.447	-.457	-.498	-.360	-.428
68	-.858	-.842	-.806	-.744	-.747
69	-1.104	-.982	-.974	-1.044	-1.068
70	-1.202	-1.148	-1.076	-1.253	-1.144
71	-.995	-.963	-.974	-1.091	-.991
72	-1.087	-1.104	-1.056	-1.228	-1.067
73	-.940	-.938	-.941	-1.059	-.924
74	-1.001	-1.030	-.982	-1.151	-.978
75	-.942	-.950	-.931	-1.060	-.925
76	-1.079	-1.103	-1.051	-1.241	-1.027
77	-1.035	-1.029	-1.037	-1.171	-1.029
78	-1.033	-1.054	-1.028	-1.217	-1.019
79	-.825	-.823	-.848	-.981	-.864
80	-.607	-.607	-.628	-.788	-.646
81	-.328	-.316	-.360	-.481	-.384
82	-.022	-.037	-.067	-.182	-.095
83	.178	.163	.152	.058	.117
84	.400	.396	.369	.329	.343

Figure 7 (continued) – Pressure Coefficients
$\alpha = 40°$, $\phi_j = 90°$, $C_\mu = .02$

Pressure Port	Blowing Nozzle				
	1	2	3	4	5
1	.547	.656	.585	.598	.648
2	.346	.438	.338	.343	.582
3	.244	.537	.252	.275	.394
4	-.202	.050	-.226	-.212	-.014
5	-.696	-.468	-.745	-.709	-.447
6	-.876	-.821	-.936	-.902	-.705
7	-1.057	-1.174	-1.127	-1.095	-.962
8	-1.118	-1.072	-1.114	-1.092	-.700
9	-1.075	-1.206	-1.145	-1.127	-.727
10	-1.128	-1.096	-1.151	-1.165	-.714
11	-1.144	-1.250	-1.090	-1.306	-.973
12	-.852	-.870	-.823	-.824	-.696
13	-.675	-.759	-.666	-.737	-.628
14	-1.365	-.993	-1.372	-1.321	-.930
15	-1.180	-1.348	-1.213	-1.217	-1.068
16	-1.506	-1.290	-1.493	-1.469	-1.136
17	-1.445	-1.540	-1.504	-1.491	-1.243
18	-1.245	-1.343	-1.209	-1.219	-1.264
19	-1.516	-1.688	-1.575	-1.563	-1.381
20	-1.546	-1.460	-1.503	-1.506	-1.140
21	-.785	-1.123	-.820	-.811	-.876
22	-.995	-1.175	-1.192	-1.244	-.429
23	.260	.033	.298	.277	.062
24	.271	.156	.252	.181	.383
25	.661	.663	.688	.706	.468
26	.578	.604	.571	.562	.450
27	.260	.471	.254	.267	.305
28	-.154	.049	-.157	-.149	-.025
29	-.593	-.379	-.635	-.624	-.412
30	-.869	-.726	-.861	-.842	-.658
31	-.860	-.950	-.931	-.915	-.807
32	-.950	-.918	-.942	-.935	-.792
33	-.903	-1.004	-.969	-.962	-.890
34	-1.041	-.914	-.997	-1.041	-.815
35	-1.083	-1.111	-1.149	-1.099	-.942
36	-.923	-1.007	-.870	-.891	-.826
37	-.638	-.756	-.660	-.670	-.617
38	-1.459	-.827	-1.429	-1.388	-.814
39	-1.221	-1.438	-1.280	-1.249	-1.171
40	-1.524	-1.190	-1.490	-1.487	-1.058
41	-1.420	-1.554	-1.482	-1.463	-1.267
42	-1.558	-1.369	-1.511	-1.514	-1.178

Figure 8 – Pressure Coefficients
$\alpha = 40°, \phi_j = 120°, C_\mu = .00$

Pressure Port	Blowing Nozzle				
	1	2	3	4	5
43	-1.554	-1.672	-1.625	-1.605	-1.370
44	-1.396	-1.419	-1.350	-1.361	-1.203
45	-1.000	-1.309	-1.056	-1.031	-1.028
46	-.527	-.779	-.515	-.515	-.624
47	.028	-.246	.020	.014	-.172
48	.406	.192	.408	.385	.174
49	.513	.505	.530	.547	.423
50	.521	.520	.521	.514	.406
51	.338	.522	.348	.360	.370
52	.118	.274	.114	.122	.196
53	-.167	.069	-.175	-.169	-.024
54	-.421	-.222	-.429	-.416	-.244
55	-.669	-.523	-.693	-.710	-.510
56	-.768	-.680	-.774	-.772	-.629
57	-.651	-.745	-.677	-.690	-.717
58	-.725	-.736	-.737	-.729	-.643
59	-.559	-.598	-.579	-.588	-.664
60	-.709	-.714	-.722	-.714	-.621
61	-.687	-.729	-.723	-.740	-.721
62	-.599	-.587	-.615	-.591	-.677
63	-.881	-.872	-.952	-.899	-.806
64	-.770	-.785	-.818	-.725	-.783
65	-.950	-1.071	-1.018	-.955	-.852
66	-.706	-.866	-.714	-.670	-1.086
67	-.615	-.762	-.643	-.645	-.575
68	-1.156	-.617	-1.093	-1.144	-.607
69	-1.403	-1.441	-1.436	-1.463	-1.286
70	-1.516	-1.315	-1.473	-1.482	-1.150
71	-1.560	-1.569	-1.610	-1.618	-1.284
72	-1.514	-1.485	-1.485	-1.474	-1.263
73	-1.463	-1.541	-1.532	-1.535	-1.253
74	-1.485	-1.404	-1.439	-1.443	-1.200
75	-1.582	-1.549	-1.627	-1.627	-1.275
76	-1.645	-1.507	-1.601	-1.599	-1.297
77	-1.570	-1.711	-1.620	-1.612	-1.387
78	-1.385	-1.452	-1.349	-1.358	-1.232
79	-1.072	-1.379	-1.115	-1.092	-1.111
80	-.738	-.976	-.723	-.705	-.817
81	-.263	-.466	-.272	-.262	-.517
82	.003	-.255	.008	-.013	-.215
83	.239	.096	.245	.265	.094
84	.471	.321	.472	.474	.261

Figure 8 (continued) – Pressure Coefficients
$\alpha = 40°$, $\phi_j = 120°$, $C_\mu = .00$

Pressure Port	Blowing Nozzle 1	2	3	4	5
1	.525	.655	.659	.660	.642
2	.575	.580	.610	.578	.549
3	.278	.359	.428	.336	.340
4	-.076	-.058	.018	-.092	-.069
5	-.561	-.525	-.446	-.551	-.506
6	-.828	-.797	-.756	-.793	-.752
7	-1.095	-1.069	-1.066	-1.035	-.999
8	-.686	-.672	-.642	-.781	-.764
9	-.891	-.826	-.805	-.736	-.807
10	-.781	-.740	-.935	-.853	-.774
11	-.825	-.818	-.886	-.828	-.786
12	-.637	-.611	-.704	-.691	-.621
13	-.563	-.621	-.597	-.566	-.546
14	-.881	-.965	-.726	-1.079	-.984
15	-1.034	-1.069	-1.066	-1.036	-1.009
16	-1.112	-1.148	-1.057	-1.228	-1.145
17	-1.190	-1.191	-1.199	-1.237	-1.175
18	-1.213	-1.216	-1.191	-1.312	-1.214
19	-1.338	-1.331	-1.346	-1.377	-1.310
20	-1.105	-1.105	-1.140	-1.149	-1.083
21	-.829	-.830	-.900	-.824	-.800
22	-.384	-.392	-.468	-.369	-.372
23	.110	.098	.028	.122	.112
24	.426	.419	.379	.447	.408
25	.488	.482	.462	.485	.465
26	.429	.434	.458	.430	.412
27	.224	.237	.301	.228	.210
28	-.160	-.133	-.049	-.148	-.156
29	-.616	-.585	-.507	-.606	-.583
30	-.912	-.878	-.831	-.904	-.850
31	-1.172	-1.132	-1.134	-1.079	-1.074
32	-1.104	-1.068	-1.086	-1.055	-1.018
33	-1.154	-1.123	-1.137	-1.092	-1.061
34	-.829	-.817	-1.000	-.748	-.681
35	-.696	-.682	-.673	-.702	-.675
36	-.519	-.514	-.627	-.493	-.466
37	-.438	-.430	-.439	-.450	-.448
38	-.879	-.849	-.752	-.924	-.882
39	-1.068	-1.114	-1.078	-1.079	-1.048
40	-1.075	-1.051	-1.026	-1.145	-1.072
41	-1.153	-1.164	-1.146	-1.192	-1.134
42	-1.071	-1.063	-1.073	-1.152	-1.070

Figure 9 – Pressure Coefficients
$\alpha = 40°$, $\phi_j = 120°$, $C_\mu = .01$

Pressure Port	Blowing Nozzle 1	2	3	4	5
43	-1.232	-1.232	-1.217	-1.293	-1.225
44	-1.096	-1.097	-1.133	-1.155	-1.077
45	-.904	-.913	-.961	-.927	-.889
46	-.521	-.538	-.602	-.542	-.507
47	-.091	-.094	-.161	-.087	-.092
48	.226	.229	.183	.234	.216
49	.450	.435	.430	.443	.426
50	.389	.388	.412	.393	.364
51	.285	.289	.336	.279	.265
52	.070	.081	.146	.072	.056
53	-.232	-.216	-.138	-.219	-.222
54	-.495	-.476	-.407	-.477	-.469
55	-.847	-.816	-.754	-.802	-.800
56	-1.010	-.977	-.947	-.966	-.948
57	-1.236	-1.196	-1.173	-1.148	-1.147
58	-1.173	-1.142	-1.164	-1.082	-1.081
59	-1.182	-1.142	-1.168	-1.078	-1.101
60	-1.103	-1.076	-1.104	-1.032	-1.030
61	-1.186	-1.140	-1.151	-1.090	-1.087
62	-1.204	-1.156	-1.143	-1.164	-1.130
63	-1.151	-1.087	-1.261	-.873	-.874
64	-.559	-.557	-.573	-.583	-.555
65	-.530	-.931	-1.092	-.471	-.723
66	-.437	-.460	-.506	-.408	-.594
67	-.403	-.526	-.522	-.412	-.485
68	-.617	-.611	-.529	-.688	-.712
69	-1.077	-1.088	-1.087	-1.036	-1.002
70	-.984	-.972	-1.022	-1.066	-.983
71	-1.036	-1.047	-1.143	-1.055	-.982
72	-1.002	-1.011	-.993	-1.088	-1.006
73	-.987	-.995	-1.024	-1.055	-.980
74	-.942	-.945	-.947	-1.034	-.950
75	-.967	-.982	-.985	-1.052	-.981
76	-.983	-.995	-.982	-1.112	-1.015
77	-1.095	-1.107	-1.100	-1.171	-1.107
78	-.981	-.995	-1.027	-1.076	-.995
79	-.879	-.887	-.944	-.910	-.878
80	-.627	-.632	-.717	-.653	-.625
81	-.357	-.367	-.433	-.353	-.356
82	-.092	-.098	-.162	-.081	-.095
83	.186	.165	.116	.194	.183
84	.320	.306	.279	.338	.309

Figure 9 (continued) – Pressure Coefficients
$\alpha = 40°$, $\phi_j = 120°$, $C_\mu = .01$

Pressure Port	Blowing Nozzle				
	1	2	3	4	5
1	.459	.650	.649	.661	.637
2	.571	.583	.600	.600	.545
3	.264	.360	.418	.361	.334
4	-.070	-.054	.018	-.042	-.070
5	-.557	-.533	-.440	-.492	-.517
6	-.800	-.775	-.714	-.699	-.728
7	-1.042	-1.018	-.987	-.905	-.938
8	-.760	-.728	-.693	-.684	-.801
9	-1.791	-1.219	-1.375	-.790	-1.293
10	-.984	-.834	-1.039	-.829	-.883
11	-1.039	-.925	-1.041	-.812	-.943
12	-.643	-.647	-.739	-.696	-.652
13	-.601	-.617	-.561	-.553	-.552
14	-.955	-.965	-.712	-1.220	-.959
15	-1.070	-1.067	-1.064	-1.126	-1.003
16	-1.142	-1.161	-1.034	-1.366	-1.121
17	-1.212	-1.200	-1.192	-1.347	-1.170
18	-1.221	-1.238	-1.174	-1.443	-1.193
19	-1.347	-1.344	-1.329	-1.486	-1.304
20	-1.112	-1.129	-1.124	-1.253	-1.062
21	-.833	-.842	-.889	-.901	-.794
22	-.386	-.402	-.466	-.432	-.363
23	.102	.096	.036	.088	.109
24	.416	.424	.375	.427	.400
25	.485	.473	.454	.499	.469
26	.432	.429	.445	.453	.399
27	.242	.239	.298	.245	.220
28	-.135	-.133	-.044	-.125	-.133
29	-.586	-.564	-.507	-.544	-.567
30	-.877	-.860	-.816	-.817	-.823
31	-1.134	-1.095	-1.104	-.980	-1.059
32	-1.072	-1.047	-1.047	-.952	-.986
33	-1.126	-1.086	-1.096	-.995	-1.038
34	-.716	-.729	-.754	-.597	-.812
35	-.780	-.792	-.856	-.667	-.737
36	-.493	-.521	-.555	-.421	-.559
37	-.502	-.513	-.542	-.444	-.497
38	-.829	-.872	-.755	-1.015	-.870
39	-1.111	-1.092	-1.055	-1.115	-1.046
40	-1.042	-1.093	-1.012	-1.243	-1.054
41	-1.171	-1.155	-1.134	-1.269	-1.124
42	-1.068	-1.099	-1.054	-1.254	-1.045

Figure 10 – Pressure Coefficients
$\alpha = 40°$, $\phi_j = 120°$, $C_\mu = .02$

Pressure Port	Blowing Nozzle				
	1	2	3	4	5
43	-1.238	-1.237	-1.201	-1.436	-1.211
44	-1.102	-1.122	-1.119	-1.230	-1.059
45	-.911	-.914	-.953	-1.000	-.886
46	-.521	-.550	-.596	-.580	-.510
47	-.092	-.112	-.173	.084	-.082
48	.231	.210	.164	.402	.217
49	.451	.426	.425	.438	.424
50	.396	.393	.406	.410	.363
51	.289	.286	.334	.294	.266
52	.074	.084	.144	.099	.061
53	-.217	-.197	-.138	-.187	-.213
54	-.473	-.459	-.394	-.437	-.457
55	-.838	-.791	-.737	-.770	-.793
56	-.993	-.962	-.919	-.924	-.934
57	-1.228	-1.157	-1.168	-1.081	-1.143
58	-1.172	-1.117	-1.158	-1.020	-1.071
59	-1.179	-1.122	-1.169	-1.002	-1.094
60	-1.100	-1.064	-1.091	-.955	-1.012
61	-1.167	-1.112	-1.130	-1.031	-1.091
62	-1.199	-1.159	-1.132	-1.067	-1.045
63	-.698	-.633	-.735	-.635	-.562
64	-.580	-.590	-.588	-.535	-.620
65	-.444	-.542	-.631	-.398	-.473
66	-.402	-.439	-.447	-.377	-.667
67	-.425	-.438	-.439	-.352	-.437
68	-.617	-.613	-.518	-.692	-.706
69	-1.134	-1.237	-1.129	-1.194	-1.113
70	-.999	-1.092	-1.044	-1.200	-.996
71	-1.081	-1.112	-1.146	-1.172	-1.033
72	-1.017	-1.046	-1.026	-1.176	-.997
73	-1.012	-1.020	-1.025	-1.127	-.982
74	-.955	-.979	-.939	-1.109	-.931
75	-.988	-.985	-.976	-1.133	-.980
76	-1.005	-1.019	-.963	-1.194	-.993
77	-1.120	-1.124	-1.096	-1.248	-1.094
78	-1.007	-1.023	-1.011	-1.129	-.968
79	-.891	-.906	-.938	-.964	-.873
80	-.626	-.665	-.694	-.695	-.613
81	-.353	-.379	-.440	-.401	-.349
82	-.080	-.119	-.160	-.114	-.086
83	.191	.164	.121	.166	.170
84	.327	.303	.284	.326	.294

Figure 10 (continued) – Pressure Coefficients
$\alpha = 40°$, $\phi_j = 120°$, $C_\mu = .02$

Pressure Port	Blowing Nozzle				
	1	2	3	4	5
1	.682	.676	.661	.681	.647
2	.559	.587	.592	.565	.559
3	.644	.334	.328	.290	.309
4	-.124	-.056	-.067	-.124	-.071
5	-.495	-.557	-.559	-.628	-.565
6	-.996	-.916	-.949	-.998	-.919
7	-1.266	-1.195	-1.222	-1.250	-1.196
8	-1.280	-1.208	-1.234	-1.258	-1.205
9	-1.295	-1.220	-1.246	-1.266	-1.215
10	-1.190	-1.074	-1.085	-1.070	-1.148
11	-.761	-.709	-.858	-.827	-.902
12	-.284	-.280	-.339	-.422	-.330
13	-.627	-.625	-.631	-.595	-.644
14	-.749	-.672	-.686	-.824	-.789
15	-1.091	-1.141	-1.089	-1.095	-1.074
16	-1.051	-1.056	-1.032	-1.095	-1.054
17	-1.205	-1.247	-1.185	-1.238	-1.165
18	-1.187	-1.260	-1.203	-1.261	-1.171
19	-1.314	-1.355	-1.295	-1.339	-1.275
20	-1.068	-1.138	-1.113	-1.106	-1.071
21	-.813	-.855	-.832	-.812	-.806
22	-.334	-.375	-.380	-.328	-.344
23	.163	.114	.100	.159	.113
24	.464	.436	.430	.466	.424
25	.499	.486	.479	.496	.457
26	.427	.441	.443	.437	.423
27	.212	.243	.238	.203	.215
28	-.163	-.117	-.127	-.177	-.130
29	-.646	-.577	-.580	-.650	-.607
30	-.954	-.901	-.932	-.974	-.923
31	-1.220	-1.129	-1.178	-1.189	-1.161
32	-1.137	-1.071	-1.137	-1.141	-1.098
33	-1.237	-1.141	-1.194	-1.195	-1.172
34	-1.009	-1.007	-1.085	-.999	-.946
35	-.869	-.808	-.819	-.801	-.869
36	-.687	-.616	-.659	-.674	-.695
37	-.477	-.447	-.438	-.434	-.481
38	-.778	-.713	-.685	-.727	-.771
39	-1.079	-1.070	-1.092	-1.112	-1.059
40	-.981	-1.023	-.961	-1.004	-.984
41	-1.148	-1.183	-1.141	-1.175	-1.119
42	-1.024	-1.109	-1.042	-1.083	-1.025

Figure 11 – Pressure Coefficients
$\alpha = 40°$, $\phi_j = 150°$, $C_\mu = .01$

Pressure Port	Blowing Nozzle				
	1	2	3	4	5
43	-1.221	-1.282	-1.206	-1.257	-1.185
44	-1.053	-1.138	-1.100	-1.096	-1.067
45	-.897	-.943	-.911	-.900	-.897
46	-.509	-.550	-.565	-.509	-.543
47	-.052	-.101	-.106	-.046	-.093
48	.251	.217	.208	.265	.214
49	.406	.400	.405	.415	.384
50	.428	.435	.429	.423	.408
51	.264	.297	.302	.274	.272
52	.081	.117	.119	.076	.091
53	-.185	-.137	-.133	-.181	-.162
54	-.553	-.477	-.485	-.549	-.509
55	-.771	-.705	-.726	-.774	-.734
56	-1.109	-1.002	-1.029	-1.076	-1.035
57	-1.154	-1.070	-1.130	-1.139	-1.113
58	-1.229	-1.109	-1.194	-1.173	-1.180
59	-1.108	-1.027	-1.103	-1.087	-1.078
60	-1.160	-1.054	-1.120	-1.107	-1.105
61	-1.095	-1.012	-1.084	-1.087	-1.048
62	-1.242	-1.147	-1.177	-1.186	-1.183
63	-1.065	-1.054	-1.093	-1.010	-.989
64	-.757	-.693	-.799	-.774	-.736
65	-.571	-.566	-.625	-.581	-.593
66	-.476	-.403	-.474	-.478	-.482
67	-.411	-.376	-.398	-.415	-.421
68	-.610	-.521	-.500	-.558	-.478
69	-.382	-.357	-.382	-.388	-.682
70	-1.118	-1.295	-1.266	-1.158	-1.132
71	-.812	-.910	-.951	-.883	-.953
72	-1.070	-1.168	-1.080	-1.118	-1.054
73	-.941	-1.030	-.992	-1.000	-.957
74	-.980	-1.055	-.964	-1.014	-.962
75	-.924	-1.013	-.946	-.993	-.927
76	-1.055	-1.148	-1.020	-1.110	-1.028
77	-1.028	-1.119	-1.053	-1.092	-1.032
78	-1.029	-1.110	-1.030	-1.055	-1.020
79	-.819	-.902	-.872	-.860	-.843
80	-.613	-.674	-.645	-.605	-.628
81	-.325	-.375	-.374	-.323	-.353
82	-.039	-.097	-.093	-.055	-.088
83	.165	.131	.125	.164	.124
84	.379	.342	.338	.378	.329

Figure 11 (continued) – Pressure Coefficients
$\alpha = 40°$, $\phi_j = 150°$, $C_\mu = .01$

Pressure Port	Blowing Nozzle				
	1	2	3	4	5
1	.677	.669	.662	.687	.645
2	.559	.589	.573	.548	.555
3	.583	.322	.327	.308	.306
4	-.113	-.076	-.068	-.109	-.080
5	-.521	-.574	-.584	-.595	-.563
6	-1.003	-.961	-.958	-.916	-.921
7	-1.254	-1.202	-1.242	-1.188	-1.191
8	-1.274	-1.219	-1.263	-1.206	-1.200
9	-1.293	-1.237	-1.283	-1.225	-1.210
10	-1.463	-1.272	-1.349	-1.018	-1.412
11	-.922	-.963	-1.152	-.969	-1.076
12	-.232	-.215	-.220	-.470	-.255
13	-.714	-.729	-.791	-.716	-.721
14	-.581	-.630	-.641	-.809	-.719
15	-1.147	-1.194	-1.151	-1.180	-1.126
16	-1.018	-1.078	-1.021	-1.125	-1.052
17	-1.258	-1.273	-1.205	-1.366	-1.197
18	-1.257	-1.299	-1.182	-1.345	-1.192
19	-1.364	-1.368	-1.303	-1.472	-1.297
20	-1.125	-1.162	-1.087	-1.162	-1.088
21	-.840	-.857	-.845	-.903	-.830
22	-.350	-.374	-.376	-.366	-.368
23	.129	.101	.102	.121	.097
24	.437	.440	.422	.431	.410
25	.490	.471	.477	.499	.459
26	.433	.443	.427	.425	.412
27	.210	.239	.234	.216	.220
28	-.155	-.118	-.132	-.147	-.134
29	-.638	-.594	-.598	-.614	-.591
30	-.942	-.926	-.931	-.869	-.906
31	-1.186	-1.136	-1.196	-1.100	-1.136
32	-1.110	-1.098	-1.128	-1.009	-1.082
33	-1.209	-1.151	-1.212	-1.128	-1.170
34	-.848	-.867	-.903	-.881	-.834
35	-.985	-.961	-1.008	-.802	-.959
36	-.763	-.693	-.770	-.693	-.784
37	-.491	-.485	-.501	-.474	-.509
38	-.724	-.714	-.704	-.676	-.734
39	-1.116	-1.106	-1.150	-1.211	-1.111
40	-1.012	-1.038	-.958	-.999	-.983
41	-1.201	-1.197	-1.173	-1.307	-1.156
42	-1.094	-1.138	-1.030	-1.150	-1.047

