

APÉNDICE B

TABLAS DE LOS RESULTADOS FLUIDINÁMICOS

B.1 Resultados Fluidinámicos 53 kPa y 120°C seco.

Lestático(cm)	7.5
H1 placa(cm)	68.7
H2 placa(cm)	68.6
H1 columna(cm)	43
H2 columna(cm)	35
Temperatura(°C)	120
Presión(Pa)	53000

Placa									
Medición	T[°C]	P _{abs} [Pa]	P _{man} [kg/cm ²]	P _{vacío} [cmHg]	ΔP _{placa} [Pa]	v [m ³ /kg]	μ [N*s/m ²]	v [m ² /s]	r
1	123	78656.78	0	1	7026.90	2.30	1.315E-05	3.03E-05	0.91
2	126	78656.78	0	1	6299.98	2.32	1.327E-05	3.08E-05	0.919
3	123	77323.56	0	2	5936.52	2.34	1.315E-05	3.083E-05	0.923
4	120	75990.34	0	3	5694.21	2.36	1.304E-05	3.086E-05	0.925
5	120	67991.02	0	9	4724.98	2.64	1.304E-05	3.454E-05	0.930
6	124	66657.8	0	10	4240.37	2.72	1.32E-05	3.602E-05	0.936
7	120	66657.8	0	10	3755.75	2.70	1.305E-05	3.524E-05	0.943
8	120	63991.36	0	12	3149.99	2.81	1.305E-05	3.672E-05	0.950
9	120	63991.36	0	12	2665.37	2.81	1.305E-05	3.672E-05	0.958
10	123	65324.58	0	11	2180.76	2.77	1.316E-05	3.656E-05	0.966
11	125	61324.92	0	14	1817.30	2.97	1.324E-05	3.94E-05	0.970
12	127	59991.7	0	15	1453.84	3.058	1.332E-05	4.073E-05	0.975
13	126	58658.48	0	16	1211.53	3.12	1.328E-05	4.144E-05	0.979
14	125	57325.26	0	17	848.07	3.18	1.324E-05	4.218E-05	0.985
15	123	57325.26	0	17	605.76	3.16	1.317E-05	4.172E-05	0.989

Columna					
Medición	T[°C]	P _{abs} [Pa]	ΔP _{placa} [Pa]	v [m ³ /kg]	ε
1	123	53000	1431.90	3.429	0.687
2	126	53000	1400.43	3.456	0.680
3	123	53000	1353.23	3.429	0.680
4	120	53000	1195.87	3.402	0.662
5	120	53000	1211.61	3.402	0.642
6	124	53000	1164.40	3.438	0.634
7	120	53000	849.70	3.402	0.615
8	120	53000	723.82	3.402	0.594
9	120	53000	519.26	3.402	0.583
10	123	53000	503.52	3.429	0.516
11	125	53000	409.11	3.447	0.464
12	127	53000	377.64	3.464	0.444
13	126	53000	298.96	3.456	0.230
14	125	53000	267.49	3.447	0.062
15	123	53000	204.55	3.429	0.0006

Resultados								
Medición	C _D	Y	m[kg/s]	Q[m ³ /s]	u[m/s]	ΔP _{dist} [Pa]	ΔP _{lecho} [Pa]	Re
1	0.626	0.968	0.0101	0.02335	3.78	886.44	545.46	59481.27
2	0.626	0.971	0.0095	0.02228	3.60	800.86	599.57	55832.68
3	0.626	0.972	0.0092	0.02176	3.46	743.92	609.30	54486.74
4	0.62	0.973	0.009	0.02143	3.35	702.35	493.52	53610.67
5	0.627	0.975	0.007	0.02072	2.89	524.33	687.28	46301.89
6	0.628	0.977	0.0068	0.01882	2.58	411.30	753.10	40323.72
7	0.628	0.979	0.0069	0.01877	2.57	413.35	436.34	41108.26
8	0.629	0.982	0.0062	0.01761	2.31	335.1	388.70	37008.46
9	0.629	0.985	0.0057	0.01625	2.13	285.57	233.69	34163.65
10	0.630	0.988	0.0052	0.01466	1.97	240.46	263.05	30959.70
11	0.631	0.989	0.0046	0.01389	1.75	189.08	220.03	27219.69
12	0.632	0.991	0.0040	0.01235	1.52	142.19	235.45	23407.81
13	0.632	0.992	0.0037	0.0116	1.40	121.98	176.98	21769.29
14	0.634	0.994	0.00311	0.0099	1.16	84.19	183.30	18160.50
15	0.635	0.996	0.00265	0.0084	0.98	60.60	143.95	15536.32