Figure 12 – Pressure Coefficients
$\alpha = 40°, \phi_j = 150°, C_\mu = .02$

Pressure Port	Blowing Nozzle				
	1	2	3	4	5
43	-1.284	-1.279	-1.205	-1.391	-1.213
44	-1.113	-1.151	-1.076	-1.149	-1.080
45	-.940	-.957	-.911	-.993	-.904
46	-.545	-.582	-.549	-.540	-.539
47	-.069	-.111	-.106	-.083	-.091
48	.244	.215	.201	.234	.209
49	.408	.403	.401	.400	.376
50	.428	.426	.427	.438	.408
51	.283	.306	.294	.282	.267
52	.091	.108	.107	.112	.098
53	-.166	-.142	-.150	-.143	-.154
54	-.526	-.489	-.500	-.511	-.491
55	-.747	-.720	-.733	-.691	-.712
56	-1.064	-1.007	-1.055	-1.008	-1.019
57	-1.117	-1.090	-1.135	-1.009	-1.089
58	-1.183	-1.132	-1.234	-1.078	-1.162
59	-1.071	-1.051	-1.110	-.965	-1.059
60	-1.111	-1.063	-1.147	-1.026	-1.092
61	-1.060	-1.040	-1.085	-.962	-1.040
62	-1.204	-1.186	-1.235	-1.152	-1.177
63	-.827	-.823	-.889	-.870	-.774
64	-.734	-.707	-.749	-.708	-.722
65	-.536	-.566	-.633	-.565	-.582
66	-.426	-.444	-.500	-.465	-.469
67	-.384	-.400	-.438	-.394	-.433
68	-.528	-.564	-.541	-.486	-.483
69	-.395	-.395	-.405	-.376	-.718
70	-1.339	-1.256	-1.282	-1.220	-1.229
71	-.917	-.925	-.868	-.885	-.974
72	-1.167	-1.164	-1.094	-1.249	-1.107
73	-1.008	-1.056	-.958	-1.054	-.973
74	-1.035	-1.064	-.965	-1.146	-.994
75	-.989	-1.051	-.922	-1.061	-.949
76	-1.131	-1.144	-1.033	-1.268	-1.062
77	-1.092	-1.144	-1.036	-1.149	-1.050
78	-1.088	-1.110	-1.036	-1.178	-1.046
79	-.866	-.923	-.853	-.896	-.853
80	-.648	-.665	-.645	-.690	-.646
81	-.346	-.383	-.369	-.356	-.371
82	-.077	-.095	.019	-.083	-.095
83	.144	.130	.232	.142	.112
84	.359	.336	.351	.362	.330

Figure 12 (continued) – Pressure Coefficients
$\alpha = 40°$, $\phi_j = 150°$, $C_\mu = .02$

Pressure Port	Blowing Nozzle				
	1	2	3	4	5
1	.796	.786	.782	.751	.738
2	.641	.635	.666	.698	.656
3	.284	.286	.339	.417	.365
4	-.301	-.294	-.237	-.124	-.159
5	-.886	-.873	-.814	-.664	-.684
6	-.810	-.812	-.766	-.662	-.676
7	-1.106	-1.061	-1.131	-.997	-.963
8	-.930	-.892	-.952	-.845	-.832
9	-1.408	-1.486	-1.214	-1.043	-1.174
10	-.999	-.929	-1.030	-.882	-.904
11	-1.014	-1.006	-.923	-.853	-.932
12	-.735	-.732	-.771	-.734	-.727
13	-.812	-.864	-.801	-.756	-.802
14	-1.376	-1.408	-1.331	-1.400	-1.350
15	-1.398	-1.447	-1.402	-1.479	-1.426
16	-1.605	-1.606	-1.592	-1.696	-1.594
17	-1.635	-1.609	-1.618	-1.728	-1.612
18	-1.629	-1.602	-1.598	-1.712	-1.589
19	-1.835	-1.782	-1.814	-1.932	-1.779
20	-1.513	-1.479	-1.517	-1.654	-1.522
21	-1.209	-1.158	-1.236	-1.394	-1.093
22	-.566	-.545	-.604	-.762	-.389
23	.075	.107	.048	-.093	.003
24	.495	.505	.486	.395	.452
25	.656	.652	.644	.618	.600
26	.541	.526	.558	.577	.549
27	.213	.207	.256	.332	.279
28	-.284	-.288	-.223	-.127	-.171
29	-.963	-.940	-.909	-.757	-.774
30	-1.319	-1.295	-1.279	-1.148	-1.153
31	-1.596	-1.536	-1.566	-1.400	-1.395
32	-1.450	-1.401	-1.424	-1.285	-1.279
33	-1.648	-1.584	-1.622	-1.469	-1.452
34	-1.176	-.985	-1.434	-1.336	-1.191
35	-.759	-.775	-.750	-.679	-.690
36	-.633	-.598	-.769	-.696	-.649
37	-.664	-.750	-.752	-.623	-.695
38	-1.373	-1.414	-1.440	-1.492	-1.383
39	-1.502	-1.435	-1.516	-1.607	-1.484
40	-1.443	-1.461	-1.477	-1.573	-1.488
41	-1.479	-1.424	-1.466	-1.597	-1.454
42	-1.304	-1.294	-1.317	-1.424	-1.329

Figure 13 – Pressure Coefficients
$\alpha = 50°$, $\phi_j = 90°$, $C_\mu = .01$

Pressure Port	Blowing Nozzle				
	1	2	3	4	5
43	-1.531	-1.500	-1.503	-1.622	-1.506
44	-1.338	-1.318	-1.359	-1.484	-1.378
45	-1.141	-1.091	-1.150	-1.293	-1.160
46	-.626	-.595	-.657	-.804	-.691
47	-.027	-.027	-.066	-.202	-.119
48	.371	.356	.343	.245	.301
49	.617	.601	.610	.601	.582
50	.598	.572	.606	.624	.585
51	.349	.336	.384	.435	.393
52	.014	.000	.053	.155	.109
53	-.347	-.342	-.302	-.184	-.220
54	-.845	-.855	-.795	-.647	-.679
55	-1.156	-1.158	-1.122	-.976	-.998
56	-1.619	-1.577	-1.573	-1.382	-1.396
57	-1.686	-1.640	-1.667	-1.493	-1.506
58	-1.679	-1.612	-1.675	-1.492	-1.461
59	-1.572	-1.537	-1.561	-1.424	-1.407
60	-1.705	-1.646	-1.681	-1.521	-1.510
61	-1.626	-1.592	-1.608	-1.479	-1.472
62	-1.946	-1.709	-1.708	-1.563	-1.553
63	-1.633	-1.626	-1.619	-1.482	-1.725
64	-.909	-.772	-.927	-.934	-.788
65	-.804	-.811	-.770	-.732	-.784
66	-.728	-.708	-.742	-.700	-.668
67	-.841	-.893	-.851	-.797	-.808
68	-1.066	-1.162	-1.163	-1.099	-1.111
69	-.958	-1.020	-1.040	-1.036	-1.029
70	-1.030	-1.052	-1.092	-1.156	-1.076
71	-.935	-.939	-.911	-1.022	-.931
72	-1.055	-1.063	-1.077	-1.201	-1.104
73	-.982	-.980	-.946	-1.085	-1.002
74	-1.066	-1.049	-1.059	-1.187	-1.082
75	-.994	-.986	-.976	-1.097	-1.025
76	-1.104	-1.095	-1.076	-1.215	-1.117
77	-1.121	-1.115	-1.100	-1.238	-1.157
78	-1.138	-1.119	-1.130	-1.280	-1.163
79	-.918	-.898	-.920	-1.071	-.971
80	-.648	-.626	-.674	-.840	-.728
81	-.303	-.290	-.324	-.473	-.392
82	.076	.072	.024	-.094	-.036
83	.330	.318	.293	.206	.245
84	.614	.600	.587	.537	.529

Figure 13 (continued) – Pressure Coefficients
$\alpha = 50°$, $\phi_j = 90°$, $C_\mu = .01$

Pressure Port	Blowing Nozzle 1	2	3	4	5
1	.791	.795	.785	.753	.753
2	.636	.654	.679	.698	.668
3	.297	.284	.353	.483	.374
4	-.239	-.263	-.181	.009	-.134
5	-.776	-.809	-.715	-.466	-.642
6	-.641	-.691	-.615	-.411	-.577
7	-.963	-1.151	-.940	-.754	-.904
8	-1.416	-1.667	-1.282	-.640	-1.283
9	-1.641	-1.726	-1.970	-1.048	-1.707
10	-1.328	-1.352	-1.244	-.775	-1.377
11	-1.087	-1.100	-1.189	-.859	-1.199
12	-.814	-.844	-.834	-.686	-.869
13	-.833	-.898	-.848	-.795	-.864
14	-1.471	-1.462	-1.363	-1.494	-1.344
15	-1.498	-1.479	-1.431	-1.565	-1.437
16	-1.617	-1.630	-1.613	-1.800	-1.569
17	-1.652	-1.603	-1.623	-1.881	-1.593
18	-1.592	-1.602	-1.616	-1.831	-1.547
19	-1.814	-1.767	-1.803	-2.112	-1.754
20	-1.491	-1.491	-1.540	-1.743	-1.497
21	-1.205	-1.153	-1.239	-1.507	-1.235
22	-.566	-.543	-.627	-.795	-.646
23	.064	.097	.041	-.152	-.012
24	.483	.517	.479	.352	.424
25	.650	.645	.645	.620	.617
26	.534	.545	.560	.563	.546
27	.222	.218	.261	.357	.269
28	-.268	-.268	-.221	-.101	-.203
29	-.913	-.919	-.850	-.692	-.801
30	-1.247	-1.288	-1.224	-1.032	-1.170
31	-1.479	-1.480	-1.452	-1.258	-1.390
32	-1.298	-1.351	-1.300	-1.091	-1.236
33	-1.564	-1.545	-1.531	-1.348	-1.472
34	-.764	-.816	-.817	-.789	-.774
35	-.799	-.849	-.822	-.668	-.808
36	-.499	-.555	-.521	-.467	-.509
37	-.759	-.809	-.735	-.661	-.736
38	-1.405	-1.471	-1.457	-1.465	-1.367
39	-1.429	-1.412	-1.519	-1.657	-1.466
40	-1.500	-1.506	-1.523	-1.604	-1.477
41	-1.453	-1.408	-1.480	-1.687	-1.441
42	-1.338	-1.318	-1.342	-1.476	-1.304

Figure 14 – Pressure Coefficients
$\alpha = 50°$, $\phi_j = 90°$, $C_\mu = .02$

Pressure Port	Blowing Nozzle				
	1	2	3	4	5
43	-1.542	-1.485	-1.513	-1.754	-1.477
44	-1.355	-1.348	-1.388	-1.547	-1.362
45	-1.158	-1.089	-1.169	-1.379	-1.149
46	-.647	-.609	-.694	-.843	-.691
47	-.064	-.018	-.112	-.238	-.133
48	.329	.379	.306	.214	.277
49	.604	.621	.619	.581	.589
50	.597	.579	.599	.633	.594
51	.361	.351	.395	.435	.397
52	.026	.017	.061	.163	.100
53	-.325	-.333	-.285	-.164	-.230
54	-.816	-.824	-.750	-.614	-.699
55	-1.118	-1.148	-1.081	-.907	-1.014
56	-1.547	-1.553	-1.508	-1.387	-1.468
57	-1.617	-1.660	-1.622	-1.454	-1.578
58	-1.607	-1.611	-1.616	-1.486	-1.559
59	-1.496	-1.543	-1.525	-1.352	-1.463
60	-1.630	-1.609	-1.622	-1.513	-1.582
61	-1.546	-1.576	-1.556	-1.414	-1.505
62	-1.937	-1.659	-1.649	-1.560	-1.631
63	-1.551	-1.604	-1.581	-1.421	-1.770
64	-.762	-.717	-.689	-.765	-.687
65	-.747	-.803	-.767	-.775	-.800
66	-.669	-.685	-.637	-.734	-.626
67	-.866	-.890	-.817	-.870	-.802
68	-1.224	-1.233	-1.144	-1.159	-1.136
69	-1.068	-1.125	-1.070	-1.074	-1.054
70	-1.167	-1.139	-1.136	-1.181	-1.161
71	-.984	-.984	-.975	-1.079	-.976
72	-1.100	-1.110	-1.123	-1.248	-1.091
73	-1.005	-1.031	-1.014	-1.141	-1.001
74	-1.119	-1.071	-1.106	-1.252	-1.077
75	-1.030	-1.034	-1.037	-1.153	-1.015
76	-1.156	-1.097	-1.143	-1.288	-1.111
77	-1.153	-1.139	-1.173	-1.282	-1.139
78	-1.171	-1.148	-1.178	-1.345	-1.170
79	-.936	-.953	-.981	-1.107	-.976
80	-.678	-.644	-.706	-.880	-.721
81	-.321	-.312	-.352	-.497	-.382
82	.039	.071	.008	-.116	-.028
83	.297	.334	.292	.189	.247
84	.600	.601	.578	.525	.549

Figure 14 (continued) – Pressure Coefficients
$\alpha = 50°$, $\phi_j = 90°$, $C_\mu = .02$

Pressure Port	Blowing Nozzle				
	1	2	3	4	5
1	.979	.771	.671	.753	.721
2	.541	.542	.423	.405	.704
3	.366	.610	.300	.352	.453
4	-.251	.030	-.274	-.251	-.038
5	-.887	-.620	-.878	-.904	-.611
6	-1.064	-.974	-1.046	-1.079	-.859
7	-1.242	-1.328	-1.214	-1.254	-1.108
8	-1.181	-1.256	-1.311	-1.218	-.808
9	-1.274	-1.393	-1.267	-1.307	-.871
10	-1.293	-1.278	-1.340	-1.345	-.860
11	-1.508	-1.528	-1.433	-1.523	-1.237
12	-1.108	-1.164	-1.146	-1.161	-1.069
13	-.979	-.939	-.996	-.979	-.806
14	-1.913	-1.715	-2.059	-1.983	-1.740
15	-1.839	-1.987	-1.772	-1.857	-1.658
16	-2.055	-1.981	-2.232	-2.153	-1.888
17	-2.238	-2.230	-2.105	-2.263	-1.897
18	-1.770	-1.999	-1.922	-1.858	-1.924
19	-2.407	-2.438	-2.251	-2.437	-2.089
20	-2.068	-2.038	-2.241	-2.164	-1.817
21	-1.411	-1.740	-1.310	-1.452	-1.435
22	-1.554	-1.168	-1.766	-1.667	-.828
23	.162	-.260	.134	.152	-.154
24	.160	.172	.161	.173	.346
25	.857	.733	.799	.861	.552
26	.646	.758	.726	.702	.604
27	.421	.610	.388	.419	.431
28	-.101	.157	-.095	-.082	.029
29	-.607	-.366	-.585	-.603	-.425
30	-.733	-.700	-.804	-.744	-.690
31	-.862	-.865	-.832	-.869	-.772
32	-.823	-.881	-.894	-.843	-.818
33	-.901	-.950	-.861	-.914	-.936
34	-.905	-.861	-1.013	-.925	-.868
35	-1.037	-1.113	-1.035	-1.050	-.976
36	-.960	-1.051	-1.078	-.991	-.982
37	-.967	-.880	-.915	-.991	-.761
38	-2.006	-1.688	-2.243	-2.109	-1.703
39	-1.950	-2.033	-1.829	-1.991	-1.731
40	-2.152	-2.016	-2.346	-2.263	-1.931
41	-2.282	-2.284	-2.140	-2.320	-1.951
42	-2.138	-2.042	-2.324	-2.253	-1.914

Figure 15 – Pressure Coefficients
$\alpha = 50°$, $\phi_j = 120°$, $C_\mu = .00$

Pressure Port	Blowing Nozzle				
	1	2	3	4	5
43	-2.498	-2.452	-2.349	-2.536	-2.124
44	-1.926	-2.092	-2.091	-2.037	-1.928
45	-1.684	-1.975	-1.594	-1.694	-1.624
46	-.854	-1.239	-.903	-.878	-1.058
47	-.132	-.488	-.145	-.146	-.386
48	.358	.138	.421	.373	.139
49	.738	.626	.672	.742	.573
50	.645	.690	.734	.684	.597
51	.603	.740	.537	.605	.562
52	.259	.466	.295	.276	.372
53	-.019	.239	-.032	-.009	.110
54	-.312	-.086	-.310	-.293	-.149
55	-.588	-.433	-.562	-.591	-.447
56	-.568	-.569	-.595	-.576	-.561
57	-.485	-.580	-.503	-.520	-.559
58	-.517	-.562	-.564	-.536	-.540
59	-.454	-.486	-.445	-.462	-.537
60	-.529	-.548	-.561	-.536	-.521
61	-.533	-.589	-.512	-.544	-.612
62	-.453	-.443	-.482	-.458	-.580
63	-.634	-.654	-.632	-.652	-.598
64	-.564	-.579	-.608	-.568	-.650
65	-.754	-.803	-.759	-.784	-.649
66	-.633	-.701	-.692	-.640	-.919
67	-1.590	-.856	-1.491	-1.584	-.758
68	-2.024	-1.638	-2.231	-2.145	-1.729
69	-2.490	-2.356	-2.323	-2.493	-2.178
70	-2.286	-2.189	-2.502	-2.416	-2.078
71	-2.504	-2.530	-2.361	-2.555	-2.172
72	-2.128	-2.171	-2.319	-2.239	-2.005
73	-2.400	-2.396	-2.243	-2.453	-2.036
74	-2.091	-2.093	-2.260	-2.199	-1.955
75	-2.580	-2.384	-2.444	-2.647	-2.089
76	-2.250	-2.273	-2.473	-2.391	-2.130
77	-2.479	-2.550	-2.336	-2.531	-2.193
78	-1.878	-2.126	-2.044	-1.991	-1.980
79	-1.691	-2.047	-1.568	-1.717	-1.615
80	-1.048	-1.456	-1.094	-1.099	-1.118
81	-.397	-.705	-.390	-.406	-.817
82	-.081	-.461	-.075	-.082	-.357
83	.329	.081	.310	.342	.065
84	.546	.377	.626	.584	.350

Figure 15 (continued) – Pressure Coefficients
$\alpha = 50°$, $\phi_j = 120°$, $C_\mu = .00$

Pressure Port	Blowing Nozzle				
	1	2	3	4	5
1	.385	.781	.766	.773	.763
2	.637	.661	.694	.663	.661
3	.163	.346	.438	.318	.332
4	-.251	-.216	-.102	-.236	-.222
5	-.944	-.880	-.784	-.864	-.820
6	-1.264	-1.222	-1.173	-1.139	-1.101
7	-1.584	-1.565	-1.561	-1.414	-1.382
8	-1.154	-1.155	-1.094	-1.099	-1.085
9	-1.011	-.978	-1.124	-.936	-.894
10	-.987	-1.017	-.903	-.845	-.839
11	-1.022	-.990	-1.149	-.988	-.893
12	-.819	-.837	-.804	-.740	-.748
13	-.805	-.830	-.806	-.677	-.737
14	-1.395	-1.447	-1.300	-1.859	-1.481
15	-1.483	-1.515	-1.477	-1.514	-1.472
16	-1.552	-1.594	-1.562	-1.764	-1.656
17	-1.587	-1.614	-1.638	-1.718	-1.635
18	-1.496	-1.532	-1.544	-1.722	-1.625
19	-1.797	-1.782	-1.822	-1.922	-1.808
20	-1.429	-1.476	-1.537	-1.598	-1.518
21	-1.155	-1.174	-1.297	-1.236	-1.174
22	-.570	-.588	-.719	-.624	-.597
23	.053	.043	-.074	.037	.047
24	.465	.463	.392	.475	.468
25	.635	.647	.621	.634	.634
26	.541	.561	.580	.565	.556
27	.260	.267	.358	.256	.259
28	-.253	-.249	-.131	-.242	-.247
29	-.931	-.892	-.796	-.855	-.835
30	-1.286	-1.258	-1.183	-1.187	-1.201
31	-1.592	-1.576	-1.578	-1.392	-1.405
32	-1.496	-1.485	-1.456	-1.359	-1.392
33	-1.629	-1.606	-1.612	-1.479	-1.459
34	-1.509	-1.513	-1.604	-1.252	-1.342
35	-.856	-.825	-.835	-.822	-.773
36	-.805	-.857	-.898	-.730	-.754
37	-.617	-.631	-.563	-.669	-.651
38	-1.253	-1.304	-1.256	-1.340	-1.307
39	-1.325	-1.401	-1.412	-1.442	-1.402
40	-1.367	-1.414	-1.372	-1.571	-1.486
41	-1.390	-1.430	-1.468	-1.554	-1.453
42	-1.250	-1.272	-1.293	-1.468	-1.368

Figure 16 – Pressure Coefficients
$\alpha = 50°$, $\phi_j = 120°$, $C_\mu = .01$

Pressure Port	Blowing Nozzle				
	1	2	3	4	5
43	-1.441	-1.469	-1.456	-1.667	-1.546
44	-1.312	-1.348	-1.394	-1.493	-1.415
45	-1.109	-1.141	-1.209	-1.232	-1.150
46	-.628	-.662	-.749	-.711	-.672
47	-.083	-.091	-.205	-.115	-.099
48	.326	.328	.240	.321	.315
49	.651	.650	.650	.657	.636
50	.550	.560	.594	.564	.566
51	.400	.401	.473	.409	.388
52	.098	.090	.181	.113	.102
53	-.331	-.322	-.206	-.308	-.309
54	-.682	-.681	-.571	-.649	-.659
55	-1.204	-1.185	-1.083	-1.120	-1.114
56	-1.392	-1.390	-1.304	-1.292	-1.328
57	-1.740	-1.704	-1.654	-1.494	-1.571
58	-1.575	-1.567	-1.541	-1.343	-1.448
59	-1.634	-1.606	-1.623	-1.421	-1.483
60	-1.511	-1.491	-1.494	-1.330	-1.405
61	-1.689	-1.655	-1.649	-1.493	-1.514
62	-1.688	-1.660	-1.570	-1.545	-1.623
63	-2.071	-2.060	-2.016	-1.735	-1.813
64	-1.240	-1.186	-1.436	-1.103	-1.044
65	-.943	-1.781	-1.808	-.874	-1.599
66	-1.035	-.999	-1.261	-1.160	-1.098
67	-.800	-.968	-1.034	-.834	-1.042
68	-1.063	-1.119	-1.103	-1.281	-1.196
69	-1.051	-1.166	-1.175	-1.262	-1.133
70	-1.007	-1.077	-1.034	-1.289	-1.133
71	-1.001	-1.064	-1.107	-1.201	-1.064
72	-1.001	-1.030	-1.028	-1.226	-1.110
73	-1.036	-1.072	-1.093	-1.237	-1.100
74	-.976	-1.005	-1.017	-1.202	-1.081
75	-1.046	-1.061	-1.091	-1.245	-1.115
76	-1.000	-1.020	-1.030	-1.271	-1.136
77	-1.194	-1.217	-1.217	-1.416	-1.277
78	-1.068	-1.094	-1.136	-1.265	-1.170
79	-.989	-1.015	-1.081	-1.116	-1.026
80	-.677	-.703	-.790	-.778	-.717
81	-.348	-.371	-.459	-.390	-.351
82	-.009	-.026	-.110	-.035	-.012
83	.332	.320	.387	.331	.327
84	.490	.485	.559	.501	.503

Figure 16 (continued) – Pressure Coefficients
$\alpha = 50°$, $\phi_j = 120°$, $C_\mu = .01$

Pressure Port	Blowing Nozzle				
	1	2	3	4	5
1	.413	.769	.902	.776	.752
2	.657	.654	.695	.650	.633
3	.181	.326	.436	.365	.315
4	-.245	-.240	-.129	-.165	-.228
5	-.907	-.871	-.795	-.765	-.842
6	-1.209	-1.178	-1.124	-.999	-1.088
7	-1.511	-1.486	-1.454	-1.233	-1.335
8	-1.122	-1.123	-1.065	-.952	-1.051
9	-1.364	-1.332	-1.287	-.798	-1.352
10	-1.079	-1.153	-1.370	-.804	-1.180
11	-1.176	-1.180	-1.326	-.848	-1.185
12	-.857	-.875	-.987	-.706	-.851
13	-.849	-.871	-.857	-.728	-.840
14	-1.502	-1.454	-1.288	-1.625	-1.378
15	-1.517	-1.469	-1.474	-1.561	-1.434
16	-1.631	-1.584	-1.536	-1.833	-1.560
17	-1.617	-1.556	-1.613	-1.864	-1.564
18	-1.540	-1.492	-1.521	-1.855	-1.530
19	-1.776	-1.704	-1.793	-2.082	-1.736
20	-1.482	-1.429	-1.520	-1.689	-1.442
21	-1.177	-1.160	-1.276	-1.342	-1.127
22	-.591	-.591	-.702	-.685	-.565
23	.057	.050	-.053	-.007	.053
24	.481	.467	.402	.430	.458
25	.648	.644	.631	.644	.616
26	.559	.555	.584	.546	.532
27	.265	.268	.354	.293	.258
28	-.252	-.241	-.133	-.207	-.229
29	-.919	-.889	-.780	-.805	-.844
30	-1.279	-1.247	-1.170	-1.105	-1.183
31	-1.575	-1.562	-1.547	-1.301	-1.414
32	-1.490	-1.482	-1.433	-1.259	-1.364
33	-1.595	-1.589	-1.539	-1.360	-1.443
34	-1.079	-1.044	-1.085	-.947	-.879
35	-.919	-.963	-.989	-.758	-.958
36	-.647	-.663	-.700	-.585	-.583
37	-.700	-.708	-.661	-.749	-.708
38	-1.349	-1.334	-1.235	-1.413	-1.344
39	-1.388	-1.347	-1.413	-1.530	-1.394
40	-1.424	-1.383	-1.357	-1.593	-1.457
41	-1.435	-1.390	-1.457	-1.639	-1.424
42	-1.290	-1.247	-1.277	-1.497	-1.302

Figure 17 – Pressure Coefficients
$\alpha = 50°$, $\phi_j = 120°$, $C_\mu = .02$

Pressure Port	Blowing Nozzle				
	1	2	3	4	5
43	-1.482	-1.433	-1.448	-1.777	-1.481
44	-1.362	-1.344	-1.385	-1.525	-1.346
45	-1.147	-1.123	-1.215	-1.309	-1.119
46	-.665	-.658	-.761	-.738	-.647
47	-.112	-.080	-.206	-.156	-.083
48	.315	.329	.245	.279	.320
49	.660	.639	.640	.654	.623
50	.568	.562	.582	.548	.541
51	.410	.408	.479	.418	.381
52	.104	.118	.204	.110	.094
53	-.327	-.304	-.206	-.289	-.311
54	-.686	-.665	-.564	-.615	-.649
55	-1.206	-1.182	-1.078	-1.097	-1.240
56	-1.415	-1.390	-1.302	-1.247	-1.418
57	-1.721	-1.696	-1.654	-1.490	-1.581
58	-1.588	-1.572	-1.570	-1.307	-1.442
59	-1.652	-1.590	-1.612	-1.427	-1.433
60	-1.536	-1.500	-1.492	-1.297	-1.360
61	-1.684	-1.630	-1.626	-1.459	-1.514
62	-1.742	-1.681	-1.621	-1.541	-1.598
63	-1.796	-1.628	-1.739	-1.509	-1.258
64	-.904	-.892	-.914	-.881	-.799
65	-.877	-1.454	-1.624	-.817	-1.061
66	-.632	-.678	-.694	-.720	-.800
67	-.849	-.841	-.947	-.951	-.856
68	-1.079	-1.105	-.962	-1.155	-1.107
69	-1.222	-1.202	-1.266	-1.228	-1.199
70	-1.139	-1.126	-1.114	-1.170	-1.166
71	-1.087	-1.127	-1.174	-1.252	-1.122
72	-1.035	-1.036	-1.052	-1.212	-1.085
73	-1.077	-1.075	-1.111	-1.304	-1.097
74	-1.024	-1.021	-1.025	-1.205	-1.049
75	-1.079	-1.070	-1.103	-1.285	-1.101
76	-1.047	-1.045	-1.042	-1.264	-1.099
77	-1.237	-1.182	-1.239	-1.466	-1.236
78	-1.114	-1.081	-1.153	-1.261	-1.123
79	-1.019	-1.016	-1.092	-1.152	-1.007
80	-.707	-.709	-.804	-.763	-.696
81	-.364	-.386	-.481	-.424	-.365
82	-.023	-.044	-.131	-.056	-.027
83	.340	.319	.235	.317	.308
84	.507	.490	.431	.477	.475

Figure 17 (continued) – Pressure Coefficients
$\alpha = 50°$, $\phi_j = 120°$, $C_\mu = .02$

Pressure Port	Blowing Nozzle				
	1	2	3	4	5
1	.801	.782	.790	.799	.773
2	.624	.657	.656	.630	.631
3	.566	.284	.287	.219	.274
4	-.324	-.243	-.253	-.336	-.253
5	-.919	-.932	-.962	-1.057	-.946
6	-1.505	-1.394	-1.432	-1.485	-1.385
7	-1.821	-1.690	-1.829	-1.782	-1.717
8	-1.838	-1.719	-1.848	-1.787	-1.732
9	-1.855	-1.748	-1.867	-1.792	-1.746
10	-1.574	-1.472	-1.569	-1.447	-1.410
11	-.945	-.891	-1.016	-.893	-1.046
12	-.363	-.339	-.441	-.442	-.414
13	-.793	-.704	-.763	-.702	-.782
14	-1.266	-1.074	-1.139	-1.378	-1.276
15	-1.380	-1.606	-1.493	-1.464	-1.371
16	-1.504	-1.460	-1.420	-1.570	-1.460
17	-1.547	-1.664	-1.570	-1.621	-1.501
18	-1.488	-1.550	-1.446	-1.569	-1.421
19	-1.719	-1.767	-1.689	-1.773	-1.657
20	-1.402	-1.486	-1.412	-1.448	-1.370
21	-1.125	-1.181	-1.153	-1.136	-1.113
22	-.502	-.559	-.534	-.483	-.502
23	.123	.066	.075	.123	.080
24	.515	.486	.499	.531	.484
25	.669	.634	.655	.663	.635
26	.548	.564	.559	.537	.540
27	.192	.253	.241	.205	.237
28	-.329	-.240	-.275	-.319	-.255
29	-1.017	-.860	-.951	-.986	-.883
30	-1.404	-1.263	-1.380	-1.380	-1.276
31	-1.717	-1.528	-1.708	-1.627	-1.611
32	-1.609	-1.475	-1.611	-1.567	-1.505
33	-1.762	-1.578	-1.760	-1.684	-1.648
34	-1.476	-1.354	-1.543	-1.454	-1.389
35	-1.184	-1.104	-1.233	-1.188	-1.127
36	-.879	-.799	-.940	-.907	-.862
37	-.653	-.593	-.665	-.657	-.631
38	-1.304	-1.164	-1.180	-1.267	-1.173
39	-1.403	-1.480	-1.367	-1.569	-1.351
40	-1.319	-1.332	-1.247	-1.338	-1.240
41	-1.386	-1.486	-1.379	-1.447	-1.346
42	-1.192	-1.296	-1.194	-1.277	-1.161

Figure 18 – Pressure Coefficients
$\alpha = 50°$, $\phi_j = 150°$, $C_\mu = .01$

Pressure Port	Blowing Nozzle 1	2	3	4	5
43	-1.404	-1.495	-1.365	-1.492	-1.353
44	-1.263	-1.380	-1.282	-1.324	-1.247
45	-1.058	-1.146	-1.075	-1.115	-1.059
46	-.575	-.679	-.631	-.634	-.612
47	-.003	-.072	-.046	-.035	-.069
48	.378	.330	.345	.341	.313
49	.605	.592	.602	.599	.573
50	.607	.613	.612	.607	.600
51	.372	.409	.402	.372	.381
52	.077	.148	.118	.082	.122
53	-.298	-.208	-.243	-.280	-.233
54	-.863	-.703	-.796	-.819	-.738
55	-1.162	-1.015	-1.114	-1.103	-1.034
56	-1.635	-1.413	-1.580	-1.555	-1.483
57	-1.670	-1.474	-1.665	-1.574	-1.534
58	-1.750	-1.504	-1.783	-1.618	-1.651
59	-1.600	-1.414	-1.623	-1.500	-1.499
60	-1.680	-1.447	-1.695	-1.567	-1.564
61	-1.605	-1.432	-1.616	-1.522	-1.488
62	-1.769	-1.549	-1.772	-1.695	-1.691
63	-1.641	-1.452	-1.681	-1.564	-1.540
64	-1.481	-1.321	-1.583	-1.486	-1.353
65	-1.045	-.950	-1.106	-1.007	-.970
66	-.957	-.804	-.914	-.936	-.896
67	-.766	-.664	-.781	-.787	-.732
68	-.950	-.946	-.949	-1.087	-.798
69	-.795	-.690	-.843	-.791	-.968
70	-1.101	-1.237	-1.217	-1.314	-1.135
71	-.942	-1.037	-1.009	-1.043	-1.034
72	-1.066	-1.243	-1.068	-1.205	-1.089
73	-.977	-1.147	-.983	-1.065	-.993
74	-1.013	-1.158	-.989	-1.108	-1.011
75	-.948	-1.099	-.934	-1.031	-.946
76	-1.039	-1.182	-.989	-1.148	-1.030
77	-1.076	-1.229	-1.042	-1.171	-1.073
78	-1.103	-1.236	-1.096	-1.174	-1.106
79	-.871	-1.006	-.890	-.939	-.892
80	-.627	-.745	-.661	-.659	-.659
81	-.271	-.383	-.317	-.295	-.311
82	.068	-.022	.030	.064	.009
83	.322	.255	.297	.318	.259
84	.584	.537	.556	.584	.544

Figure 18 (continued) – Pressure Coefficients
$\alpha = 50°$, $\phi_j = 150°$, $C_\mu = .01$

Pressure Port	Blowing Nozzle				
	1	2	3	4	5
1	.790	.795	.797	.790	.779
2	.636	.635	.664	.642	.649
3	.607	.288	.274	.273	.276
4	-.307	-.252	-.277	-.270	-.243
5	-.871	-.987	-.998	-.934	-.939
6	-1.480	-1.398	-1.488	-1.363	-1.382
7	-1.778	-1.770	-1.874	-1.708	-1.727
8	-1.803	-1.792	-1.897	-1.701	-1.739
9	-1.829	-1.814	-1.921	-1.694	-1.751
10	-1.673	-1.570	-1.802	-1.343	-1.790
11	-1.084	-1.154	-1.429	-1.075	-1.315
12	-.264	-.236	-.311	-.527	-.352
13	-.755	-.823	-.968	-.748	-.896
14	-1.155	-1.018	-1.168	-1.374	-1.251
15	-1.524	-1.613	-1.488	-1.617	-1.461
16	-1.531	-1.443	-1.483	-1.673	-1.485
17	-1.664	-1.713	-1.568	-1.793	-1.554
18	-1.605	-1.537	-1.491	-1.769	-1.470
19	-1.810	-1.827	-1.707	-1.954	-1.697
20	-1.500	-1.462	-1.452	-1.626	-1.412
21	-1.188	-1.223	-1.159	-1.267	-1.140
22	-.549	-.554	-.549	-.584	-.515
23	.079	.053	.081	.052	.069
24	.496	.473	.506	.482	.486
25	.649	.653	.659	.635	.634
26	.555	.546	.569	.566	.557
27	.220	.255	.241	.254	.250
28	-.293	-.241	-.281	-.233	-.234
29	-.953	-.931	-.946	-.840	-.881
30	-1.352	-1.293	-1.401	-1.213	-1.281
31	-1.622	-1.603	-1.751	-1.394	-1.614
32	-1.547	-1.470	-1.667	-1.387	-1.513
33	-1.683	-1.656	-1.794	-1.469	-1.662
34	-1.207	-1.208	-1.395	-1.304	-1.227
35	-1.211	-1.239	-1.312	-1.044	-1.229
36	-.925	-.851	-1.057	-.822	-1.009
37	-.626	-.620	-.665	-.584	-.643
38	-1.167	-1.156	-1.225	-1.433	-1.207
39	-1.543	-1.578	-1.521	-1.508	-1.492
40	-1.297	-1.315	-1.298	-1.581	-1.305
41	-1.513	-1.560	-1.447	-1.610	-1.429
42	-1.280	-1.273	-1.214	-1.501	-1.212

Figure 19 – Pressure Coefficients
$\alpha = 50°$, $\phi_j = 150°$, $C_\mu = .02$

Pressure Port	Blowing Nozzle				
	1	2	3	4	5
43	-1.501	-1.523	-1.362	-1.724	-1.390
44	-1.356	-1.344	-1.296	-1.531	-1.288
45	-1.140	-1.183	-1.073	-1.279	-1.091
46	-.663	-.681	-.632	-.747	-.649
47	-.046	-.089	-.045	-.134	-.068
48	.350	.312	.351	.297	.324
49	.605	.577	.606	.596	.587
50	.609	.625	.614	.618	.609
51	.396	.395	.405	.418	.409
52	.108	.131	.122	.147	.126
53	-.252	-.225	-.245	-.195	-.229
54	-.780	-.737	-.801	-.686	-.737
55	-1.079	-1.015	-1.141	-.967	-1.042
56	-1.518	-1.472	-1.609	-1.337	-1.482
57	-1.560	-1.483	-1.722	-1.333	-1.549
58	-1.606	-1.588	-1.839	-1.344	-1.640
59	-1.492	-1.423	-1.677	-1.276	-1.501
60	-1.554	-1.519	-1.740	-1.326	-1.551
61	-1.530	-1.440	-1.682	-1.322	-1.502
62	-1.684	-1.650	-1.850	-1.504	-1.684
63	-1.374	-1.320	-1.610	-1.340	-1.377
64	-1.101	-1.156	-1.271	-1.135	-1.127
65	-.799	-.807	-.992	-.830	-.861
66	-.743	-.730	-.913	-.750	-.784
67	-.657	-.615	-.770	-.708	-.669
68	-1.010	-.961	-.938	-1.138	-.797
69	-.655	-.604	-.731	-.699	-.946
70	-1.286	-1.514	-1.337	-1.548	-1.331
71	-1.014	-1.059	-.998	-1.204	-1.101
72	-1.250	-1.269	-1.090	-1.445	-1.157
73	-1.120	-1.122	-1.018	-1.310	-1.055
74	-1.150	-1.150	-.992	-1.323	-1.036
75	-1.082	-1.051	-.947	-1.268	-.981
76	-1.184	-1.177	-.993	-1.404	-1.056
77	-1.217	-1.178	-1.057	-1.413	-1.100
78	-1.215	-1.244	-1.092	-1.382	-1.138
79	-.980	-.972	-.901	-1.125	-.926
80	-.703	-.746	-.667	-.807	-.687
81	-.334	-.358	-.334	-.421	-.343
82	.018	-.006	.029	-.043	.003
83	.290	.267	.297	.244	.264
84	.562	.550	.556	.542	.544

Figure 19 (continued) – Pressure Coefficients
$\alpha = 50°$, $\phi_j = 150°$, $C_\mu = .02$

Pressure Port	Blowing Nozzle 1	2	3	4	5
1	.828	.854	.815	.808	.797
2	.689	.661	.720	.753	.733
3	.272	.190	.313	.406	.366
4	-.408	-.534	-.395	-.268	-.273
5	-1.088	-1.258	-1.102	-.943	-.913
6	-.971	-1.129	-1.058	-.928	-.910
7	-1.211	-1.476	-1.339	-1.282	-1.174
8	-1.091	-1.274	-1.174	-1.108	-1.039
9	-1.102	-1.323	-1.283	-1.365	-1.071
10	-.886	-1.175	-.993	-.875	-.891
11	-.828	-.962	-.824	-.844	-.755
12	-.708	-.935	-.725	-.687	-.709
13	-1.083	-1.353	-1.065	-1.122	-1.004
14	-1.844	-1.916	-1.856	-1.916	-1.818
15	-1.975	-1.990	-2.010	-2.155	-1.990
16	-2.125	-1.969	-2.093	-2.127	-2.133
17	-2.175	-1.943	-2.121	-2.228	-2.154
18	-2.111	-1.786	-2.007	-2.042	-2.060
19	-2.385	-2.074	-2.307	-2.387	-2.379
20	-2.034	-1.745	-2.003	-2.078	-2.075
21	-1.672	-1.440	-1.659	-1.792	-1.763
22	-.889	-.710	-.904	-1.006	-1.012
23	-.094	.030	-.123	-.244	-.212
24	.460	.528	.440	.377	.387
25	.750	.778	.758	.737	.725
26	.648	.616	.664	.692	.674
27	.246	.199	.292	.371	.332
28	-.340	-.413	-.302	-.206	-.235
29	-1.163	-1.297	-1.146	-1.008	-.985
30	-1.586	-1.733	-1.613	-1.475	-1.447
31	-1.840	-2.079	-1.923	-1.777	-1.724
32	-1.710	-1.900	-1.787	-1.663	-1.616
33	-1.917	-2.159	-2.011	-1.911	-1.848
34	-1.949	-2.289	-2.185	-2.052	-1.974
35	-.923	-1.033	-1.016	-1.081	-.950
36	-1.165	-1.349	-1.304	-1.264	-1.228
37	-1.280	-1.242	-1.182	-1.246	-1.215
38	-1.402	-1.575	-1.379	-1.329	-1.373
39	-1.543	-1.513	-1.470	-1.476	-1.540
40	-1.607	-1.457	-1.489	-1.488	-1.598
41	-1.629	-1.436	-1.531	-1.594	-1.622
42	-1.582	-1.299	-1.447	-1.518	-1.574

Figure 20 – Pressure Coefficients
$\alpha = 60°$, $\phi_j = 90°$, $C_\mu = .01$

Pressure Port	Blowing Nozzle				
	1	2	3	4	5
43	-1.803	-1.466	-1.604	-1.652	-1.738
44	-1.663	-1.397	-1.580	-1.633	-1.688
45	-1.410	-1.167	-1.337	-1.427	-1.441
46	-.820	-.657	-.822	-.910	-.921
47	-.099	-.011	-.130	-.204	-.210
48	.401	.434	.367	.334	.311
49	.782	.775	.776	.764	.764
50	.757	.742	.778	.809	.784
51	.491	.444	.537	.578	.559
52	.111	.044	.153	.265	.224
53	-.303	-.384	-.266	-.144	-.173
54	-.918	-1.011	-.838	-.708	-.760
55	-1.296	-1.382	-1.232	-1.104	-1.148
56	-1.780	-1.920	-1.741	-1.641	-1.617
57	-1.864	-2.005	-1.875	-1.775	-1.767
58	-1.806	-2.043	-1.861	-1.765	-1.708
59	-1.783	-1.942	-1.821	-1.704	-1.681
60	-1.787	-2.061	-1.892	-1.815	-1.726
61	-1.666	-1.878	-1.768	-1.661	-1.588
62	-1.895	-1.978	-1.860	-1.782	-1.738
63	-1.668	-1.834	-1.718	-1.655	-1.887
64	-2.015	-2.316	-2.254	-2.313	-2.235
65	-1.083	-1.214	-1.473	-1.665	-1.427
66	-1.305	-1.324	-1.240	-1.221	-1.237
67	-1.241	-1.191	-1.224	-1.222	-1.242
68	-1.331	-1.272	-1.191	-1.178	-1.265
69	-1.207	-1.125	-1.122	-1.078	-1.180
70	-1.200	-1.053	-1.071	-1.096	-1.138
71	-1.053	-.914	-.977	-.978	-1.014
72	-1.072	-.905	-.995	-.990	-1.071
73	-1.003	-.852	-.952	-.942	-1.012
74	-1.027	-.877	-.951	-.988	-1.014
75	-.962	-.807	-.893	-.915	-.962
76	-.992	-.848	-.921	-.972	-.977
77	-1.021	-.869	-.929	-.960	-.995
78	-1.107	-.973	-1.053	-1.123	-1.126
79	-.933	-.806	-.909	-.969	-.976
80	-.688	-.589	-.691	-.789	-.760
81	-.316	-.244	-.342	-.430	-.407
82	.099	.176	.072	-.025	.018
83	.417	.460	.389	.309	.347
84	.757	.782	.729	.689	.692

Figure 20 (continued) – Pressure Coefficients
$\alpha = 60°$, $\phi_j = 90°$, $C_\mu = .01$

Pressure Port	Blowing Nozzle				
	1	2	3	4	5
1	.819	.839	.823	.803	.803
2	.671	.651	.707	.762	.734
3	.231	.223	.331	.480	.394
4	-.418	-.490	-.312	-.130	-.212
5	-1.067	-1.202	-.955	-.739	-.817
6	-.905	-1.049	-.791	-.695	-.728
7	-1.121	-1.183	-1.077	-.995	-.996
8	-1.034	-1.052	-.911	-.869	-.933
9	-1.732	-1.984	-1.693	-.937	-1.704
10	-1.197	-1.245	-1.054	-.831	-1.116
11	-1.280	-1.412	-1.216	-.740	-1.283
12	-.985	-1.063	-.871	-.700	-.926
13	-1.274	-1.412	-1.200	-1.168	-1.115
14	-2.019	-1.932	-1.999	-1.804	-1.914
15	-2.039	-1.947	-2.154	-2.056	-1.987
16	-2.137	-1.980	-2.132	-2.188	-2.159
17	-2.062	-1.990	-2.161	-2.328	-2.134
18	-1.948	-1.843	-1.966	-2.201	-2.045
19	-2.236	-2.070	-2.307	-2.590	-2.307
20	-1.931	-1.765	-1.949	-2.221	-2.040
21	-1.581	-1.460	-1.691	-1.957	-1.725
22	-.851	-.745	-.908	-1.125	-1.000
23	-.053	.014	-.147	-.329	-.213
24	.473	.510	.415	.314	.383
25	.752	.757	.745	.717	.725
26	.628	.607	.648	.694	.670
27	.236	.184	.308	.392	.340
28	-.349	-.434	-.258	-.157	-.212
29	-1.132	-1.278	-1.080	-.947	-.973
30	-1.558	-1.716	-1.497	-1.401	-1.438
31	-1.857	-1.930	-1.809	-1.727	-1.668
32	-1.691	-1.741	-1.584	-1.528	-1.519
33	-1.933	-1.967	-1.903	-1.865	-1.789
34	-1.195	-1.224	-1.360	-1.856	-1.143
35	-.981	-.998	-.951	-1.014	-.860
36	-.828	-.804	-.845	-1.264	-.738
37	-1.203	-1.191	-1.128	-1.412	-1.048
38	-1.530	-1.591	-1.410	-1.513	-1.382
39	-1.591	-1.560	-1.552	-1.695	-1.525
40	-1.626	-1.528	-1.517	-1.631	-1.593
41	-1.572	-1.508	-[illegible].533	-1.706	-1.649
42	-1.497	-1.398	-1.484	-1.575	-1.582

Figure 21 – Pressure Coefficients
$\alpha = 60°$, $\phi_j = 90°$, $C_\mu = .02$

Pressure Port	Blowing Nozzle				
	1	2	3	4	5
43	-1.673	-1.588	-1.718	-1.770	-1.758
44	-1.593	-1.491	-1.612	-1.712	-1.720
45	-1.350	-1.225	-1.419	-1.513	-1.461
46	-.805	-.716	-.850	-.967	-.950
47	-.101	-.035	-.161	-.266	-.217
48	.385	.413	.343	.283	.308
49	.774	.763	.752	.756	.769
50	.739	.733	.779	.821	.774
51	.476	.458	.511	.592	.553
52	.084	.037	.178	.280	.202
53	-.337	-.387	-.237	-.125	-.206
54	-.930	-.990	-.843	-.692	-.755
55	-1.317	-1.369	-1.211	-1.082	-1.158
56	-1.807	-1.904	-1.738	-1.497	-1.651
57	-1.905	-2.010	-1.822	-1.593	-1.819
58	-1.854	-1.982	-1.900	-1.606	-1.821
59	-1.805	-1.902	-1.766	-1.557	-1.742
60	-1.819	-2.020	-1.946	-1.775	-1.766
61	-1.712	-1.846	-1.852	-1.644	-1.730
62	-1.872	-2.048	-1.942	-1.772	-1.861
63	-1.751	-1.887	-1.796	-1.690	-2.074
64	-1.659	-1.674	-1.807	-1.719	-1.574
65	-.968	-1.039	-1.028	-1.532	-1.063
66	-1.228	-1.179	-1.237	-1.416	-1.150
67	-1.207	-1.149	-1.138	-1.426	-1.151
68	-1.386	-1.374	-1.324	-1.412	-1.275
69	-1.209	-1.216	-1.152	-1.264	-1.157
70	-1.180	-1.124	-1.165	-1.216	-1.200
71	-1.044	-.976	-1.006	-1.068	-1.068
72	-1.034	-.948	-1.080	-1.071	-1.122
73	-.990	-.905	-1.005	-1.012	-1.076
74	-1.006	-1.011	-1.064	-1.040	-1.104
75	-.951	-.944	-.968	-.942	-1.054
76	-1.023	-.982	-1.039	-.983	-1.088
77	-1.085	-1.039	-1.031	-.937	-1.123
78	-1.126	-1.037	-1.167	-1.135	-1.218
79	-.954	-.861	-.966	-.975	-1.059
80	-.687	-.620	-.764	-.822	-.817
81	-.317	-.267	-.375	-.449	-.449
82	.102	.156	.028	-.042	-.015
83	.421	.441	.351	.305	.334
84	.737	.760	.725	.687	.689