B.2 Resultados Fluidinámicos 53 kPa y 140°C seco.

Lestático(cm)	7.5
H1 placa(cm)	68.7
H2 placa(cm)	68.6
H1 columna(cm)	41.6
H2 columna(cm)	36.6
Temperatura(°C)	140
Presión(Pa)	53000

Placa									
Medición	T[°C]	P _{abs} [Pa]	P _{man} [kg/cm ²]	P _{vacío} [cmHg]	ΔP _{placa} [Pa]	v [m ³ /kg]	μ [N*s/m ²]	v [m ² /s]	r
1	140	79990	0	0	7390.36	2.366	1.38E-05	3.266E-05	0.907
2	140	78656.78	0	1	7269.21	2.406	1.38E-05	3.322E-05	0.907
3	144	77323.56	0	2	6663.44	2.472	1.396E-05	3.452E-05	0.913
4	144	74657.12	0	4	6057.67	2.561	1.396E-05	3.577E-05	0.918
5	142	70657.46	0	7	4724.98	2.69	1.389E-05	3.742E-05	0.933
6	144	69324.24	0	8	4240.37	2.76	1.396E-05	3.855E-05	0.938
7	146	66657.8	0	10	3876.91	2.88	1.404E-05	4.052E-05	0.941
8	144	65324.58	0	11	3149.99	2.9	1.397E-05	4.093E-05	0.951
9	142	63991.36	0	12	2786.53	2.97	1.389E-05	4.135E-05	0.956
10	142	62658.14	0	13	2059.60	3.04	1.389E-05	4.224E-05	0.967
11	145	61991.53	0	13.5	1696.14	3.09	1.401E-05	4.337E-05	0.972
12	147	61324.92	0	14	1453.84	3.14	1.409E-05	4.431E-05	0.976
13	148	59991.7	0	15	1211.53	3.22	1.413E-05	4.553E-05	0.979
14	147	59991.7	0	15	969.22	3.21	1.409E-05	4.53E-05	0.983
15	146	58658.48	0	16	605.76	3.28	1.405E-05	4.609E-05	0.989

Columna					
Medición	T[°C]	P _{abs} [Pa]	ΔP _{placa} [Pa]	v [m ³ /kg]	ε
1	140	53000	1542.053	3.580	0.716
2	140	53000	1479.112	3.580	0.705
3	144	53000	1384.701	3.615	0.693
4	144	53000	1148.672	3.615	0.666
5	142	53000	991.320	3.597	0.659
6	144	53000	928.379	3.615	0.651
7	146	53000	896.908	3.633	0.642
8	144	53000	818.232	3.615	0.583
9	142	53000	818.232	3.597	0.583
10	142	53000	629.40	3.597	0.482
11	145	53000	472.057	3.624	0.454
12	147	53000	361.910	3.642	0.375
13	148	53000	298.969	3.651	0.285
14	147	53000	267.499	3.642	0.166
15	146	53000	204.558	3.633	0.0006