Figure 21 (continued) – **Pressure Coefficients**
$\alpha = 60°$, $\phi_j = 90°$, $C_\mu = .02$

Pressure Port	Blowing Nozzle				
	1	2	3	4	5
1	.786	.801	.830	.817	.749
2	.459	.673	.423	.439	.747
3	.301	.615	.342	.331	.477
4	-.367	.020	-.347	-.332	-.074
5	-.991	-.718	-1.030	-.996	-.710
6	-1.134	-1.002	-1.186	-1.142	-.917
7	-1.276	-1.287	-1.342	-1.288	-1.124
8	-1.303	-1.421	-1.287	-1.224	-.859
9	-1.258	-1.368	-1.355	-1.278	-.916
10	-1.419	-1.398	-1.420	-1.314	-.878
11	-1.502	-1.502	-1.611	-1.508	-1.275
12	-1.367	-1.470	-1.334	-1.292	-1.232
13	-1.924	-1.214	-2.089	-2.025	-1.207
14	-2.888	-2.961	-2.668	-2.752	-2.491
15	-2.925	-2.593	-2.976	-3.011	-2.306
16	-3.214	-3.247	-2.993	-3.061	-2.716
17	-3.194	-3.050	-3.277	-3.282	-2.691
18	-2.763	-3.127	-2.634	-2.621	-2.747
19	-3.360	-3.420	-3.443	-3.470	-2.970
20	-3.257	-3.200	-3.072	-3.082	-2.551
21	-2.089	-2.506	-2.039	-2.146	-2.098
22	-2.640	-2.244	-2.462	-2.533	-1.276
23	-.102	-.613	.354	-.106	-.392
24	-.082	-.149	.652	-.121	.264
25	.911	.757	1.002	.939	.632
26	.816	.930	.796	.751	.693
27	.442	.676	.498	.453	.505
28	-.095	.218	-.105	-.115	.063
29	-.640	-.373	-.596	-.621	-.431
30	-.684	-.677	-.633	-.652	-.604
31	-.824	-.746	-.814	-.823	-.700
32	-.787	-.859	-.747	-.755	-.717
33	-.797	-.819	-.794	-.805	-.853
34	-.799	-.840	-.779	-.775	-.812
35	-.912	-.883	-.921	-.906	-.815
36	-1.031	-.944	-.894	-1.007	-.840
37	-2.395	-1.420	-2.426	-2.375	-1.440
38	-2.132	-2.555	-2.146	-2.011	-2.314
39	-2.921	-2.280	-2.913	-2.712	-2.173
40	-2.818	-2.938	-2.629	-2.503	-2.559
41	-2.998	-2.843	-3.081	-2.964	-2.553
42	-3.132	-2.892	-2.940	-2.831	-2.562

Figure 22 – Pressure Coefficients
$\alpha = 60°$, $\phi_j = 120°$, $C_\mu = .00$

Pressure Port	Blowing Nozzle				
	1	2	3	4	5
43	-3.168	-3.133	-3.370	-3.345	-2.832
44	-2.718	-2.950	-2.688	-2.657	-2.515
45	-2.155	-2.571	-2.257	-2.160	-2.140
46	-1.196	-1.767	-1.194	-1.119	-1.375
47	-.234	-.691	-.198	-.217	-.563
48	.470	.150	.435	.439	.099
49	.862	.737	.918	.877	.735
50	.872	.935	.794	.794	.739
51	.642	.836	.691	.670	.659
52	.295	.602	.258	.274	.404
53	-.162	.227	-.127	-.124	.125
54	-.505	-.121	-.475	-.450	-.178
55	-.765	-.573	-.758	-.764	-.568
56	-.713	-.713	-.691	-.671	-.619
57	-.647	-.623	-.619	-.691	-.601
58	-.729	-.703	-.628	-.717	-.588
59	-.579	-.563	-.592	-.645	-.574
60	-.754	-.731	-.694	-.789	-.577
61	-.716	-.744	-.693	-.819	-.614
62	-.610	-.636	-.573	-.644	-.624
63	-.966	-.840	-.914	-.947	-.763
64	-1.010	-.828	-.883	-.915	-.859
65	-1.577	-1.229	-1.450	-1.605	-.863
66	-1.662	-1.495	-1.747	-1.577	-1.158
67	-2.043	-1.972	-2.158	-1.952	-1.606
68	-2.066	-2.320	-1.985	-1.796	-1.573
69	-2.085	-2.028	-2.399	-2.198	-2.042
70	-2.107	-2.147	-2.236	-2.021	-2.007
71	-2.433	-2.199	-2.318	-2.078	-2.026
72	-2.477	-2.291	-2.176	-1.927	-2.071
73	-2.131	-2.235	-2.630	-2.232	-2.163
74	-2.009	-2.210	-2.347	-2.027	-2.023
75	-2.655	-2.220	-2.551	-2.016	-1.969
76	-2.704	-2.300	-2.436	-1.946	-1.982
77	-2.504	-2.659	-2.698	-2.448	-2.431
78	-2.180	-2.495	-2.155	-2.006	-2.157
79	-1.714	-2.128	-1.798	-1.670	-1.902
80	-1.174	-1.693	-1.117	-1.035	-1.411
81	-.325	-.711	-.363	-.331	-.873
82	.093	-.431	.029	.061	-.347
83	.484	.174	.501	.511	.152
84	.833	.603	.775	.773	.463

Figure 22 (continued) – Pressure Coefficients
$\alpha = 60°$, $\phi_j = 120°$, $C_\mu = .00$

Pressure Port	Blowing Nozzle				
	1	2	3	4	5
1	.387	.858	.808	.823	.830
2	.677	.691	.739	.706	.708
3	.072	.285	.410	.273	.307
4	-.451	-.428	-.266	-.400	-.348
5	-1.305	-1.305	-1.081	-1.206	-1.063
6	-1.665	-1.687	-1.485	-1.474	-1.345
7	-2.026	-2.068	-1.889	-1.742	-1.627
8	-1.525	-1.514	-1.346	-1.371	-1.248
9	-1.405	-1.436	-1.415	-1.257	-1.114
10	-.958	-1.011	-.694	-.723	-.636
11	-1.274	-1.325	-1.214	-1.021	-.918
12	-.936	-.944	-.715	-.695	-.675
13	-1.116	-1.164	-.909	-1.067	-.997
14	-1.844	-1.857	-1.860	-1.941	-1.868
15	-1.850	-1.909	-2.089	-2.040	-1.973
16	-1.939	-1.946	-2.077	-2.185	-2.114
17	-1.882	-1.939	-2.123	-2.159	-2.074
18	-1.754	-1.763	-1.912	-2.094	-1.988
19	-2.013	-2.074	-2.223	-2.365	-2.260
20	-1.769	-1.756	-1.954	-2.025	-1.939
21	-1.424	-1.474	-1.672	-1.603	-1.556
22	-.788	-.783	-.982	-.885	-.852
23	-.049	-.038	-.231	-.065	.220
24	.461	.469	.345	.481	.731
25	.747	.783	.741	.757	.729
26	.652	.664	.692	.663	.659
27	.266	.305	.417	.277	.294
28	-.373	-.337	-.194	-.357	-.301
29	-1.209	-1.186	-.988	-1.118	-1.026
30	-1.658	-1.606	-1.453	-1.520	-1.433
31	-1.966	-2.024	-1.863	-1.679	-1.623
32	-1.919	-1.902	-1.768	-1.714	-1.631
33	-2.108	-2.126	-1.973	-1.813	-1.751
34	-2.212	-2.174	-2.027	-1.897	-1.864
35	-1.321	-1.351	-1.444	-1.157	-1.044
36	-1.264	-1.233	-1.181	-1.148	-1.111
37	-.978	-.959	-1.074	-1.213	-1.136
38	-1.366	-1.419	-1.332	-1.372	-1.306
39	-1.303	-1.415	-1.412	-1.530	-1.445
40	-1.340	-1.375	-1.449	-1.596	-1.511
41	-1.376	-1.460	-1.548	-1.647	-1.592
42	-1.273	-1.280	-1.433	-1.601	-1.540

Figure 23 – Pressure Coefficients
$\alpha = 60°$, $\phi_j = 120°$, $C_\mu = .01$

Pressure Port	Blowing Nozzle				
	1	2	3	4	5
43	-1.397	-1.460	-1.570	-1.797	-1.720
44	-1.418	-1.446	-1.591	-1.717	-1.666
45	-1.184	-1.237	-1.416	-1.409	-1.356
46	-.698	-.720	-.915	-.838	-.825
47	-.098	-.074	-.270	-.144	-.130
48	.383	.401	.265	.376	.366
49	.822	.851	.815	.834	.803
50	.725	.729	.755	.739	.726
51	.526	.550	.640	.520	.521
52	.163	.178	.300	.169	.181
53	-.336	-.318	-.179	-.356	-.309
54	-.773	-.748	-.612	-.785	-.735
55	-1.373	-1.409	-1.216	-1.340	-1.247
56	-1.616	-1.627	-1.476	-1.587	-1.500
57	-1.970	-1.953	-1.885	-1.812	-1.780
58	-1.815	-1.760	-1.742	-1.680	-1.646
59	-1.878	-1.930	-1.834	-1.736	-1.697
60	-1.752	-1.767	-1.687	-1.661	-1.652
61	-1.909	-1.949	-1.802	-1.861	-1.830
62	-1.783	-1.751	-1.664	-1.926	-1.871
63	-2.000	-2.350	-2.103	-2.465	-2.351
64	-2.068	-2.322	-2.310	-2.370	-2.249
65	-1.660	-1.813	-2.161	-1.512	-2.210
66	-2.106	-2.421	-2.384	-2.434	-2.427
67	-1.157	-1.161	-1.240	-1.180	-1.387
68	-1.370	-1.431	-1.444	-1.564	-1.554
69	-1.117	-1.137	-1.168	-1.211	-1.159
70	-1.013	-1.007	-1.051	-1.193	-1.118
71	-.996	-1.002	-1.077	-1.123	-1.058
72	-.881	-.891	-.957	-1.095	-1.046
73	-.921	-.974	-1.088	-1.115	-1.074
74	-.839	-.870	-.997	-1.062	-1.045
75	-.865	-.938	-1.031	-1.097	-1.034
76	-.818	-.856	-.948	-1.051	-.994
77	-.910	-.950	-1.036	-1.204	-1.139
78	-.955	-.974	-1.070	-1.177	-1.124
79	-.881	-.934	-1.057	-1.052	-1.013
80	-.643	-.654	-.789	-.759	-.729
81	-.289	-.326	-.471	-.333	-.345
82	.076	.050	-.075	.057	.046
83	.460	.456	.339	.464	.438
84	.657	.641	.576	.670	.649

Figure 23 (continued) – Pressure Coefficients
$\alpha = 60°$, $\phi_j = 120°$, $C_\mu = .01$

Pressure Port	Blowing Nozzle 1	2	3	4	5
1	.368	.834	.795	.819	.826
2	.660	.688	.748	.720	.675
3	.067	.266	.395	.320	.280
4	-.463	-.449	-.266	-.324	-.391
5	-1.294	-1.315	-1.050	-1.030	-1.167
6	-1.609	-1.681	-1.413	-1.267	-1.439
7	-1.925	-2.047	-1.776	-1.504	-1.710
8	-1.504	-1.580	-1.345	-1.159	-1.334
9	-1.276	-1.376	-1.206	-.949	-1.189
10	-1.359	-1.650	-1.451	-.799	-1.187
11	-1.369	-1.531	-1.361	-.911	-1.276
12	-1.130	-1.249	-1.121	-.723	-.984
13	-1.181	-1.347	-1.001	-1.210	-1.117
14	-1.923	-1.872	-1.900	-1.804	-1.916
15	-1.871	-1.908	-2.011	-1.972	-2.111
16	-1.960	-1.928	-2.075	-2.227	-2.049
17	-1.886	-1.876	-2.053	-2.280	-2.101
18	-1.749	-1.716	-1.915	-2.285	-1.889
19	-2.020	-2.068	-2.171	-2.587	-2.219
20	-1.766	-1.784	-1.970	-2.192	-1.849
21	-1.422	-1.438	-1.641	-1.749	-1.530
22	-.764	-.768	-1.004	-.976	-.808
23	-.051	-.033	-.214	-.142	-.074
24	.449	.480	.371	.443	.444
25	.741	.771	.719	.774	.763
26	.642	.653	.704	.668	.639
27	.265	.258	.394	.312	.294
28	-.360	-.403	-.203	-.288	-.309
29	-1.154	-1.236	-.999	-1.054	-1.103
30	-1.600	-1.705	-1.495	-1.441	-1.459
31	-1.961	-2.084	-1.857	-1.651	-1.752
32	-1.879	-1.975	-1.792	-1.661	-1.681
33	-2.030	-2.146	-1.882	-1.721	-1.859
34	-1.919	-1.907	-1.914	-1.710	-1.417
35	-1.123	-1.185	-1.023	-.993	-1.067
36	-1.094	-1.098	-1.087	-1.188	-.864
37	-.917	-.898	-.862	-1.393	-.991
38	-1.544	-1.552	-1.365	-1.555	-1.327
39	-1.457	-1.478	-1.369	-1.637	-1.449
40	-1.472	-1.446	-1.493	-1.730	-1.488
41	-1.467	-1.499	-1.546	-1.717	-1.586
42	-1.312	-1.336	-1.475	-1.712	-1.467

Figure 24 – Pressure Coefficients
$\alpha = 60°$, $\phi_j = 120°$, $C_\mu = .02$

Pressure Port	Blowing Nozzle				
	1	2	3	4	5
43	-1.452	-1.388	-1.566	-1.889	-1.699
44	-1.459	-1.419	-1.638	-1.778	-1.605
45	-1.224	-1.183	-1.416	-1.472	-1.363
46	-.752	-.711	-.949	-.899	-.793
47	-.101	-.070	-.284	-.148	-.120
48	.379	.399	.270	.371	.374
49	.813	.827	.795	.833	.819
50	.715	.730	.768	.748	.699
51	.514	.518	.616	.533	.526
52	.151	.149	.290	.182	.160
53	-.361	-.340	-.154	-.363	-.331
54	-.790	-.791	-.593	-.797	-.753
55	-1.370	-1.464	-1.216	-1.338	-1.356
56	-1.622	-1.731	-1.518	-1.582	-1.568
57	-1.976	-2.088	-1.935	-1.906	-1.929
58	-1.801	-1.915	-1.863	-1.738	-1.730
59	-1.929	-1.975	-1.820	-1.800	-1.782
60	-1.786	-1.838	-1.743	-1.738	-1.640
61	-1.889	-2.033	-1.838	-1.832	-1.913
62	-1.746	-1.960	-1.864	-1.913	-1.947
63	-2.197	-2.466	-2.304	-2.433	-2.414
64	-2.068	-2.230	-2.131	-2.151	-1.557
65	-1.289	-1.454	-2.180	-2.197	-2.033
66	-2.064	-2.269	-2.295	-2.223	-1.552
67	-1.091	-1.125	-1.348	-1.383	-1.172
68	-1.368	-1.431	-1.528	-1.617	-1.334
69	-1.156	-1.208	-1.228	-1.295	-1.241
70	-1.018	-1.060	-1.141	-1.220	-1.132
71	-.991	-1.031	-1.105	-1.138	-1.133
72	-.899	-.882	-1.027	-1.075	-1.058
73	-.981	-.949	-1.087	-1.082	-1.138
74	-.914	-.873	-1.054	-1.035	-1.051
75	-.957	-.985	-1.090	-1.058	-1.121
76	-.888	-.911	-1.037	-1.002	-1.044
77	-1.029	-1.040	-1.127	-1.153	-1.231
78	-1.027	-1.052	-1.185	-1.126	-1.152
79	-.941	-.930	-1.102	-1.031	-1.084
80	-.668	-.659	-.849	-.734	-.751
81	-.332	-.306	-.494	-.326	-.372
82	.039	.073	-.092	.078	.025
83	.433	.461	.335	.473	.448
84	.631	.658	.591	.682	.632

Figure 24 (continued) – Pressure Coefficients
$\alpha = 60°$, $\phi_j = 120°$, $C_\mu = .02$

Pressure Port	Blowing Nozzle				
	1	2	3	4	5
1	.852	.859	.851	.857	.841
2	.612	.656	.655	.638	.650
3	.610	.123	.143	.078	.142
4	-.648	-.554	-.545	-.598	-.517
5	-1.343	-1.485	-1.488	-1.515	-1.434
6	-2.076	-1.981	-2.033	-1.994	-1.934
7	-2.465	-2.344	-2.446	-2.279	-2.267
8	-2.506	-2.381	-2.473	-2.319	-2.313
9	-2.548	-2.418	-2.500	-2.360	-2.359
10	-1.867	-1.884	-1.939	-1.941	-1.784
11	-1.240	-1.109	-1.188	-.946	-1.162
12	-.542	-.443	-.599	-.496	-.545
13	-1.196	-.962	-.990	-.866	-.948
14	-1.807	-1.826	-1.746	-2.009	-1.888
15	-1.752	-1.930	-1.821	-1.845	-1.751
16	-1.840	-1.933	-1.852	-2.061	-1.887
17	-1.784	-1.951	-1.860	-1.985	-1.851
18	-1.635	-1.756	-1.678	-1.862	-1.708
19	-1.926	-2.061	-1.972	-2.140	-1.993
20	-1.601	-1.724	-1.678	-1.778	-1.693
21	-1.319	-1.430	-1.395	-1.433	-1.407
22	-.605	-.673	-.669	-.661	-.686
23	.102	.044	.037	.076	.026
24	.549	.535	.526	.559	.513
25	.795	.790	.781	.793	.769
26	.592	.622	.629	.618	.620
27	.101	.175	.184	.125	.181
28	-.575	-.480	-.483	-.541	-.461
29	-1.518	-1.361	-1.355	-1.402	-1.294
30	-2.008	-1.838	-1.883	-1.855	-1.777
31	-2.486	-2.214	-2.373	-2.098	-2.177
32	-2.305	-2.105	-2.221	-2.073	-2.068
33	-2.538	-2.304	-2.451	-2.190	-2.271
34	-2.214	-2.011	-2.162	-1.976	-1.968
35	-2.007	-1.801	-1.968	-1.821	-1.750
36	-1.451	-1.293	-1.430	-1.253	-1.267
37	-1.425	-1.081	-1.271	-1.137	-1.052
38	-1.488	-1.573	-1.492	-1.685	-1.492
39	-1.372	-1.530	-1.437	-1.494	-1.385
40	-1.219	-1.383	-1.299	-1.539	-1.375
41	-1.236	-1.462	-1.326	-1.506	-1.375
42	-1.062	-1.236	-1.162	-1.360	-1.227

Figure 25 – Pressure Coefficients
$\alpha = 60°$, $\phi_j = 150°$, $C_\mu = .01$

Pressure Port	Blowing Nozzle				
	1	2	3	4	5
43	-1.185	-1.386	-1.262	-1.533	-1.351
44	-1.183	-1.364	-1.288	-1.458	-1.353
45	-.974	-1.132	-1.075	-1.190	-1.118
46	-.526	-.656	-.638	-.660	-.660
47	.109	-.005	.031	.028	.001
48	.497	.423	.452	.467	.424
49	.762	.765	.764	.781	.751
50	.726	.749	.757	.740	.740
51	.412	.439	.459	.433	.457
52	.017	.040	.088	.025	.081
53	-.455	-.439	-.384	-.449	-.376
54	-1.205	-1.146	-1.119	-1.150	-1.100
55	-1.591	-1.543	-1.535	-1.538	-1.491
56	-2.296	-2.162	-2.207	-2.074	-2.137
57	-2.374	-2.246	-2.330	-2.108	-2.220
58	-2.653	-2.431	-2.604	-2.161	-2.321
59	-2.341	-2.204	-2.335	-2.032	-2.110
60	-2.519	-2.298	-2.475	-2.142	-2.235
61	-2.311	-2.189	-2.326	-2.105	-2.128
62	-2.610	-2.398	-2.623	-2.273	-2.377
63	-2.601	-2.291	-2.440	-2.212	-2.254
64	-2.770	-2.519	-2.665	-2.537	-2.394
65	-2.300	-2.037	-2.267	-1.915	-1.853
66	-2.051	-1.754	-2.010	-1.493	-1.665
67	-1.532	-1.388	-1.540	-1.272	-1.345
68	-1.336	-1.283	-1.376	-1.325	-1.407
69	-1.277	-1.260	-1.344	-1.097	-1.395
70	-.935	-1.000	-1.011	-1.232	-1.144
71	-.829	-.926	-.919	-1.037	-1.015
72	-.695	-.844	-.794	-1.024	-.913
73	-.656	-.817	-.751	-.947	-.857
74	-.648	-.823	-.743	-.981	-.855
75	-.602	-.782	-.695	-.908	-.799
76	-.628	-.808	-.711	-.984	-.823
77	-.636	-.845	-.718	-1.035	-.855
78	-.747	-.949	-.841	-1.078	-.969
79	-.591	-.759	-.688	-.848	-.785
80	-.412	-.544	-.499	-.564	-.558
81	-.096	-.191	-.169	-.174	-.202
82	.259	.203	.195	.199	.164
83	.497	.467	.456	.475	.434
84	.779	.769	.761	.779	.736

Figure 25 (continued) – Pressure Coefficients
$\alpha = 60°$, $\phi_j = 150°$, $C_\mu = .01$

Pressure Port	Blowing Nozzle				
	1	2	3	4	5
1	.841	.846	.860	.829	.836
2	.643	.662	.645	.679	.658
3	.598	.105	.124	.157	.128
4	-.618	-.592	-.560	-.505	-.544
5	-1.294	-1.511	-1.554	-1.311	-1.438
6	-2.058	-2.103	-2.066	-1.833	-1.974
7	-2.331	-2.357	-2.535	-2.002	-2.308
8	-2.378	-2.394	-2.573	-2.076	-2.331
9	-2.424	-2.432	-2.611	-2.150	-2.353
10	-1.873	-2.046	-2.032	-1.670	-2.102
11	-1.296	-1.401	-1.655	-1.099	-1.483
12	-.338	-.396	-.453	-.577	-.442
13	-1.006	-1.069	-1.220	-.880	-1.084
14	-1.880	-1.884	-1.827	-2.143	-1.903
15	-2.011	-1.941	-1.904	-1.912	-1.790
16	-2.023	-2.043	-1.891	-2.316	-1.947
17	-2.018	-1.953	-1.898	-2.156	-1.878
18	-1.831	-1.829	-1.674	-2.170	-1.753
19	-2.100	-2.059	-2.009	-2.351	-2.034
20	-1.769	-1.784	-1.673	-2.055	-1.742
21	-1.428	-1.424	-1.418	-1.599	-1.428
22	-.692	-.704	-.666	-.824	-.702
23	.060	.048	.049	-.031	.026
24	.551	.552	.532	.518	.527
25	.779	.775	.786	.759	.770
26	.620	.635	.615	.668	.619
27	.142	.142	.160	.227	.169
28	-.512	-.532	-.513	-.383	-.487
29	-1.437	-1.411	-1.448	-1.175	-1.316
30	-1.945	-1.972	-1.958	-1.612	-1.832
31	-2.240	-2.258	-2.480	-1.700	-2.182
32	-2.195	-2.227	-2.272	-1.789	-2.116
33	-2.338	-2.346	-2.548	-1.818	-2.295
34	-1.894	-1.991	-2.105	-1.800	-1.877
35	-1.681	-1.742	-1.859	-1.451	-1.669
36	-1.325	-1.422	-1.521	-1.053	-1.415
37	-.905	-1.051	-1.195	-.947	-.953
38	-1.849	-1.756	-1.622	-1.868	-1.694
39	-1.428	-1.598	-1.565	-1.629	-1.579
40	-1.504	-1.550	-1.399	-1.906	-1.540
41	-1.425	-1.480	-1.411	-1.768	-1.486
42	-1.296	-1.296	-1.186	-1.705	-1.299

Figure 26 – Pressure Coefficients
$\alpha = 60°$, $\phi_j = 150°$, $C_\mu = .02$

Pressure Port	Blowing Nozzle 1	2	3	4	5
43	-1.412	-1.384	-1.288	-1.881	-1.389
44	-1.392	-1.401	-1.283	-1.788	-1.400
45	-1.135	-1.110	-1.085	-1.448	-1.146
46	-.654	-.641	-.627	-.900	-.681
47	.028	.024	.035	-.116	-.022
48	.467	.466	.446	.398	.417
49	.779	.784	.752	.795	.758
50	.718	.722	.750	.753	.732
51	.420	.430	.428	.508	.450
52	.001	.007	.028	.125	.048
53	-.484	-.489	-.464	-.312	-.426
54	-1.198	-1.188	-1.215	-.933	-1.121
55	-1.628	-1.646	-1.615	-1.319	-1.545
56	-2.224	-2.235	-2.351	-1.723	-2.130
57	-2.346	-2.409	-2.449	-1.737	-2.241
58	-2.476	-2.491	-2.787	-1.692	-2.355
59	-2.292	-2.353	-2.439	-1.648	-2.182
60	-2.374	-2.406	-2.649	-1.681	-2.265
61	-2.322	-2.382	-2.441	-1.726	-2.198
62	-2.487	-2.503	-2.753	-1.889	-2.395
63	-2.317	-2.353	-2.486	-1.935	-2.243
64	-2.225	-2.235	-2.498	-1.799	-2.049
65	-1.655	-1.749	-1.831	-1.290	-1.538
66	-1.633	-1.739	-1.747	-1.162	-1.509
67	-1.383	-1.505	-1.542	-1.261	-1.286
68	-1.335	-1.390	-1.542	-1.609	-1.377
69	-1.436	-1.388	-1.477	-1.250	-1.471
70	-1.046	-1.120	-1.140	-1.596	-1.196
71	-1.018	-1.013	-.960	-1.346	-1.073
72	-.904	-.893	-.832	-1.400	-.944
73	-.881	-.879	-.763	-1.346	-.919
74	-.883	-.853	-.774	-1.324	-.906
75	-.843	-.826	-.712	-1.299	-.860
76	-.864	-.815	-.740	-1.340	-.873
77	-.929	-.890	-.740	-1.467	-.934
78	-.998	-.960	-.883	-1.412	-1.014
79	-.800	-.790	-.703	-1.187	-.830
80	-.540	-.537	-.508	-.804	-.587
81	-.176	-.188	-.172	-.380	-.226
82	.197	.199	.201	.064	.156
83	.479	.483	.452	.409	.436
84	.757	.752	.765	.722	.737

Figure 26 (continued) – Pressure Coefficients
$\alpha = 60°$, $\phi_j = 150°$, $C_\mu = .02$

Pressure Port	Blowing Nozzle				
	1	2	3	4	5
1	.690	.682	.673	.671	.688
2	.550	.532	.580	.556	.544
3	.293	.257	.353	.277	.249
4	-.168	-.207	-.094	-.174	-.214
5	-.630	-.670	-.540	-.624	-.676
6	-.789	-.805	-.758	-.653	-.648
7	-.928	-.926	-.930	-.897	-.902
8	-.754	-.776	-.781	-.776	-.773
9	-1.135	-1.141	-1.101	-1.100	-1.126
10	-1.071	-1.104	-1.048	-1.108	-1.099
11	-1.376	-1.291	-1.322	-1.272	-1.186
12	-.666	-.670	-.724	-.722	-.711
13	-.755	-.760	-.665	-.663	-.678
14	-.971	-.985	-.956	-1.059	-1.093
15	-1.053	-1.047	-1.066	-1.077	-1.045
16	-1.098	-1.101	-1.094	-1.154	-1.163
17	-1.165	-1.149	-1.162	-1.167	-1.172
18	-1.158	-1.170	-1.151	-1.187	-1.215
19	-1.267	-1.242	-1.260	-1.241	-1.265
20	-1.027	-1.012	-1.072	-1.050	-1.040
21	-.780	-.730	-.823	-.756	-.736
22	-.315	-.275	-.389	-.316	-.274
23	.170	.215	.108	.170	.213
24	.459	.484	.422	.467	.499
25	.502	.510	.478	.479	.509
26	.415	.400	.444	.432	.419
27	.211	.173	.262	.195	.175
28	-.143	-.195	-.072	-.155	-.190
29	-.609	-.656	-.531	-.606	-.646
30	-.844	-.889	-.816	-.868	-.885
31	-1.041	-1.034	-1.012	-1.006	-1.004
32	-.994	-1.013	-.990	-1.010	-.987
33	-1.069	-1.057	-1.028	-1.036	-1.019
34	-.962	-1.152	-.943	-1.062	-1.144
35	-1.085	-1.282	-1.063	-1.198	-1.341
36	-.710	-.734	-.778	-.733	-.759
37	-.616	-.692	-.607	-.678	-.701
38	-.925	-.980	-.801	-.956	-.992
39	-1.107	-1.142	-1.054	-.998	-1.105
40	-1.027	-1.058	-.969	-1.087	-1.099
41	-1.142	-1.128	-1.102	-1.080	-1.138
42	-1.012	-1.016	-1.030	-1.076	-1.062

Figure 27 – Pressure Coefficients
$\alpha = 40°$, $\phi_j = 90°$, $\phi_b = 270°$, $C_\mu = .00$

Pressure Port	Blowing Nozzle				
	1	2	3	4	5
43	-1.208	-1.183	-1.183	-1.197	-1.215
44	-1.024	-1.006	-1.075	-1.063	-1.046
45	-.877	-.833	-.909	-.864	-.844
46	-.489	-.447	-.547	-.481	-.440
47	-.040	.013	-.101	-.029	.010
48	.251	.289	.218	.279	.304
49	.408	.414	.416	.424	.429
50	.432	.406	.438	.415	.419
51	.265	.244	.318	.270	.257
52	.067	.016	.118	.051	.039
53	-.172	-.224	-.110	-.193	-.212
54	-.501	-.548	-.410	-.488	-.521
55	-.704	-.743	-.637	-.712	-.732
56	-.969	-1.006	-.892	-.947	-.950
57	-.965	-.989	-.960	-.985	-.943
58	-.938	-.949	-.896	-.915	-.891
59	-.909	-.941	-.900	-.934	-.908
60	-.955	-.969	-.912	-.932	-.913
61	-.904	-.945	-.889	-.929	-.925
62	-.977	-.967	-.945	-.923	-.915
63	-.876	-.915	-.864	-1.019	-.951
64	-1.032	-1.007	-.979	-.965	-1.027
65	-.934	-.874	-.967	-.936	-.883
66	-.721	-.651	-.752	-.641	-.643
67	-.582	-.575	-.611	-.574	-.581
68	-.735	-.759	-.670	-.789	-.783
69	-.908	-.891	-.945	-1.034	-.946
70	-1.032	-1.039	-.999	-1.146	-1.053
71	-.924	-.918	-.975	-1.003	-.954
72	-1.098	-1.059	-1.084	-1.094	-1.094
73	-.943	-.927	-.988	-.978	-.970
74	-1.040	-1.000	-1.034	-1.016	-1.037
75	-.957	-.940	-.986	-.987	-.995
76	-1.120	-1.086	-1.093	-1.099	-1.135
77	-1.051	-1.033	-1.090	-1.085	-1.086
78	-1.072	-1.021	-1.089	-1.046	-1.056
79	-.845	-.807	-.912	-.858	-.844
80	-.637	-.575	-.692	-.617	-.591
81	-.343	-.300	-.411	-.352	-.305
82	-.048	-.014	-.117	-.043	-.012
83	.159	.182	.114	.165	.191
84	.396	.408	.357	.389	.411

Figure 27 (continued) – Pressure Coefficients
$\alpha = 40°$, $\phi_j = 90°$, $\phi_b = 270°$, $C_\mu = .00$

Pressure Port	Blowing Nozzle				
	1	2	3	4	5
1	.679	.681	.669	.676	.689
2	.545	.529	.565	.552	.535
3	.272	.255	.337	.305	.248
4	-.148	-.151	-.075	-.109	-.176
5	-.568	-.557	-.486	-.523	-.600
6	-.588	-.534	-.520	-.477	-.513
7	-.800	-.811	-.826	-.737	-.794
8	-1.094	-1.102	-.795	-.693	-.805
9	-1.214	-1.092	-1.330	-1.136	-1.262
10	-1.009	-.989	-.909	-.854	-.903
11	-.817	-.771	-.900	-.833	-.831
12	-.631	-.636	-.644	-.614	-.640
13	-.650	-.708	-.640	-.577	-.766
14	-1.015	-1.000	-.969	-1.157	-1.058
15	-1.050	-1.067	-1.084	-1.109	-1.117
16	-1.113	-1.104	-1.096	-1.219	-1.165
17	-1.126	-1.135	-1.156	-1.227	-1.187
18	-1.146	-1.163	-1.130	-1.230	-1.217
19	-1.221	-1.220	-1.253	-1.314	-1.274
20	-1.005	-.997	-1.040	-1.067	-1.037
21	-.719	-.699	-.797	-.786	-.728
22	-.273	-.257	-.350	-.308	-.264
23	.199	.224	.125	.168	.221
24	.477	.492	.423	.462	.496
25	.496	.498	.495	.485	.508
26	.404	.388	.415	.413	.391
27	.166	.142	.219	.176	.132
28	-.195	-.226	-.142	-.175	-.255
29	-.685	-.692	-.603	-.637	-.719
30	-.960	-.955	-.886	-.877	-.978
31	-1.161	-1.130	-1.132	-1.060	-1.126
32	-1.045	-1.014	-1.013	-.954	-1.020
33	-1.203	-1.189	-1.169	-1.099	-1.180
34	-.668	-.647	-.689	-.583	-.643
35	-.676	-.646	-.676	-.602	-.637
36	-.453	-.443	-.451	-.415	-.428
37	-.499	-.558	-.489	-.502	-.550
38	-.983	-1.064	-.933	-.949	-1.101
39	-1.070	-1.070	-1.060	-1.002	-1.111
40	-1.070	-1.091	-1.046	-1.132	-1.151
41	-1.085	-1.080	-1.099	-1.138	-1.135
42	-1.000	-1.010	-.999	-1.114	-1.066

Figure 28 – Pressure Coefficients
$\alpha = 40°$, $\phi_j = 90°$, $\phi_b = 270°$, $C_\mu = .01$

Pressure Port	Blowing Nozzle				
	1	2	3	4	5
43	-1.153	-1.161	-1.165	-1.281	-1.216
44	-.994	-.978	-1.017	-1.077	-1.021
45	-.814	-.790	-.867	-.893	-.816
46	-.442	-.407	-.492	-.471	-.409
47	.001	.035	-.050	-.032	.044
48	.279	.304	.243	.268	.314
49	.414	.411	.404	.414	.415
50	.385	.368	.413	.392	.385
51	.209	.191	.257	.230	.189
52	-.028	-.059	.041	-.008	-.055
53	-.283	-.314	-.207	-.243	-.323
54	-.638	-.660	-.554	-.589	-.667
55	-.862	-.882	-.777	-.795	-.894
56	-1.171	-1.160	-1.092	-1.076	-1.172
57	-1.236	-1.219	-1.172	-1.116	-1.214
58	-1.231	-1.196	-1.208	-1.106	-1.180
59	-1.163	-1.128	-1.112	-1.041	-1.120
60	-1.218	-1.191	-1.190	-1.107	-1.182
61	-1.157	-1.138	-1.110	-1.048	-1.141
62	-1.355	-1.225	-1.286	-1.285	-1.223
63	-1.119	-1.102	-1.027	-1.069	-1.118
64	-.564	-.519	-.527	-.523	-.533
65	-.531	-.517	-.494	-.498	-.542
66	-.400	-.413	-.393	-.365	-.414
67	-.500	-.543	-.464	-.514	-.557
68	-.836	-.951	-.774	-.989	-.975
69	-.913	-.976	-.903	-.988	-.961
70	-1.009	-1.109	-1.013	-1.188	-1.139
71	-.878	-.875	-.882	-1.016	-.924
72	-.964	-.977	-.989	-1.089	-1.020
73	-.851	-.843	-.859	-.964	-.890
74	-.895	-.901	-.920	-1.019	-.951
75	-.855	-.852	-.857	-.961	-.899
76	-.973	-.979	-.975	-1.124	-1.044
77	-.946	-.938	-.951	-1.043	-.992
78	-.928	-.916	-.970	-1.035	-.960
79	-.742	-.712	-.779	-.800	-.749
80	-.518	-.493	-.588	-.577	-.512
81	-.259	-.239	-.318	-.287	-.248
82	.020	.051	-.044	-.018	.055
83	.205	.227	.158	.184	.228
84	.415	.417	.383	.400	.436

Figure 28 (continued) – Pressure Coefficients
$\alpha = 40°$, $\phi_j = 90°$, $\phi_b = 270°$, $C_\mu = .01$

Pressure Port	Blowing Nozzle				
	1	2	3	4	5
1	.678	.663	.678	.665	.685
2	.550	.542	.559	.563	.538
3	.296	.270	[illegible]	.354	.260
4	-.088	-.097	-.041	-.002	-.139
5	-.472	-.463	-.439	-.358	-.538
6	-.402	-.394	-.362	-.291	-.432
7	-1.239	-1.106	-.992	-.616	-.984
8	-1.205	-1.219	-1.330	-.903	-1.269
9	-1.440	-1.398	-1.590	-1.039	-1.542
10	-.971	-.944	-1.074	-.880	-1.043
11	-.850	-.809	-.960	-.793	-.900
12	-.559	-.579	-.599	-.599	-.630
13	-.599	-.710	-.596	-.596	-.757
14	-1.041	-1.055	-.998	-1.217	-1.074
15	-1.063	-1.074	-1.105	-1.116	-1.099
16	-1.126	-1.138	-1.085	-1.305	-1.147
17	-1.149	-1.135	-1.158	-1.295	-1.158
18	-1.157	-1.185	-1.101	-1.340	-1.194
19	-1.239	-1.220	-1.244	-1.386	-1.240
20	-1.018	-1.016	-1.017	-1.145	-1.027
21	-.736	-.706	-.800	-.848	-.705
22	-.285	-.269	-.355	-.368	-.257
23	.192	.213	.126	.123	.225
24	.471	.486	.416	.427	.500
25	.491	.487	.487	.481	.500
26	.400	.396	.412	.411	.398
27	.170	.144	.226	.215	.139
28	-.188	-.207	-.124	-.118	-.232
29	-.633	-.647	-.606	-.538	-.697
30	-.894	-.902	-.868	-.765	-.951
31	-1.050	-1.005	-1.074	-.865	-1.065
32	-.914	-.899	-.920	-.772	-.960
33	-.952	-.876	-1.041	-.783	-.924
34	-.797	-.735	-.871	-.556	-.867
35	-.615	-.568	-.672	-.492	-.620
36	-.565	-.524	-.609	-.432	-.591
37	-.517	-.575	-.551	-.527	-.614
38	-.990	-1.119	-.897	-1.218	-1.121
39	-1.089	-1.078	-1.047	-1.033	-1.098
40	-1.069	-1.130	-1.008	-1.213	-1.139
41	-1.100	-1.084	-1.077	-1.201	-1.102
42	-1.008	-1.027	-.973	-1.204	-1.031

Figure 29 – Pressure Coefficients
$\alpha = 40°$, $\phi_j = 90°$, $\phi_b = 270°$, $C_\mu = .02$

Pressure Port	Blowing Nozzle				
	1	2	3	4	5
43	-1.172	-1.160	-1.149	-1.349	-1.173
44	-.996	-.999	-.997	-1.149	-1.001
45	-.823	-.791	-.860	-.945	-.802
46	-.431	-.412	-.484	-.514	-.415
47	-.013	.024	-.042	-.052	.041
48	.273	.305	.246	.253	.317
49	.408	.414	.396	.403	.420
50	.385	.368	.416	.397	.372
51	.216	.206	.244	.242	.192
52	-.016	-.047	.047	.028	-.060
53	-.263	-.292	-.206	-.211	-.319
54	-.608	-.620	-.550	-.513	-.668
55	-.833	-.850	-.776	-.725	-.896
56	-1.120	-1.110	-1.099	-.983	-1.164
57	-1.190	-1.184	-1.164	-1.029	-1.225
58	-1.189	-1.131	-1.221	-.976	-1.190
59	-1.107	-1.086	-1.108	-.925	-1.134
60	-1.180	-1.133	-1.203	-.994	-1.181
61	-1.120	-1.116	-1.099	-.973	-1.161
62	-.971	-1.059	-1.151	-.857	-1.104
63	-1.125	-1.129	-1.048	-.990	-1.152
64	-.500	-.516	-.612	-.404	-.600
65	-.539	-.535	-.547	-.450	-.588
66	-.411	-.432	-.448	-.356	-.461
67	-.504	-.576	-.511	-.521	-.591
68	-.843	-.960	-.817	-1.080	-.968
69	-.907	-.985	-.909	-1.051	-.968
70	-1.017	-1.094	-.992	-1.229	-1.110
71	-.881	-.918	-.873	-1.103	-.912
72	-.995	-.980	-.981	-1.145	-.998
73	-.879	-.884	-.847	-1.043	-.876
74	-.930	-.917	-.930	-1.089	-.923
75	-.879	-.886	-.847	-1.048	-.884
76	-1.010	-1.007	-.974	-1.200	-1.011
77	-.962	-.968	-.940	-1.117	-.972
78	-.963	-.933	-.973	-1.106	-.938
79	-.756	-.737	-.778	-.864	-.746
80	-.542	-.500	-.591	-.626	-.495
81	-.269	-.237	-.323	-.336	-.236
82	.003	.024	-.046	-.047	.054
83	.197	.212	.148	.153	.234
84	.398	.403	.389	.384	.425

Figure 29 (continued) – Pressure Coefficients
$\alpha = 40°$, $\phi_j = 90°$, $\phi_b = 270°$, $C_\mu = .02$

Pressure Port	Blowing Nozzle				
	1	2	3	4	5
1	.660	.658	.661	.663	.670
2	.596	.596	.543	.585	.576
3	.403	.423	.299	.383	.323
4	-.013	.020	-.135	-.040	-.112
5	-.485	-.454	-.606	-.506	-.575
6	-.780	-.695	-.893	-.810	-.835
7	-1.075	-.937	-1.180	-1.115	-1.095
8	-.753	-.780	-.960	-.860	-.830
9	-.817	-1.434	-.823	-.824	-.816
10	-.785	-.782	-.784	-.766	-.779
11	-1.173	-1.017	-1.290	-1.257	-1.302
12	-.827	-.669	-.644	-.781	-.651
13	-.651	-.750	-.777	-.654	-.721
14	-.966	-.995	-.965	-1.019	-1.037
15	-1.050	-1.091	-1.038	-1.055	-1.027
16	-1.093	-1.101	-1.088	-1.096	-1.129
17	-1.180	-1.137	-1.139	-1.156	-1.139
18	-1.169	-1.085	-1.146	-1.121	-1.171
19	-1.319	-1.262	-1.263	-1.280	-1.267
20	-1.101	-1.045	-1.023	-1.063	-1.051
21	-.863	-.840	-.740	-.825	-.755
22	-.431	-.411	-.310	-.403	-.329
23	.064	.067	.170	.087	.158
24	.397	.397	.448	.399	.452
25	.479	.469	.489	.482	.500
26	.462	.445	.416	.440	.434
27	.297	.276	.211	.289	.232
28	-.047	-.083	-.148	-.073	-.144
29	-.485	-.533	-.600	-.521	-.581
30	-.764	-.823	-.845	-.804	-.848
31	-.963	-1.135	-.998	-1.012	-.990
32	-.924	-1.063	-.976	-.966	-.976
33	-1.039	-1.090	-1.081	-1.080	-1.068
34	-.911	-.707	-1.009	-.928	-.934
35	-1.178	-.741	-1.191	-1.169	-1.101
36	-.847	-.491	-.723	-.811	-.744
37	-.627	-.541	-.630	-.630	-.614
38	-.776	-.935	-.929	-.795	-.921
39	-1.211	-1.116	-1.123	-1.052	-1.102
40	-.972	-1.020	-1.023	-.923	-1.032
41	-1.189	-1.097	-1.124	-1.107	-1.125
42	-1.046	-.962	-1.002	-.985	-1.028

Figure 30 – Pressure Coefficients
$\alpha = 40°$, $\phi_j = 120°$, $\phi_b = 240°$, $C_\mu = .00$

Pressure Port	Blowing Nozzle				
	1	2	3	4	5
43	-1.215	-1.117	-1.177	-1.165	-1.180
44	-1.109	-1.029	-1.023	-1.062	-1.063
45	-.958	-.891	-.849	-.915	-.868
46	-.597	-.539	-.467	-.560	-.511
47	-.148	-.117	-.040	-.124	-.053
48	.194	.204	.264	.197	.255
49	.430	.437	.436	.440	.450
50	.412	.387	.381	.402	.395
51	.355	.319	.274	.337	.302
52	.178	.109	.074	.142	.103
53	-.080	-.172	-.211	-.112	-.176
54	-.314	-.434	-.444	-.353	-.413
55	-.639	-.791	-.758	-.683	-.738
56	-.794	-.963	-.879	-.829	-.870
57	-.949	-1.236	-1.027	-1.025	-1.007
58	-.867	-1.215	-.920	-.929	-.910
59	-.885	-1.250	-.951	-.968	-.938
60	-.830	-1.148	-.883	-.894	-.875
61	-.924	-1.194	-.986	-.994	-.977
62	-.865	-1.165	-.907	-.937	-.912
63	-.941	-.844	-1.009	-.963	-.993
64	-.901	-.565	-.920	-.944	-.931
65	-.977	-.498	-.984	-1.022	-1.004
66	-.909	-.397	-.975	-.918	-1.003
67	-.587	-.477	-.580	-.618	-.596
68	-.601	-.659	-.742	-.678	-.756
69	-1.030	-1.049	-1.035	-.991	-.997
70	-1.016	-.941	-.971	-.910	-.952
71	-1.250	-1.037	-1.015	-1.036	-1.001
72	-1.067	-.883	-1.016	-1.014	-1.045
73	-1.126	-.934	-1.013	-1.028	-1.025
74	-1.019	-.834	-.954	-.965	-.991
75	-1.061	-.897	-1.003	-1.005	-1.027
76	-1.058	-.865	-1.010	-.999	-1.057
77	-1.185	-1.012	-1.119	-1.132	-1.141
78	-1.090	-.917	-.987	-1.027	-1.036
79	-.994	-.862	-.882	-.951	-.902
80	-.741	-.628	-.609	-.694	-.641
81	-.468	-.388	-.337	-.438	-.370
82	-.184	-.131	-.064	-.154	-.105
83	.108	.150	.193	.128	.184
84	.274	.288	.325	.286	.319

Figure 30 (continued) – Pressure Coefficients
$\alpha = 40°$, $\phi_j = 120°$, $\phi_b = 240°$, $C_\mu = .00$

Pressure Port	Blowing Nozzle				
	1	2	3	4	5
1	.658	.652	.671	.658	.680
2	.568	.587	.531	.580	.557
3	.350	.403	.265	.369	.310
4	-.075	.003	-.185	-.050	-.122
5	-.561	-.474	-.654	-.502	-.595
6	-.855	-.751	-.913	-.778	-.838
7	-1.149	-1.028	-1.172	-1.054	-1.081
8	-.797	-.744	-.820	-.776	-.766
9	-.998	-1.049	-.857	-.751	-.829
10	-.850	-.711	-.843	-.851	-.762
11	-.907	-.912	-.871	-.869	-.816
12	-.679	-.652	-.674	-.653	-.628
13	-.721	-.751	-.781	-.623	-.774
14	-.912	-.924	-.951	-1.082	-1.005
15	-1.040	-1.059	-1.052	-1.110	-1.086
16	-1.043	-1.054	-1.056	-1.154	-1.098
17	-1.093	-1.103	-1.107	-1.177	-1.140
18	-1.068	-1.068	-1.104	-1.138	-1.127
19	-1.214	-1.227	-1.219	-1.289	-1.262
20	-1.003	-1.032	-.966	-1.056	-.999
21	-.765	-.808	-.689	-.814	-.735
22	-.350	-.407	-.258	-.377	-.286
23	.117	.067	.208	.095	.187
24	.418	.384	.472	.413	.470
25	.490	.465	.496	.475	.509
26	.422	.435	.394	.434	.408
27	.238	.273	.166	.246	.201
28	-.143	-.087	-.224	-.117	-.185
29	-.615	-.554	-.698	-.569	-.661
30	-.918	-.870	-.965	-.860	-.919
31	-1.225	-1.187	-1.226	-1.124	-1.181
32	-1.149	-1.122	-1.138	-1.062	-1.089
33	-1.218	-1.149	-1.209	-1.116	-1.154
34	-1.001	-.921	-.860	-.927	-.763
35	-.752	-.647	-.744	-.691	-.690
36	-.622	-.561	-.560	-.578	-.488
37	-.510	-.476	-.543	-.461	-.495
38	-.916	-.921	-1.034	-.845	-1.044
39	-1.031	-1.068	-1.000	-1.022	-1.112
40	-.990	-1.003	-1.050	-1.023	-1.081
41	-1.045	-1.059	-1.039	-1.097	-1.113
42	-.942	-.959	-.954	-1.015	-.995

Figure 31 – Pressure Coefficients
$\alpha = 40°$, $\phi_j = 120°$, $\phi_b = 240°$, $C_\mu = .01$

Pressure Port	Blowing Nozzle 1	2	3	4	5
43	-1.093	-1.094	-1.119	-1.185	-1.163
44	-.994	-1.024	-.964	-1.060	-1.004
45	-.833	-.873	-.784	-.899	-.824
46	-.497	-.541	-.410	-.523	-.444
47	-.062	-.126	-.006	-.113	-.006
48	.233	.196	.270	.211	.280
49	.444	.429	.441	.435	.454
50	.373	.390	.360	.389	.368
51	.280	.303	.225	.300	.249
52	.054	.102	.001	.095	.021
53	-.228	-.184	-.315	-.197	-.284
54	-.491	-.439	-.572	-.453	-.539
55	-.864	-.809	-.946	-.801	-.913
56	-1.032	-.985	-1.084	-.964	-1.043
57	-1.298	-1.265	-1.306	-1.192	-1.267
58	-1.258	-1.251	-1.214	-1.136	-1.171
59	-1.274	-1.261	-1.225	-1.145	-1.200
60	-1.175	-1.166	-1.136	-1.072	-1.108
61	-1.257	-1.220	-1.231	-1.149	-1.209
62	-1.212	-1.185	-1.239	-1.140	-1.225
63	-1.348	-1.337	-1.099	-1.182	-1.041
64	-.608	-.572	-.621	-.603	-.559
65	-.605	-.583	-.582	-.576	-.878
66	-.439	-.489	-.433	-.478	-.400
67	-.458	-.467	-.503	-.466	-.592
68	-.634	-.685	-.742	-.681	-.716
69	-1.052	-1.018	-1.066	-.966	-.939
70	-.946	-.944	-.987	-.925	-.920
71	-1.053	-1.021	-.925	-.961	-.903
72	-.874	-.880	-.897	-.959	-.919
73	-.900	-.902	-.872	-.961	-.915
74	-.809	-.824	-.824	-.911	-.864
75	-.848	-.857	-.866	-.951	-.911
76	-.840	-.841	-.883	-.947	-.920
77	-.957	-.969	-.976	-1.084	-1.028
78	-.875	-.898	-.862	-.963	-.898
79	-.798	-.838	-.760	-.882	-.798
80	-.577	-.616	-.512	-.622	-.537
81	-.319	-.364	-.246	-.367	-.266
82	-.074	-.105	.000	-.090	-.011
83	.199	.155	.243	.164	.240
84	.316	.298	.351	.308	.343

Figure 31 (continued) – Pressure Coefficients
$\alpha = 40°$, $\phi_j = 120°$, $\phi_b = 240°$, $C_\mu = .01$

Pressure Port	Blowing Nozzle				
	1	2	3	4	5
1	.657	.659	.670	.655	.684
2	.581	.605	.539	.583	.555
3	.357	.412	.275	.405	.311
4	-.062	.002	-.175	.012	-.128
5	-.546	-.492	-.663	-.427	-.582
6	-.793	-.820	-.892	-.656	-.794
7	-1.041	-1.148	-1.121	-.885	-1.007
8	-.809	-.843	-.910	-.645	-.831
9	-1.564	-.847	-1.414	-.808	-1.365
10	-.872	-.819	-.918	-.854	-.882
11	-1.083	-1.203	-1.067	-.840	-.990
12	-.703	-.896	-.702	-.676	-.661
13	-.685	-.640	-.804	-.620	-.808
14	-.992	-.961	-1.005	-1.153	-1.019
15	-1.056	-.994	-1.060	-1.163	-1.098
16	-1.091	-1.044	-1.100	-1.241	-1.106
17	-1.116	-1.111	-1.096	-1.277	-1.138
18	-1.093	-1.086	-1.119	-1.241	-1.124
19	-1.231	-1.249	-1.212	-1.395	-1.260
20	-1.025	-1.048	-.980	-1.139	-.999
21	-.775	-.823	-.692	-.891	-.736
22	-.355	-.404	-.264	-.431	-.292
23	.111	.064	.205	.055	.187
24	.428	.397	.479	.380	.468
25	.476	.479	.492	.471	.503
26	.435	.450	.405	.432	.416
27	.147	.303	.162	.274	.192
28	-.310	-.055	-.223	-.079	-.192
29	-.621	-.509	-.706	-.514	-.652
30	-.938	-.818	-.984	-.779	-.909
31	-1.195	-1.053	-1.200	-1.005	-1.161
32	-1.132	-1.006	-1.145	-.940	-1.073
33	-1.157	-1.117	-1.196	-.993	-1.108
34	-.789	-1.028	-.864	-.587	-.819
35	-.841	-1.332	-.840	-.656	-.776
36	-.554	-.883	-.620	-.428	-.550
37	-.564	-.658	-.612	-.463	-.570
38	-.931	-.813	-1.089	-.915	-1.092
39	-1.067	-1.094	-1.013	-1.088	-1.083
40	-.992	-.914	-1.079	-1.133	-1.096
41	-1.064	-1.075	-1.040	-1.198	-1.085
42	-.958	-.952	-.971	-1.115	-.986

Figure 32 – Pressure Coefficients
$\alpha = 40°$, $\phi_j = 120°$, $\phi_b = 240°$, $C_\mu = .02$

Pressure Port	Blowing Nozzle				
	1	2	3	4	5
43	-1.108	-1.085	-1.109	-1.293	-1.147
44	-1.025	-1.033	-.982	-1.139	-.999
45	-.845	-.880	-.774	-.978	-.814
46	-.504	-.560	-.414	-.584	-.434
47	-.092	-.116	.004	-.142	-.011
48	.224	.206	.289	.192	.279
49	.439	.435	.445	.439	.454
50	.381	.413	.360	.386	.371
51	.284	.339	.224	.313	.247
52	.071	.153	-.005	.108	.018
53	-.220	-.110	-.317	-.160	-.288
54	-.492	-.360	-.588	-.408	-.539
55	-.846	-.707	-.928	-.734	-.898
56	-1.024	-.870	-1.090	-.881	-1.036
57	-1.270	-1.084	-1.298	-1.117	-1.267
58	-1.248	-1.007	-1.231	-1.041	-1.181
59	-1.260	-1.029	-1.236	-1.056	-1.200
60	-1.181	-.965	-1.163	-.978	-1.110
61	-1.208	-1.058	-1.223	-1.060	-1.194
62	-1.253	-.994	-1.237	-1.071	-1.164
63	-.862	-1.104	-.691	-.775	-.651
64	-.623	-1.061	-.697	-.524	-.616
65	-.527	-1.163	-.532	-.440	-.524
66	-.426	-1.162	-.513	-.392	-.433
67	-.491	-.596	-.535	-.452	-.533
68	-.726	-.687	-.827	-.728	-.781
69	-1.125	-.937	-1.201	-1.047	-1.083
70	-.973	-.888	-1.033	-1.031	-1.008
71	-1.000	-1.080	-.997	-1.046	-.966
72	-.898	-.891	-.914	-1.053	-.931
73	-.904	-.979	-.884	-1.049	-.913
74	-.846	-.869	-.836	-.990	-.862
75	-.875	-.907	-.870	-1.042	-.903
76	-.883	-.889	-.898	-1.043	-.918
77	-.991	-1.023	-.981	-1.173	-1.021
78	-.918	-.958	-.877	-1.036	-.905
79	-.817	-.889	-.755	-.951	-.794
80	-.592	-.668	-.520	-.677	-.543
81	-.337	-.407	-.250	-.416	-.276
82	-.087	-.140	-.005	-.141	-.025
83	.181	.140	.241	.153	.244
84	.314	.294	.345	.291	.348

Figure 32 (continued) – Pressure Coefficients
$\alpha = 40°$, $\phi_j = 120°$, $\phi_b = 240°$, $C_\mu = .02$

Pressure Port	Blowing Nozzle				
	1	2	3	4	5
1	.806	.815	.797	.792	.815
2	.665	.629	.693	.659	.629
3	.333	.250	.359	.307	.269
4	-.265	-.356	-.241	-.276	-.334
5	-.864	-.963	-.842	-.860	-.937
6	-.844	-.899	-.868	-.839	-.866
7	-1.100	-1.158	-1.162	-1.110	-1.108
8	-.965	-1.039	-1.020	-.998	-.984
9	-1.433	-1.493	-1.521	-1.419	-1.441
10	-1.425	-1.555	-1.499	-1.536	-1.484
11	-1.799	-1.904	-1.750	-1.888	-1.841
12	-1.064	-.926	-1.034	-1.030	-1.006
13	-.875	-1.043	-.926	-.907	-.903
14	-1.625	-1.499	-1.304	-1.598	-1.683
15	-1.565	-1.498	-1.336	-1.577	-1.579
16	-1.656	-1.579	-1.521	-1.642	-1.681
17	-1.682	-1.587	-1.529	-1.655	-1.684
18	-1.582	-1.537	-1.519	-1.548	-1.590
19	-1.802	-1.716	-1.705	-1.752	-1.810
20	-1.498	-1.417	-1.490	-1.474	-1.470
21	-1.203	-1.106	-1.199	-1.169	-1.170
22	-.568	-.492	-.626	-.561	-.530
23	.057	.151	.030	.071	.115
24	.484	.544	.471	.495	.515
25	.639	.670	.646	.636	.654
26	.585	.550	.601	.571	.558
27	.319	.244	.319	.300	.280
28	-.132	-.233	-.145	-.164	-.183
29	-.724	-.845	-.766	-.731	-.768
30	-1.006	-1.123	-1.140	-1.036	-1.015
31	-1.187	-1.300	-1.343	-1.212	-1.200
32	-1.185	-1.289	-1.335	-1.220	-1.186
33	-1.227	-1.338	-1.372	-1.252	-1.236
34	-1.168	-1.311	-1.300	-1.158	-1.270
35	-1.314	-1.419	-1.441	-1.255	-1.359
36	-1.074	-.998	-1.252	-1.049	-1.039
37	-.817	-.819	-.758	-.822	-.856
38	-1.333	-1.381	-1.521	-1.312	-1.373
39	-1.351	-1.407	-1.435	-1.305	-1.368
40	-1.475	-1.403	-1.449	-1.478	-1.498
41	-1.537	-1.437	-1.469	-1.485	-1.551
42	-1.451	-1.313	-1.342	-1.450	-1.459

Figure 33 – Pressure Coefficients

$\alpha = 50°$, $\phi_j = 90°$, $\phi_b = 270°$, $C_\mu = .00$

Pressure Port	Blowing Nozzle				
	1	2	3	4	5
43	-1.689	-1.520	-1.503	-1.640	-1.717
44	-1.498	-1.358	-1.425	-1.488	-1.468
45	-1.303	-1.129	-1.217	-1.265	-1.270
46	-.756	-.627	-.751	-.756	-.689
47	-.154	-.042	-.138	-.120	-.104
48	.298	.354	.310	.309	.324
49	.609	.618	.617	.603	.606
50	.654	.623	.665	.638	.649
51	.474	.400	.499	.464	.432
52	.230	.120	.262	.213	.188
53	-.072	-.202	-.044	-.092	-.126
54	-.460	-.617	-.447	-.488	-.513
55	-.709	-.876	-.744	-.751	-.750
56	-.992	-1.179	-1.068	-1.020	-1.007
57	-.941	-1.123	-1.098	-.997	-.920
58	-.938	-1.139	-1.135	-.974	-.948
59	-.958	-1.143	-1.181	-1.012	-.965
60	-.931	-1.141	-1.149	-.972	-.947
61	-.912	-1.134	-1.147	-.940	-.921
62	-.945	-1.154	-1.165	-.995	-.955
63	-1.026	-1.231	-1.245	-1.023	-1.008
64	-1.017	-1.230	-1.463	-1.103	-1.002
65	-1.029	-1.188	-1.535	-1.102	-.978
66	-.825	-.884	-1.059	-.820	-.765
67	-.724	-.791	-.743	-.703	-.748
68	-1.292	-1.127	-.981	-1.273	-1.619
69	-1.415	-1.150	-1.219	-1.425	-1.669
70	-1.715	-1.388	-1.468	-1.697	-1.812
71	-1.476	-1.246	-1.437	-1.461	-1.469
72	-1.666	-1.389	-1.484	-1.599	-1.676
73	-1.441	-1.249	-1.368	-1.403	-1.433
74	-1.563	-1.326	-1.400	-1.482	-1.555
75	-1.444	-1.245	-1.339	-1.398	-1.429
76	-1.651	-1.403	-1.426	-1.566	-1.670
77	-1.586	-1.375	-1.484	-1.540	-1.568
78	-1.615	-1.374	-1.480	-1.532	-1.585
79	-1.301	-1.112	-1.268	-1.254	-1.247
80	-1.010	-.793	-.969	-.949	-.939
81	-.577	-.406	-.585	-.551	-.504
82	-.164	.001	-.181	-.127	-.096
83	.176	.282	.159	.187	.214
84	.533	.590	.516	.530	.566

Figure 33 (continued) – Pressure Coefficients
$\alpha = 50°$, $\phi_j = 90°$, $\phi_b = 270°$, $C_\mu = .00$

Pressure Port	Blowing Nozzle				
	1	2	3	4	5
1	.791	.783	.796	.789	.804
2	.619	.588	.651	.621	.584
3	.221	.195	.309	.272	.196
4	-.349	-.398	-.273	-.294	-.381
5	-.920	-.991	-.856	-.861	-.959
6	-.852	-.941	-.860	-.805	-.830
7	-1.141	-1.119	-1.183	-1.039	-1.085
8	-.987	-.944	-.999	-.912	-.922
9	-1.568	-1.383	-1.234	-1.040	-1.163
10	-1.105	-1.047	-1.032	-.871	-.913
11	-1.096	-.997	-.932	-.833	-.899
12	-.805	-.821	-.769	-.696	-.710
13	-1.016	-1.120	-.901	-.991	-1.203
14	-1.747	-1.443	-1.541	-1.533	-1.509
15	-1.475	-1.472	-1.624	-1.601	-1.572
16	-1.507	-1.498	-1.577	-1.652	-1.589
17	-1.515	-1.470	-1.589	-1.634	-1.600
18	-1.456	-1.450	-1.450	-1.599	-1.540
19	-1.640	-1.599	-1.672	-1.764	-1.740
20	-1.360	-1.328	-1.409	-1.464	-1.386
21	-1.033	-.987	-1.126	-1.140	-1.075
22	-.436	-.415	-.535	-.531	-.439
23	.179	.202	.093	.126	.186
24	.554	.559	.499	.519	.547
25	.657	.648	.640	.646	.668
26	.516	.496	.551	.515	.487
27	.166	.124	.229	.033	.131
28	-.346	-.386	-.267	-.557	-.374
29	-1.025	-1.056	-.925	-.947	-1.053
30	-1.395	-1.418	-1.312	-1.289	-1.340
31	-1.633	-1.634	-1.617	-1.466	-1.551
32	-1.493	-1.516	-1.480	-1.382	-1.405
33	-1.681	-1.682	-1.670	-1.525	-1.646
34	-1.117	-1.114	-1.653	-1.100	-1.038
35	-.803	-.806	-.816	-.742	-.799
36	-.642	-.655	-.923	-.664	-.639
37	-.716	-.880	-.804	-.917	-.917
38	-1.306	-1.397	-1.168	-1.187	-1.105
39	-1.335	-1.373	-1.272	-1.392	-1.422
40	-1.350	-1.348	-1.304	-1.418	-1.342
41	-1.302	-1.271	-1.293	-1.395	-1.388
42	-1.187	-1.169	-1.212	-1.343	-1.268

Figure 34 – Pressure Coefficients
$\alpha = 50°$, $\phi_j = 90°$, $\phi_b = 270°$, $C_\mu = .01$

Pressure Port	Blowing Nozzle				
	1	2	3	4	5
43	-1.355	-1.362	-1.360	-1.528	-1.500
44	-1.217	-1.189	-1.259	-1.345	-1.252
45	-.994	-.942	-1.072	-1.103	-1.058
46	-.536	-.473	-.608	-.592	-.537
47	.040	.073	-.048	-.015	.080
48	.400	.420	.350	.366	.427
49	.603	.607	.604	.606	.590
50	.560	.528	.594	.556	.544
51	.316	.290	.370	.309	.259
52	-.018	-.095	.056	-.012	-.080
53	-.379	-.452	-.298	-.356	-.436
54	-.898	-.956	-.796	-.854	-.963
55	-1.223	-1.272	-1.124	-1.155	-1.227
56	-1.654	-1.659	-1.608	-1.541	-1.660
57	-1.736	-1.748	-1.712	-1.588	-1.621
58	-1.705	-1.700	-1.694	-1.492	-1.596
59	-1.614	-1.641	-1.602	-1.476	-1.513
60	-1.708	-1.709	-1.714	-1.547	-1.662
61	-1.653	-1.673	-1.639	-1.532	-1.574
62	-1.932	-1.784	-1.851	-1.832	-1.749
63	-1.667	-1.706	-1.674	-1.563	-1.623
64	-.893	-.812	-1.288	-.890	-.839
65	-.814	-.838	-.786	-.802	-.838
66	-.717	-.740	-.853	-.792	-.838
67	-.837	-.913	-.885	-1.013	-.977
68	-1.064	-1.109	-1.128	-1.198	-1.131
69	-.952	-.990	-1.004	-1.097	-1.002
70	-.985	-.990	-1.009	-1.118	-1.045
71	-.849	-.835	-.870	-.988	-.916
72	-.955	-.929	-.967	-1.092	-1.050
73	-.885	-.852	-.886	-1.006	-.944
74	-.938	-.905	-.943	-1.085	-1.039
75	-.890	-.864	-.888	-1.028	-.953
76	-.971	-.949	-.959	-1.158	-1.117
77	-1.014	-.987	-1.012	-1.159	-1.080
78	-1.006	-.959	-1.035	-1.149	-1.087
79	-.816	-.764	-.860	-.915	-.826
80	-.551	-.498	-.624	-.613	-.563
81	-.234	-.180	-.310	-.265	-.218
82	.123	.157	.047	.104	.150
83	.356	.387	.298	.350	.362
84	.611	.615	.591	.604	.635

Figure 34 (continued) – Pressure Coefficients
$\alpha = 50°$, $\phi_j = 90°$, $\phi_b = 270°$, $C_\mu = .01$

Pressure Port	Blowing Nozzle				
	1	2	3	4	5
1	.793	.809	.798	.797	.799
2	.626	.586	.648	.643	.596
3	.243	.216	.315	.333	.190
4	-.296	-.320	-.234	-.176	-.370
5	-.834	-.855	-.783	-.685	-.930
6	-.712	-.685	-.711	-.575	-.803
7	-1.062	-.994	-1.006	-.804	-1.018
8	-1.620	-1.341	-1.353	-.666	-1.280
9	-1.740	-1.563	-1.955	-1.087	-1.805
10	-1.432	-1.319	-1.433	-.757	-1.364
11	-1.125	-1.087	-1.303	-.895	-1.200
12	-.870	-.864	-.949	-.702	-.906
13	-1.005	-1.205	-.985	-1.009	-1.237
14	-1.511	-1.463	-1.467	-1.439	-1.524
15	-1.502	-1.543	-1.509	-1.538	-1.549
16	-1.533	-1.499	-1.491	-1.709	-1.547
17	-1.498	-1.533	-1.500	-1.750	-1.528
18	-1.431	-1.438	-1.378	-1.753	-1.478
19	-1.621	-1.665	-1.614	-1.936	-1.650
20	-1.345	-1.317	-1.352	-1.577	-1.345
21	-1.046	-1.040	-1.108	-1.256	-1.017
22	-.456	-.419	-.528	-.583	-.411
23	.160	.187	.088	.067	.212
24	.541	.537	.481	.482	.570
25	.656	.657	.652	.649	.664
26	.518	.489	.543	.528	.498
27	.173	.138	.240	.214	.102
28	-.332	-.341	-.251	-.268	-.411
29	-.997	-1.038	-.928	-.873	-1.058
30	-1.352	-1.315	-1.300	-1.170	-1.376
31	-1.563	-1.524	-1.591	-1.320	-1.545
32	-1.377	-1.324	-1.406	-1.176	-1.388
33	-1.642	-1.637	-1.661	-1.456	-1.655
34	-.866	-.789	-.932	-.716	-.848
35	-.872	-.864	-.939	-.764	-.920
36	-.582	-.563	-.630	-.550	-.575
37	-.833	-.970	-.884	-1.165	-.971
38	-1.388	-1.358	-1.235	-1.309	-1.246
39	-1.343	-1.425	-1.286	-1.540	-1.395
40	-1.357	-1.351	-1.298	-1.472	-1.326
41	-1.299	-1.339	-1.274	-1.524	-1.347
42	-1.183	-1.181	-1.173	-1.399	-1.213

Figure 35 – Pressure Coefficients
$\alpha = 50°$, $\phi_j = 90°$, $\phi_b = 270°$, $C_\mu = .02$

Pressure Port	Blowing Nozzle				
	1	2	3	4	5
43	-1.346	-1.409	-1.321	-1.678	-1.416
44	-1.212	-1.192	-1.233	-1.418	-1.221
45	-1.000	-.994	-1.048	-1.208	-.876
46	-.545	-.489	-.603	-.643	-.274
47	.041	.051	-.042	-.044	.092
48	.401	.388	.345	.356	.451
49	.603	.586	.596	.596	.604
50	.565	.514	.599	.574	.526
51	.321	.191	.365	.325	.262
52	-.009	-.066	.053	.008	-.102
53	-.363	-.419	-.301	-.342	-.454
54	-1.012	-.929	-.813	-.844	-.984
55	-1.339	-1.194	-1.136	-1.133	-1.278
56	-1.616	-1.664	-1.607	-1.534	-1.706
57	-1.710	-1.668	-1.716	-1.568	-1.743
58	-1.704	-1.695	-1.775	-1.534	-1.709
59	-1.591	-1.536	-1.622	-1.439	-1.614
60	-1.700	-1.716	-1.763	-1.579	-1.724
61	-1.625	-1.604	-1.643	-1.515	-1.669
62	-1.961	-1.774	-1.903	-1.843	-1.805
63	-1.601	-1.587	-1.615	-1.518	-1.674
64	-.796	-.773	-.814	-.833	-.806
65	-.789	-.811	-.800	-.869	-.879
66	-.706	-.788	-.729	-.890	-.781
67	-.895	-.942	-.875	-1.100	-.964
68	-1.204	-1.188	-1.205	-1.249	-1.154
69	-1.107	-1.018	-1.091	-1.125	-1.021
70	-1.108	-1.088	-1.090	-1.128	-1.070
71	-.945	-.872	-.938	-1.036	-.912
72	-.954	-1.011	-.933	-1.166	-1.004
73	-.895	-.886	-.888	-1.058	-.929
74	-.946	-.987	-.938	-1.136	-.987
75	-.893	-.902	-.884	-1.049	-.932
76	-.974	-1.040	-.950	-1.218	-1.047
77	-1.012	-1.017	-.995	-1.185	-1.054
78	-1.018	-1.042	-1.042	-1.200	-1.028
79	-.837	-.803	-.862	-.935	-.806
80	-.559	-.544	-.631	-.663	-.527
81	-.235	-.215	-.311	-.296	-.200
82	.111	.140	.057	.077	.165
83	.346	.354	.301	.327	.387
84	.613	.620	.591	.603	.628

Figure 35 (continued) – Pressure Coefficients
$\alpha = 50°$, $\phi_j = 90°$, $\phi_b = 270°$, $C_\mu = .02$

Pressure Port	Blowing Nozzle				
	1	2	3	4	5
1	.759	.784	.790	.780	.810
2	.701	.665	.668	.716	.678
3	.457	.414	.328	.423	.343
4	-.075	-.141	-.234	-.124	-.229
5	-.714	-.862	-.886	-.760	-.844
6	-1.039	-1.217	-1.148	-1.080	-1.123
7	-1.363	-1.573	-1.409	-1.401	-1.402
8	-.995	-1.113	-1.093	-1.033	-1.094
9	-1.056	-1.158	-1.084	-1.066	-1.063
10	-.947	-1.036	-1.207	-.989	-1.162
11	-1.777	-1.949	-1.795	-1.787	-1.843
12	-1.115	-1.033	-.974	-1.079	-.968
13	-.854	-.956	-.908	-.859	-.908
14	-1.459	-1.415	-1.596	-1.456	-1.601
15	-1.636	-1.537	-1.609	-1.569	-1.619
16	-1.541	-1.441	-1.614	-1.519	-1.582
17	-1.697	-1.558	-1.623	-1.626	-1.615
18	-1.516	-1.363	-1.495	-1.487	-1.463
19	-1.804	-1.651	-1.730	-1.729	-1.714
20	-1.534	-1.376	-1.425	-1.499	-1.414
21	-1.288	-1.166	-1.104	-1.227	-1.118
22	-.712	-.610	-.521	-.674	-.552
23	-.085	-.002	.092	-.031	.342
24	.388	.417	.506	.436	.713
25	.604	.635	.658	.621	.643
26	.604	.571	.582	.609	.574
27	.421	.339	.309	.394	.328
28	-.022	-.159	-.176	-.074	-.152
29	-.598	-.818	-.787	-.646	-.773
30	-.926	-1.156	-1.084	-1.013	-1.072
31	-1.131	-1.453	-1.230	-1.226	-1.244
32	-1.119	-1.362	-1.229	-1.218	-1.228
33	-1.286	-1.553	-1.359	-1.346	-1.355
34	-1.125	-1.339	-1.188	-1.207	-1.180
35	-1.234	-1.500	-1.344	-1.316	-1.330
36	-1.143	-1.290	-1.104	-1.222	-1.112
37	-.810	-.869	-.819	-.798	-.814
38	-1.248	-1.209	-1.361	-1.330	-1.313
39	-1.338	-1.241	-1.291	-1.281	-1.246
40	-1.396	-1.147	-1.443	-1.403	-1.394
41	-1.563	-1.332	-1.463	-1.474	-1.430
42	-1.450	-1.145	-1.394	-1.406	-1.357

Figure 36 – Pressure Coefficients
$\alpha = 50°$, $\phi_j = 120°$, $\phi_b = 240°$, $C_\mu = .00$

Pressure Port	Blowing Nozzle 1	2	3	4	5
43	-1.673	-1.328	-1.604	-1.560	-1.563
44	-1.564	-1.271	-1.457	-1.518	-1.426
45	-1.402	-1.122	-1.219	-1.299	-1.209
46	-.896	-.674	-.700	-.845	-.702
47	-.292	-.160	-.113	-.249	-.148
48	.201	.263	.330	.218	.293
49	.614	.654	.652	.628	.648
50	.602	.568	.602	.616	.586
51	.569	.484	.481	.547	.483
52	.326	.190	.215	.304	.217
53	.029	-.200	-.153	-.038	-.146
54	-.275	-.545	-.466	-.364	-.459
55	-.674	-1.035	-.867	-.767	-.856
56	-.842	-1.208	-1.006	-.959	-.996
57	-1.001	-1.532	-1.116	-1.131	-1.144
58	-.881	-1.343	-1.013	-1.008	-1.018
59	-.928	-1.441	-1.057	-1.048	-1.077
60	-.853	-1.296	-.981	-.975	-.993
61	-.981	-1.464	-1.106	-1.087	-1.120
62	-.918	-1.358	-1.054	-1.053	-1.068
63	-1.032	-1.589	-1.312	-1.255	-1.339
64	-.972	-1.562	-1.209	-1.201	-1.236
65	-1.109	-1.846	-1.403	-1.383	-1.383
66	-1.081	-1.615	-1.279	-1.259	-1.255
67	-.643	-.826	-.657	-.648	-.638
68	-1.032	-.944	-1.233	-.976	-1.174
69	-1.702	-1.122	-1.527	-1.581	-1.509
70	-1.583	-1.006	-1.564	-1.465	-1.515
71	-1.734	-1.181	-1.515	-1.718	-1.504
72	-1.601	-1.028	-1.461	-1.461	-1.411
73	-1.619	-1.101	-1.411	-1.490	-1.391
74	-1.482	-.976	-1.325	-1.348	-1.292
75	-1.573	-1.055	-1.384	-1.403	-1.351
76	-1.519	-.977	-1.377	-1.366	-1.326
77	-1.752	-1.176	-1.562	-1.564	-1.531
78	-1.579	-1.087	-1.397	-1.455	-1.367
79	-1.502	-1.053	-1.257	-1.347	-1.242
80	-1.107	-.762	-.883	-1.007	-.877
81	-.740	-.444	-.513	-.653	-.515
82	-.307	-.099	-.119	-.252	-.136
83	.106	.277	.255	.153	.248
84	.358	.447	.469	.397	.447

Figure 36 (continued) – Pressure Coefficients
$\alpha = 50°$, $\phi_j = 120°$, $\phi_b = 240°$, $C_\mu = .00$

Pressure Port	Blowing Nozzle				
	1	2	3	4	5
1	.789	.770	.799	.772	.796
2	.622	.659	.575	.691	.634
3	.303	.388	.191	.356	.268
4	-.292	-.174	-.413	-.203	-.313
5	-.989	-.839	-1.108	-.819	-.963
6	-1.373	-1.215	-1.435	-1.149	-1.260
7	-1.756	-1.591	-1.761	-1.480	-1.558
8	-1.286	-1.144	-1.297	-1.128	-1.252
9	-1.190	-1.019	-1.221	-1.052	-.991
10	-1.123	-.881	-1.004	-.817	-.788
11	-1.287	-1.056	-1.295	-1.024	-.913
12	-.925	-.833	-.832	-.740	-.719
13	-1.079	-1.034	-1.165	-.788	-1.039
14	-1.327	-1.315	-1.305	-1.611	-1.532
15	-1.411	-1.449	-1.400	-1.650	-1.480
16	-1.355	-1.412	-1.369	-1.671	-1.584
17	-1.406	-1.463	-1.420	-1.644	-1.516
18	-1.266	-1.337	-1.311	-1.533	-1.484
19	-1.532	-1.580	-1.582	-1.739	-1.677
20	-1.264	-1.352	-1.224	-1.495	-1.391
21	-1.025	-1.120	-.951	-1.175	-1.050
22	-.486	-.590	-.373	-.622	-.484
23	.101	.020	.218	.016	.143
24	.470	.431	.550	.465	.534
25	.659	.630	.671	.649	.664
26	.532	.554	.496	.592	.530
27	.231	.306	.137	.294	.191
28	-.302	-.209	-.403	-.213	-.356
29	-1.009	-.900	-1.111	-.861	-1.009
30	-1.375	-1.310	-1.418	-1.264	-1.371
31	-1.843	-1.720	-1.781	-1.495	-1.588
32	-1.657	-1.591	-1.630	-1.463	-1.538
33	-1.828	-1.708	-1.807	-1.533	-1.623
34	-1.761	-1.710	-1.646	-1.545	-1.625
35	-1.011	-.847	-1.011	-.862	-.865
36	-1.017	-.943	-.994	-.850	-.915
37	-.705	-.650	-.769	-.690	-.738
38	-1.175	-1.254	-1.327	-1.208	-1.133
39	-1.263	-1.323	-1.247	-1.253	-1.226
40	-1.117	-1.215	-1.198	-1.433	-1.333
41	-1.209	-1.284	-1.234	-1.387	-1.310
42	-1.013	-1.088	-1.048	-1.355	-1.257

Figure 37 – Pressure Coefficients
$\alpha = 50°$, $\phi_j = 120°$, $\phi_b = 240°$, $C_\mu = .01$

Pressure Port	Blowing Nozzle				
	1	2	3	4	5
43	-1.174	-1.241	-1.260	-1.486	-1.415
44	-1.112	-1.211	-1.104	-1.415	-1.294
45	-.954	-1.045	-.927	-1.170	-1.037
46	-.524	-.628	-.464	-.722	-.574
47	-.033	-.108	.075	.117	-.003
48	.337	.297	.411	.534	.378
49	.659	.644	.667	.644	.654
50	.533	.561	.495	.583	.549
51	.379	.425	.310	.429	.347
52	.055	.125	-.033	.150	.033
53	-.381	-.294	-.503	-.272	-.409
54	-.730	-.659	-.847	-.641	-.775
55	-1.315	-1.192	-1.423	-1.110	-1.281
56	-1.504	-1.425	-1.564	-1.345	-1.485
57	-1.983	-1.850	-1.948	-1.616	-1.776
58	-1.830	-1.768	-1.719	-1.502	-1.621
59	-1.936	-1.813	-1.846	-1.544	-1.656
60	-1.746	-1.678	-1.657	-1.475	-1.559
61	-1.913	-1.824	-1.870	-1.567	-1.696
62	-1.771	-1.714	-1.765	-1.582	-1.742
63	-2.249	-2.179	-2.252	-1.906	-2.078
64	-1.798	-1.719	-1.468	-1.448	-1.331
65	-1.109	-.989	-1.051	-.993	-1.903
66	-1.715	-1.657	-1.300	-1.344	-1.144
67	-.875	-.833	-.928	-.848	-1.202
68	-1.139	-1.171	-1.101	-1.286	-1.169
69	-1.065	-1.053	-1.150	-1.301	-1.111
70	-.884	-.927	-.956	-1.250	-1.051
71	-.915	-.935	-.959	-1.158	-.994
72	-.768	-.799	-.822	-1.091	-.960
73	-.839	-.897	-.870	-1.103	-.989
74	-.744	-.818	-.774	-1.059	-.941
75	-.816	-.879	-.848	-1.091	-.989
76	-.757	-.823	-.790	-1.088	-.987
77	-.918	-.976	-.978	-1.232	-1.136
78	-.855	-.939	-.854	-1.159	-1.035
79	-.812	-.892	-.781	-1.035	-.895
80	-.550	-.637	-.493	-.753	-.609
81	-.270	-.351	-.182	-.392	-.265
82	.034	-.035	.102	-.048	.055
83	.372	.306	.441	.297	.386
84	.500	.470	.524	.487	.536

Figure 37 (continued) – Pressure Coefficients
$\alpha = 50°$, $\phi_j = 120°$, $\phi_b = 240°$, $C_\mu = .01$

Pressure Port	Blowing Nozzle				
	1	2	3	4	5
1	.787	.772	.778	.752	.789
2	.637	.662	.595	.676	.620
3	.311	.408	.193	.402	.269
4	-.285	-.138	-.403	-.115	-.320
5	-.939	-.797	-1.092	-.694	-.955
6	-1.270	-1.112	-1.383	-.962	-1.217
7	-1.602	-1.427	-1.674	-1.231	-1.480
8	-1.275	-1.041	-1.375	-.935	-1.295
9	-1.623	-1.407	-1.549	-.777	-1.329
10	-1.293	-1.009	-1.387	-.766	-1.137
11	-1.388	-1.257	-1.404	-.813	-1.204
12	-.971	-.856	-1.056	-.714	-.878
13	-1.074	-1.067	-1.231	-.764	-1.167
14	-1.437	-1.429	-1.364	-1.664	-1.508
15	-1.443	-1.527	-1.369	-1.702	-1.483
16	-1.430	-1.473	-1.394	-1.762	-1.531
17	-1.428	-1.517	-1.353	-1.756	-1.471
18	-1.303	-1.345	-1.320	-1.647	-1.407
19	-1.550	-1.632	-1.503	-1.888	-1.625
20	-1.297	-1.363	-1.243	-1.582	-1.330
21	-1.041	-1.161	-.914	-1.282	-1.014
22	-.512	-.605	-.393	-.687	-.452
23	.106	-.003	.217	-.036	.153
24	.485	.420	.563	.416	.529
25	.648	.640	.659	.611	.642
26	.540	.551	.502	.560	.496
27	.247	.307	.129	.319	.193
28	-.285	-.216	-.430	-.151	-.342
29	-.961	-.854	-1.098	-.779	-1.009
30	-1.350	-1.231	-1.477	-1.120	-1.355
31	-1.753	-1.646	-1.756	-1.359	-1.618
32	-1.619	-1.495	-1.684	-1.298	-1.542
33	-1.721	-1.606	-1.763	-1.357	-1.610
34	-1.281	-1.284	-1.212	-1.159	-1.069
35	-1.069	-.880	-1.224	-.759	-.991
36	-.834	-.782	-.891	-.722	-.680
37	-.794	-.693	-.894	-.808	-.784
38	-1.256	-1.256	-1.390	-1.275	-1.522
39	-1.247	-1.325	-1.194	-1.397	-1.305
40	-1.195	-1.244	-1.247	-1.495	-1.315
41	-1.229	-1.324	-1.161	-1.482	-1.294
42	-1.067	-1.123	-1.068	-1.409	-1.169

Figure 38 – Pressure Coefficients
$\alpha = 50°$, $\phi_j = 120°$, $\phi_b = 240°$, $C_\mu = .02$

Pressure Port	Blowing Nozzle				
	1	2	3	4	5
43	-1.221	-1.291	-1.201	-1.585	-1.372
44	-1.168	-1.237	-1.126	-1.465	-1.260
45	-.987	-1.081	-.878	-1.238	-.996
46	-.563	-.646	-.464	-.752	-.540
47	-.038	-.120	.086	-.155	.243
48	.346	.279	.429	.272	.580
49	.650	.647	.641	.631	.653
50	.546	.555	.516	.562	.534
51	.396	.440	.283	.431	.330
52	.080	.139	-.044	.153	.009
53	-.356	-.274	-.510	-.258	-.430
54	-.724	-.625	-.882	-.603	-.791
55	-1.284	-1.172	-1.418	-1.063	-1.320
56a	-1.496	-1.371	-1.634	-1.255	-1.508
57	-1.913	-1.801	-1.953	-1.564	-1.808
58	-1.804	-1.691	-1.834	-1.426	-1.661
59	-1.868	-1.775	-1.842	-1.481	-1.714
60	-1.713	-1.602	-1.741	-1.374	-1.586
61	-1.847	-1.758	-1.850	-1.504	-1.723
62	-1.780	-1.659	-1.893	-1.530	-1.767
63	-2.112	-2.120	-1.882	-1.789	-1.684
64	-1.170	-1.071	-1.090	-.981	-.942
65	-1.022	-1.876	-1.017	-.848	-1.532
66	-1.248	-.946	-.888	-.805	-.757
67	-.829	-1.089	-.937	-.965	-1.059
68	-1.049	-.998	-1.036	-1.220	-1.044
69	-1.150	-1.098	-1.177	-1.254	-1.115
70	-.974	-.941	-.993	-1.195	-1.022
71	-1.017	-1.002	-.944	-1.114	-1.000
72	-.828	-.870	-.812	-1.133	-.943
73	-.896	-.948	-.836	-1.142	-.956
74	-.796	-.862	-.782	-1.102	-.912
75	-.877	-.942	-.823	-1.161	-.963
76	-.813	-.870	-.814	-1.141	-.955
77	-.988	-1.061	-.951	-1.304	-1.097
78	-.913	-.985	-.870	-1.191	-.991
79	-.856	-.949	-.753	-1.086	-.880
80	-.586	-.672	-.489	-.778	-.587
81	-.298	-.374	-.174	-.415	-.252
82	.016	-.047	.125	-.069	.063
83	.350	.294	.425	.282	.394
84	.499	.456	.552	.461	.529

Figure 38 (continued) – Pressure Coefficients
$\alpha = 50°$, $\phi_j = 120°$, $\phi_b = 240°$, $C_\mu = .02$

Pressure Port	Blowing Nozzle 1	2	3	4	5
1	.819	.860	.822	.849	.855
2	.715	.668	.722	.698	.674
3	.292	.204	.349	.287	.268
4	-.386	-.530	-.357	-.386	-.425
5	-1.063	-1.264	-1.064	-1.059	-1.117
6	-.938	-1.118	-1.050	-1.136	-1.105
7	-1.170	-1.314	-1.263	-1.146	-1.115
8	-1.091	-1.211	-1.129	-1.054	-1.011
9	-1.591	-1.801	-1.755	-1.559	-1.546
10	-1.805	-1.987	-1.709	-1.769	-1.680
11	-2.229	-2.352	-2.009	-2.167	-2.036
12	-1.378	-1.240	-1.394	-1.379	-1.276
13	-1.115	-1.242	-.987	-1.105	-1.266
14	-2.293	-2.096	-1.928	-2.268	-2.230
15	-2.129	-2.101	-2.105	-2.148	-2.090
16	-2.280	-2.066	-1.969	-2.290	-2.318
17	-2.257	-2.069	-2.143	-2.279	-2.314
18	-2.100	-1.861	-1.869	-2.098	-2.183
19	-2.415	-2.166	-2.194	-2.440	-2.521
20	-2.030	-1.821	-1.893	-2.021	-2.048
21	-1.709	-1.490	-1.650	-1.721	-1.734
22	-.924	-.741	-.904	-.901	-.894
23	-.127	.024	-.161	-.108	-.064
24	.440	.525	.404	.451	.470
25	.740	.765	.710	.735	.754
26	.684	.655	.687	.676	.666
27	.401	.282	.421	.395	.375
28	-.094	-.275	-.098	-.097	-.119
29	-.690	-.967	-.768	-.698	-.690
30	-.883	-1.250	-1.090	-.861	-.791
31	-1.122	-1.450	-1.310	-1.112	-1.069
32	-1.149	-1.450	-1.321	-1.147	-1.071
33	-1.029	-1.415	-1.292	-1.024	-.936
34	-1.048	-1.365	-1.162	-1.027	-.994
35	-1.123	-1.415	-1.269	-1.116	-1.107
36	-1.002	-1.167	-1.143	-.974	-.911
37	-1.011	-.970	-.865	-1.116	-1.432
38	-1.915	-1.711	-1.767	-1.943	-1.865
39	-1.952	-1.706	-1.774	-1.995	-2.149
40	-2.145	-1.815	-1.868	-2.085	-2.122
41	-2.079	-1.834	-1.980	-2.119	-2.183
42	-1.930	-1.719	-1.786	-1.952	-1.977

Figure 39 – Pressure Coefficients
$\alpha = 60°$, $\phi_j = 90°$, $\phi_b = 270°$, $C_\mu = .00$

Pressure Port	Blowing Nozzle				
	1	2	3	4	5
43	-2.241	-1.993	-2.024	-2.285	-2.407
44	-1.983	-1.781	-1.891	-1.984	-2.002
45	-1.717	-1.522	-1.669	-1.725	-1.762
46	-1.051	-.870	-1.053	-1.024	-.969
47	-.254	-.142	-.321	-.264	-.208
48	.311	.380	.253	.299	.346
49	.758	.773	.729	.745	.750
50	.815	.806	.834	.815	.812
51	.601	.559	.645	.589	.556
52	.344	.234	.401	.324	.288
53	.022	-.127	.065	-.010	-.047
54	-.384	-.550	-.355	-.382	-.400
55	-.592	-.808	-.617	-.573	-.573
56	-.692	-1.083	-.839	-.672	-.630
57	-.630	-.982	-.745	-.604	-.574
58	-.714	-.997	-.860	-.705	-.682
59	-.739	-1.031	-.911	-.706	-.683
60	-.703	-1.019	-.817	-.684	-.685
61	-.666	-.976	-.781	-.636	-.652
62	-.730	-1.037	-.813	-.731	-.699
63	-.723	-1.039	-.871	-.833	-.876
64	-.791	-1.020	-.883	-.859	-.923
65	-.765	-.949	-.826	-.875	-.992
66	-.990	-.663	-.683	-1.106	-1.282
67	-1.292	-1.010	-.847	-1.247	-1.359
68	-1.576	-1.818	-1.748	-1.423	-1.533
69	-1.443	-1.770	-1.655	-1.375	-1.449
70	-1.615	-2.153	-1.902	-1.600	-1.620
71	-1.562	-1.749	-1.672	-1.536	-1.520
72	-1.722	-1.947	-1.720	-1.646	-1.646
73	-1.655	-1.678	-1.578	-1.561	-1.521
74	-1.775	-1.634	-1.698	-1.786	-1.817
75	-1.677	-1.531	-1.569	-1.675	-1.672
76	-1.957	-1.730	-1.757	-1.989	-1.913
77	-1.863	-1.736	-1.732	-1.881	-1.787
78	-1.839	-1.709	-1.834	-1.897	-1.899
79	-1.490	-1.382	-1.539	-1.495	-1.460
80	-1.130	-1.005	-1.198	-1.111	-1.069
81	-.622	-.515	-.700	-.604	-.555
82	-.116	-.049	-.216	-.092	-.048
83	.269	.319	.189	.282	.313
84	.688	.723	.629	.686	.724

Figure 39 (continued) – Pressure Coefficients
$\alpha = 60°$, $\phi_j = 90°$, $\phi_b = 270°$, $C_\mu = .00$

Pressure Port	Blowing Nozzle				
	1	2	3	4	5
1	.829	.849	.842	.852	.869
2	.644	.581	.706	.653	.624
3	.157	.054	.262	.227	.140
4	-.538	-.681	-.471	-.479	-.576
5	-1.233	-1.416	-1.204	-1.184	-1.292
6	-1.099	-1.257	-1.174	-1.108	-1.174
7	-1.335	-1.517	-1.501	-1.318	-1.303
8	-1.188	-1.328	-1.294	-1.160	-1.153
9	-1.360	-1.384	-1.608	-1.161	-1.145
10	-1.100	-1.216	-1.020	-.887	-.899
11	-1.072	-1.075	-.988	-.770	-.793
12	-.872	-.974	-.733	-.718	-.708
13	-1.185	-1.531	-1.152	-1.578	-1.515
14	-1.818	-1.830	-2.050	-2.010	-1.915
15	-1.889	-1.844	-2.124	-2.189	-2.111
16	-1.984	-1.805	-2.089	-2.140	-2.073
17	-1.892	-1.747	-2.016	-2.111	-2.075
18	-1.792	-1.634	-1.831	-1.948	-1.910
19	-2.020	-1.888	-2.082	-2.272	-2.209
20	-1.735	-1.586	-1.817	-1.853	-1.791
21	-1.386	-1.234	-1.516	-1.534	-1.457
22	-.692	-.553	-.812	-.751	-.676
23	.030	.172	-.041	.015	.099
24	.521	.591	.494	.504	.561
25	.759	.775	.762	.780	.805
26	.610	.572	.660	.610	.589
27	.161	.066	.260	.200	.165
28	-.463	-.578	-.351	-.406	-.444
29	-1.264	-1.441	-1.198	-1.235	-1.273
30	-1.716	-1.881	-1.688	-1.577	-1.589
31	-1.992	-2.197	-2.035	-1.802	-1.812
32	-1.855	-2.043	-1.897	-1.684	-1.713
33	-2.078	-2.290	-2.125	-1.943	-1.966
34	-2.136	-2.458	-2.283	-2.026	-2.010
35	-1.016	-1.121	-1.167	-1.008	-1.048
36	-1.260	-1.432	-1.345	-1.277	-1.256
37	-1.113	-1.176	-1.157	-1.247	-1.262
38	-1.384	-1.463	-1.250	-1.246	-1.188
39	-1.380	-1.369	-1.325	-1.437	-1.360
40	-1.417	-1.305	-1.283	-1.393	-1.354
41	-1.415	-1.275	-1.378	-1.495	-1.478
42	-1.351	-1.163	-1.297	-1.391	-1.400

Figure 40 – Pressure Coefficients
$\alpha = 60°$, $\phi_j = 90°$, $\phi_b = 270°$, $C_\mu = .01$

Pressure Port	Blowing Nozzle				
	1	2	3	4	5
43	-1.517	-1.308	-1.433	-1.633	-1.668
44	-1.448	-1.258	-1.440	-1.487	-1.472
45	-1.182	-1.011	-1.215	-1.271	-1.245
46	-.655	-.529	-.728	-.686	-.640
47	-.004	.132	-.086	-.026	.057
48	.448	.527	.395	.425	.491
49	.775	.760	.784	.767	.766
50	.715	.677	.769	.746	.731
51	.434	.357	.518	.447	.408
52	.033	-.077	.124	.062	.001
53	-.389	-.524	-.300	-.355	-.421
54	-1.023	-1.183	-.870	-.951	-.998
55	-1.407	-1.564	-1.281	-1.287	-1.304
56	-1.888	-2.073	-1.821	-1.802	-1.823
57	-1.990	-2.160	-1.965	-1.773	-1.770
58	-1.929	-2.142	-2.007	-1.756	-1.730
59	-1.908	-2.075	-1.943	-1.709	-1.684
60	-1.926	-2.154	-1.957	-1.796	-1.722
61	-1.834	-2.015	-1.837	-1.680	-1.555
62	-1.811	-2.119	-1.846	-1.846	-1.782
63	-1.656	-1.878	-1.645	-1.510	-1.525
64	-2.062	-2.402	-2.246	-2.224	-2.012
65	-1.088	-1.303	-1.623	-1.102	-1.128
66	-1.243	-1.314	-1.160	-1.206	-1.183
67	-1.141	-1.108	-1.154	-1.073	-1.064
68	-1.223	-1.117	-1.099	-1.074	-1.108
69	-1.115	-.987	-1.005	-.969	-.986
70	-1.058	-.953	-.976	-1.010	-1.055
71	-.957	-.826	-.909	-.888	-.910
72	-.963	-.823	-.912	-.951	-1.016
73	-.923	-.789	-.878	-.901	-.921
74	-.930	-.787	-.899	-.948	-.971
75	-.879	-.736	-.849	-.878	-.883
76	-.892	-.764	-.881	-.936	-.957
77	-.958	-.808	-.891	-.971	-.990
78	-1.011	-.874	-1.013	-1.057	-1.069
79	-.850	-.704	-.858	-.860	-.842
80	-.583	-.473	-.662	-.617	-.581
81	-.233	-.145	-.311	-.248	-.213
82	.170	.260	.086	.172	.226
83	.458	.510	.401	.448	.489
84	.763	.798	.735	.779	.809

Figure 40 (continued) – Pressure Coefficients
$\alpha = 60°$, $\phi_j = 90°$, $\phi_b = 270°$, $C_\mu = .01$

Pressure Port	Blowing Nozzle				
	1	2	3	4	5
1	.847	.844	.858	.840	.870
2	.639	.629	.681	.686	.624
3	.157	.107	.287	.278	.154
4	-.512	-.569	-.403	-.349	-.523
5	-1.181	-1.245	-1.093	-.976	-1.201
6	-.961	-1.040	-.957	-.837	-.988
7	-1.267	-1.263	-1.260	-1.033	-1.203
8	-1.447	-1.066	-1.039	-.912	-.964
9	-1.938	-1.703	-1.904	-.951	-1.697
10	-1.577	-1.288	-1.208	-.849	-1.182
11	-1.366	-1.349	-1.422	-.747	-1.267
12	-1.116	-1.100	-.991	-.761	-.912
13	-1.330	-1.669	-1.318	-1.720	-1.554
14	-1.791	-1.945	-1.952	-2.221	-1.878
15	-1.857	-1.936	-1.988	-2.277	-2.150
16	-1.864	-1.890	-1.945	-2.271	-1.899
17	-1.908	-1.817	-1.949	-2.208	-1.992
18	-1.777	-1.714	-1.745	-2.087	-1.812
19	-2.011	-1.971	-2.042	-2.375	-2.130
20	-1.684	-1.657	-1.752	-1.991	-1.730
21	-1.414	-1.308	-1.498	-1.624	-1.400
22	-.691	-.602	-.785	-.836	-.638
23	.064	.127	-.027	-.022	.111
24	.532	.586	.477	.503	.566
25	.777	.768	.762	.762	.792
26	.600	.586	.641	.626	.591
27	.161	.085	.244	.231	.143
28	-.458	-.549	-.363	-.360	-.469
29	-1.299	-1.400	-1.219	-1.173	-1.327
30	-1.709	-1.817	-1.662	-1.572	-1.673
31	-1.985	-1.999	-2.035	-1.763	-1.880
32	-1.743	-1.835	-1.787	-1.613	-1.696
33	-2.101	-2.153	-2.123	-1.900	-2.051
34	-1.182	-1.524	-1.848	-1.801	-1.262
35	-1.045	-1.086	-1.043	-1.033	-.997
36	-.770	-.961	-1.116	-1.250	-.822
37	-1.156	-1.277	-1.145	-1.386	-1.247
38	-1.445	-1.479	-1.409	-1.319	-1.254
39	-1.460	-1.472	-1.442	-1.442	-1.428
40	-1.447	-1.405	-1.382	-1.433	-1.380
41	-1.465	-1.378	-1.435	-1.523	-1.484
42	-1.351	-1.262	-1.289	-1.447	-1.376

Figure 41 – Pressure Coefficients
$\alpha = 60°$, $\phi_j = 90°$, $\phi_b = 270°$, $C_\mu = .02$

Pressure Port	Blowing Nozzle				
	1	2	3	4	5
43	-1.573	-1.434	-1.461	-1.645	-1.617
44	-1.456	-1.349	-1.424	-1.537	-1.439
45	-1.192	-1.092	-1.248	-1.302	-1.223
46	-.653	-.569	-.732	-.738	-.626
47	.018	.067	-.092	-.044	.046
48	.455	.495	.382	.427	.483
49	.761	.780	.757	.764	.768
50	.717	.689	.768	.742	.727
51	.419	.395	.479	.467	.402
52	-.012	-.068	.111	.070	-.018
53	-.447	-.508	-.318	-.347	-.450
54	-1.075	-1.116	-.949	-.883	-1.095
55	-1.442	-1.490	-1.331	-1.210	-1.426
56	-1.961	-2.058	-1.907	-1.804	-1.927
57	-2.018	-2.146	-1.999	-1.870	-1.892
58	-2.035	-2.023	-2.117	-1.742	-1.892
59	-1.940	-1.993	-1.933	-1.698	-1.831
60	-2.059	-2.073	-2.103	-1.828	-1.866
61	-1.894	-1.940	-1.878	-1.696	-1.805
62	-2.057	-2.132	-2.153	-1.761	-1.913
63	-1.824	-1.937	-1.823	-1.623	-1.710
64	-1.433	-1.782	-2.240	-2.001	-1.558
65	-1.008	-1.092	-1.072	-1.332	-.967
66	-1.171	-1.213	-1.295	-1.353	-1.164
67	-1.129	-1.115	-1.081	-1.242	-1.076
68	-1.362	-1.209	-1.219	-1.199	-1.183
69	-1.180	-1.058	-1.047	-1.075	-1.025
70	-1.141	-1.010	-1.034	-1.075	-1.078
71	-.981	-.885	-.911	-.954	-.932
72	-.990	-.901	-.963	-1.027	-1.039
73	-.925	-.857	-.901	-.967	-.936
74	-.969	-.873	-.935	-.995	-.997
75	-.886	-.830	-.867	-.934	-.902
76	-.906	-.856	-.911	-.961	-.986
77	-.946	-.922	-.915	-1.006	-1.016
78	-1.025	-.967	-1.048	-1.074	-1.090
79	-.849	-.793	-.870	-.895	-.863
80	-.614	-.509	-.665	-.648	-.596
81	-.251	-.162	-.308	-.286	-.214
82	.161	.227	.092	.142	.227
83	.446	.502	.384	.427	.493
84	.775	.787	.753	.763	.812

Figure 41 (continued) – Pressure Coefficients
$\alpha = 60°$, $\phi_j = 90°$, $\phi_b = 270°$, $C_\mu = .02$

Pressure Port	Blowing Nozzle				
	1	2	3	4	5
1	.799	.842	.841	.820	.829
2	.755	.709	.694	.758	.725
3	.372	.341	.300	.408	.329
4	-.291	-.361	-.371	-.258	-.330
5	-.999	-1.208	-1.165	-.981	-1.110
6	-1.337	-1.609	-1.423	-1.312	-1.359
7	-1.675	-2.010	-1.681	-1.644	-1.608
8	-1.293	-1.460	-1.316	-1.266	-1.280
9	-1.364	-1.555	-1.404	-1.379	-1.334
10	-1.201	-1.352	-1.226	-1.236	-1.290
11	-1.793	-2.162	-1.805	-1.816	-1.859
12	-1.386	-1.400	-1.199	-1.389	-1.290
13	-.970	-1.076	-1.067	-.982	-1.099
14	-1.774	-1.840	-1.788	-1.793	-1.793
15	-1.752	-1.928	-1.779	-1.737	-1.732
16	-1.900	-1.713	-2.006	-1.975	-2.040
17	-2.008	-1.841	-2.010	-2.012	-2.028
18	-1.861	-1.556	-1.915	-1.927	-1.994
19	-2.121	-1.821	-2.221	-2.223	-2.271
20	-1.926	-1.646	-1.885	-2.000	-1.969
21	-1.609	-1.382	-1.557	-1.654	-1.592
22	-.960	-.794	-.843	-.992	-.898
23	-.196	-.081	-.071	-.208	-.092
24	.382	.430	.453	.379	.457
25	.711	.762	.762	.721	.749
26	.710	.681	.680	.725	.703
27	.470	.359	.396	.477	.409
28	-.061	-.275	-.170	-.061	-.137
29	-.800	-1.074	-.853	-.735	-.798
30	-1.188	-1.519	-1.135	-1.092	-1.082
31	-1.358	-1.872	-1.267	-1.221	-1.186
32	-1.323	-1.804	-1.270	-1.274	-1.225
33	-1.498	-1.963	-1.438	-1.398	-1.357
34	-1.385	-1.823	-1.287	-1.240	-1.261
35	-1.453	-2.280	-1.302	-1.291	-1.241
36	-1.414	-2.179	-1.104	-1.217	-1.089
37	-.784	-1.119	-.841	-.763	-.827
38	-1.872	-1.505	-1.965	-1.967	-2.077
39	-1.713	-1.105	-1.962	-1.876	-2.042
40	-1.849	-1.125	-2.051	-2.053	-2.187
41	-1.900	-1.203	-2.020	-2.040	-2.080
42	-1.756	-1.121	-1.819	-1.871	-1.898

Figure 42 – Pressure Coefficients
$\alpha = 60°$, $\phi_j = 120°$, $\phi_b = 240°$, $C_\mu = .00$

Pressure Port	Blowing Nozzle 1	2	3	4	5
43	-1.841	-1.211	-2.062	-2.033	-2.101
44	-1.848	-1.277	-1.885	-1.982	-1.970
45	-1.649	-1.147	-1.597	-1.692	-1.646
46	-1.102	-.715	-.961	-1.127	-1.015
47	-.369	-.134	-.218	-.368	-.257
48	.215	.337	.334	.226	.316
49	.766	.839	.821	.786	.812
50	.777	.739	.754	.781	.775
51	.685	.561	.639	.709	.647
52	.405	.149	.324	.440	.348
53	.056	-.201	-.050	.074	-.017
54	-.309	-.634	-.378	-.264	-.353
55	-.790	-1.231	-.755	-.679	-.706
56	-.938	-1.435	-.786	-.803	-.757
57	-1.049	-1.889	-.820	-.782	-.758
58	-.986	-1.686	-.781	-.761	-.746
59	-1.042	-1.682	-.814	-.759	-.758
60	-.988	-1.545	-.780	-.747	-.747
61	-1.012	-1.734	-.923	-.907	-.841
62	-.946	-1.556	-.872	-.881	-.879
63	-1.021	-1.588	-.885	-.849	-.861
64	-.990	-1.485	-.834	-.840	-.858
65	-1.013	-1.550	-.898	-.921	-.899
66	-1.129	-1.535	-1.075	-.953	-.908
67	-.746	-1.156	-.877	-.788	-1.091
68	-1.418	-.872	-1.435	-1.443	-1.513
69	-1.686	-.985	-1.578	-1.588	-1.519
70	-1.725	-.805	-1.592	-1.642	-1.540
71	-1.989	-.860	-1.728	-1.653	-1.611
72	-1.814	-.747	-1.668	-1.615	-1.551
73	-1.861	-.813	-1.739	-1.684	-1.662
74	-1.690	-.742	-1.644	-1.659	-1.602
75	-1.722	-.784	-1.729	-1.720	-1.720
76	-1.702	-.725	-1.687	-1.688	-1.752
77	-1.942	-.771	-1.870	-1.888	-1.949
78	-1.833	-.836	-1.671	-1.759	-1.771
79	-1.623	-.815	-1.534	-1.642	-1.582
80	-1.230	-.610	-1.090	-1.235	-1.142
81	-.768	-.314	-.620	-.779	-.636
82	-.285	.025	-.141	-.285	-.147
83	.208	.418	.342	.209	.301
84	.512	.608	.583	.511	.579

Figure 42 (continued) – Pressure Coefficients
$\alpha = 60°$, $\phi_j = 120°$, $\phi_b = 240°$, $C_\mu = .00$

Pressure Port	Blowing Nozzle				
	1	2	3	4	5
1	.856	.834	.854	.821	.858
2	.648	.693	.602	.699	.655
3	.182	.312	.056	.295	.189
4	-.569	-.392	-.715	-.390	-.527
5	-1.520	-1.302	-1.616	-1.191	-1.336
6	-2.013	-1.782	-2.026	-1.542	-1.646
7	-2.507	-2.262	-2.436	-1.893	-1.956
8	-1.808	-1.609	-1.784	-1.395	-1.482
9	-1.806	-1.643	-1.825	-1.481	-1.566
10	-1.141	-.829	-1.035	-.709	-1.564
11	-1.863	-1.373	-1.748	-1.138	-1.195
12	-1.204	-.942	-1.059	-.693	-1.010
13	-1.424	-1.258	-1.381	-1.020	-1.306
14	-1.546	-1.567	-1.875	-1.926	-1.655
15	-1.573	-1.647	-1.623	-2.115	-2.006
16	-1.516	-1.618	-1.642	-2.008	-1.919
17	-1.531	-1.651	-1.614	-2.062	-1.978
18	-1.385	-1.500	-1.504	-1.792	-1.806
19	-1.630	-1.733	-1.756	-2.107	-2.124
20	-1.440	-1.576	-1.469	-1.797	-1.747
21	-1.169	-1.313	-1.148	-1.517	-1.417
22	-.589	-.731	-.516	-.834	-.707
23	.096	-.030	.197	-.099	.046
24	.541	.471	.607	.437	.526
25	.787	.775	.799	.760	.809
26	.617	.662	.590	.664	.637
27	.190	.302	.071	.309	.235
28	-.512	-.347	-.637	-.318	-.412
29	-1.429	-1.289	-1.544	-1.077	-1.239
30	-1.956	-1.821	-2.004	-1.504	-1.562
31	-2.676	-2.437	-2.474	-1.809	-1.775
32	-2.452	-2.250	-2.290	-1.767	-1.734
33	-2.664	-2.438	-2.500	-1.951	-1.971
34	-2.460	-2.322	-2.480	-1.987	-2.002
35	-2.458	-2.211	-1.921	-1.631	-2.464
36	-1.533	-1.393	-1.456	-1.212	-1.271
37	-1.672	-1.456	-1.468	-1.139	-1.535
38	-1.302	-1.315	-1.378	-1.260	-1.239
39	-1.273	-1.338	-1.338	-1.267	-1.318
40	-1.058	-1.148	-1.163	-1.341	-1.311
41	-1.075	-1.172	-1.158	-1.414	-1.383
42	-.934	-1.038	-1.010	-1.335	-1.281

Figure 43 – Pressure Coefficients
$\alpha = 60°$, $\phi_j = 120°$, $\phi_b = 240°$, $C_\mu = .01$

Pressure Port	Blowing Nozzle				
	1	2	3	4	5
43	-1.005	-1.102	-1.102	-1.504	-1.489
44	-1.056	-1.171	-1.121	-1.509	-1.417
45	-.908	-1.038	-.892	-1.286	-1.185
46	-.493	-.614	-.451	-.774	-.653
47	.055	-.071	.141	-.115	-.022
48	.462	.389	.537	.376	.438
49	.838	.820	.834	.826	.860
50	.691	.729	.669	.733	.716
51	.500	.549	.391	.571	.520
52	.096	.179	-.016	.222	.143
53	-.480	-.372	-.589	-.262	-.358
54	-.956	-.842	-1.037	-.680	-.765
55	-1.719	-1.477	-1.778	-1.271	-1.406
56	-2.009	-1.785	-2.018	-1.504	-1.563
57	-2.632	-2.430	-2.455	-1.842	-1.747
58	-2.545	-2.368	-2.254	-1.652	-1.578
59	-2.701	-2.415	-2.336	-1.779	-1.675
60	-2.456	-2.243	-2.156	-1.636	-1.533
61	-2.630	-2.359	-2.323	-1.835	-1.650
62	-2.352	-2.170	-2.108	-1.809	-1.541
63	-2.425	-2.187	-2.586	-2.216	-1.831
64	-2.280	-2.231	-2.851	-2.468	-1.810
65	-2.645	-2.287	-2.376	-2.000	-1.863
66	-2.025	-2.204	-2.409	-2.509	-1.740
67	-1.289	-1.263	-1.239	-1.178	-.981
68	-1.144	-1.289	-1.306	-1.453	-1.136
69	-.884	-1.018	-.963	-1.114	-.989
70	-.765	-.874	-.849	-1.022	-.919
71	-.742	-.839	-.804	-1.061	-.981
72	-.657	-.725	-.725	-.958	-.878
73	-.687	-.725	-.746	-.984	-.931
74	-.624	-.674	-.681	-.910	-.845
75	-.662	-.701	-.700	-.948	-.886
76	-.601	-.648	-.653	-.877	-.817
77	-.659	-.683	-.750	-1.010	-.945
78	-.717	-.760	-.779	-1.027	-.927
79	-.695	-.753	-.690	-.988	-.863
80	-.475	-.558	-.446	-.705	-.576
81	-.187	-.271	-.103	-.365	-.226
82	.132	.061	.225	.023	.142
83	.516	.444	.583	.420	.532
84	.670	.636	.710	.626	.688

Figure 43 (continued) – Pressure Coefficients
$\alpha = 60°$, $\phi_j = 120°$, $\phi_b = 240°$, $C_\mu = .01$

Pressure Port	Blowing Nozzle				
	1	2	3	4	5
1	.837	.829	.857	.810	.857
2	.663	.714	.583	.711	.649
3	.178	.342	.038	.383	.196
4	-.568	-.326	-.741	-.253	-.514
5	-1.437	-1.182	-1.670	-1.031	-1.329
6	-1.844	-1.573	-2.020	-1.303	-1.635
7	-2.251	-1.965	-2.369	-1.575	-1.942
8	-1.740	-1.468	-1.822	-1.222	-1.459
9	-1.511	-1.189	-1.548	-1.101	-1.440
10	-1.708	-1.165	-1.749	-.647	-.694
11	-1.813	-1.330	-1.861	-.937	-1.088
12	-1.395	-1.076	-1.362	-.689	-.658
13	-1.566	-1.360	-1.661	-1.043	-1.282
14	-1.731	-1.788	-1.810	-2.312	-1.630
15	-1.685	-1.895	-1.654	-2.113	-2.019
16	-1.652	-1.763	-1.589	-2.044	-1.935
17	-1.581	-1.797	-1.582	-2.160	-2.017
18	-1.468	-1.599	-1.448	-1.958	-1.813
19	-1.666	-1.843	-1.738	-2.313	-2.175
20	-1.509	-1.679	-1.440	-1.955	-1.750
21	-1.210	-1.390	-1.116	-1.654	-1.439
22	-.644	-.806	-.483	-.932	-.706
23	.057	-.061	.227	-.190	.037
24	.523	.456	.626	.371	.512
25	.784	.763	.806	.752	.791
26	.630	.668	.578	.667	.627
27	.197	.336	.068	.364	.245
28	-.504	-.289	-.650	-.221	-.381
29	-1.400	-1.157	-1.585	-1.052	-1.251
30	-1.936	-1.652	-2.029	-1.440	-1.562
31	-2.486	-2.187	-2.523	-1.723	-1.804
32	-2.323	-2.042	-2.321	-1.652	-1.732
33	-2.462	-2.183	-2.508	-1.795	-1.981
34	-2.423	-2.212	-2.331	-1.843	-1.916
35	-1.542	-1.205	-1.537	-1.115	-1.748
36	-1.557	-1.276	-1.651	-1.211	-1.203
37	-1.167	-.979	-1.343	-1.281	-1.263
38	-1.292	-1.385	-1.444	-1.288	-1.241
39	-1.229	-1.350	-1.279	-1.435	-1.319
40	-1.102	-1.289	-1.131	-1.454	-1.360
41	-1.120	-1.301	-1.138	-1.555	-1.477
42	-1.029	-1.178	-1.000	-1.467	-1.360

Figure 44 – Pressure Coefficients
$\alpha = 60°$, $\phi_j = 120°$, $\phi_b = 240°$, $C_\mu = .02$

Pressure Port	Blowing Nozzle				
	1	2	3	4	5
43	-1.082	-1.258	-1.108	-1.653	-1.599
44	-1.172	-1.339	-1.127	-1.607	-1.488
45	-.968	-1.166	-.894	-1.392	-1.262
46	-.562	-.732	-.441	-.853	-.701
47	.023	-.126	.163	-.201	-.046
48	.445	.356	.534	.313	.413
49	.822	.818	.840	.828	.859
50	.698	.732	.640	.730	.702
51	.471	.571	.363	.587	.507
52	.088	.202	-.083	.235	.122
53	-.473	-.290	-.658	-.272	-.392
54	-.955	-.744	-1.133	-.697	-.806
55	-1.675	-1.402	-1.881	-1.277	-1.430
56	-1.992	-1.704	-2.125	-1.504	-1.585
57	-2.537	-2.218	-2.662	-1.872	-1.835
58	-2.469	-2.140	-2.455	-1.697	-1.597
59	-2.542	-2.173	-2.546	-1.784	-1.755
60	-2.400	-2.039	-2.346	-1.607	-1.555
61	-2.459	-2.203	-2.495	-1.833	-1.725
62	-2.223	-1.964	-2.243	-1.790	-1.726
63	-2.754	-2.226	-2.923	-2.288	-2.493
64	-2.824	-2.399	-2.736	-2.343	-2.662
65	-2.235	-2.219	-1.904	-1.734	-2.452
66	-2.870	-2.551	-2.742	-2.380	-2.708
67	-1.230	-1.285	-1.226	-1.240	-1.307
68	-1.458	-1.428	-1.431	-1.446	-1.510
69	-.989	-1.076	-1.041	-1.159	-1.194
70	-.881	-.950	-.904	-1.051	-1.069
71	-.808	-.916	-.841	-1.058	-1.084
72	-.747	-.805	-.741	-.972	-.945
73	-.738	-.868	-.747	-1.034	-1.022
74	-.695	-.798	-.684	-.934	-.909
75	-.708	-.833	-.711	-.975	-.972
76	-.680	-.778	-.662	-.899	-.890
77	-.720	-.823	-.763	-1.013	-1.075
78	-.803	-.899	-.774	-1.036	-1.006
79	-.737	-.880	-.687	-.984	-.928
80	-.531	-.661	-.433	-.728	-.605
81	-.203	-.355	-.092	-.363	-.256
82	.127	-.004	.224	.014	.120
83	.493	.410	.605	.419	.518
84	.663	.612	.709	.615	.671

Figure 44 (continued) – Pressure Coefficients
$\alpha = 60°$, $\phi_j = 120°$, $\phi_b = 240°$, $C_\mu = .02$