Resultados								
Medición	C _D	Y	m[kg/s]	Q[m ³ /s]	u[m/s]	ΔP _{dist} [Pa]	ΔP _{lecho} [Pa]	Re
1	0.626	0.967	0.0102	0.0242	3.99	946.14	595.91	57300.29
2	0.626	0.967	0.0100	0.0242	3.927	915.23	563.88	56353.51
3	0.627	0.969	0.0095	0.0236	3.75	829.22	555.47	52780.70
4	0.627	0.971	0.0089	0.0229	3.52	731.13	417.53	49555.70
5	0.628	0.976	0.0077	0.0209	3.04	546.53	444.78	43184.17
6	0.628	0.978	0.0069	0.0192	2.74	442.68	485.69	38552.60
7	0.628	0.979	0.0068	0.0197	2.70	426.69	470.21	37544.88
8	0.629	0.982	0.0061	0.0179	2.41	342.87	475.35	33924.30
9	0.629	0.984	0.0057	0.0170	2.24	298.48	519.74	31905.43
10	0.631	0.988	0.0049	0.0149	1.92	218.42	410.98	27291.50
11	0.631	0.990	0.0044	0.0137	1.74	179.12	292.93	24419.04
12	0.632	0.991	0.0039	0.0125	1.57	145.28	216.62	21816.46
13	0.633	0.992	0.0036	0.0118	1.46	125.04	173.92	20158.98
14	0.634	0.994	0.0033	0.0106	1.31	100.61	166.88	18155.04
15	0.636	0.996	0.00260	0.0085	1.03	62.18	142.37	14328.50

B.3 Resultados Fluidinámicos 53 kPa y 160°C seco.

Lestático(cm)	8
H1 placa(cm)	68.7
H2 placa(cm)	68.6
H1 columna(cm)	39.5
H2 columna(cm)	37.1
Temperatura(°C)	160
Presión(Pa)	53000

Placa									
Medición	T[°C]	P _{abs} [Pa]	P _{man} [kg/cm ²]	P _{vacío} [cmHg]	ΔP _{placa} [Pa]	v [m ³ /kg]	μ [N*s/m ²]	v [m ² /s]	r
1	164	80970.67	0.01	0	7511.51	2.477	1.474E-05	3.652E-05	0.907
2	160	79990	0	0	7390.363	2.484	1.459E-05	3.623E-05	0.907
3	158	78656.78	0	1	6905.749	2.514	1.451E-05	3.648E-05	0.912
4	157	77323.56	0	2	6421.135	2.552	1.447E-05	3.693E-05	0.916
5	156	74657.12	0	4	5936.521	2.637	1.443E-05	3.806E-05	0.920
6	158	71990.68	0	6	5330.754	2.748	1.451E-05	3.989E-05	0.925
7	160	67991.02	0	9	4724.986	2.925	1.459E-05	4.268E-05	0.930
8	162	66657.8	0	10	4361.526	2.998	1.467E-05	4.399E-05	0.934
9	163	65324.58	0	11	3028.837	3.066	1.471E-05	4.512E-05	0.953
10	160	63991.36	0	12	3028.837	3.109	1.459E-05	4.537E-05	0.952
11	159	61324.92	0	14	2665.377	3.237	1.455E-05	4.712E-05	0.9567
12	158	61324.92	0	14	2301.916	3.229	1.452E-05	4.688E-05	0.962
13	159	58658.48	0	16	1817.302	3.388	1.456E-05	4.927E-05	0.969
14	160	53325.6	0	20	1332.688	3.734	1.46E-05	5.451E-05	0.975
15	162	53325.6	0	20	969.228	3.751	1.468E-05	5.506E-05	0.981

Columna					
Medición	T[°C]	P _{abs} [Pa]	ΔP _{columna} [Pa]	v [m ³ /kg]	ε
1	164	53000	1400.436	3.792	0.703
2	160	53000	1400.436	3.757	0.703
3	158	53000	1321.760	3.739	0.686
4	157	53000	1258.81	3.730	0.68
5	156	53000	1227.34	3.721	0.666
6	158	53000	1085.73	3.739	0.652
7	160	53000	928.379	3.757	0.627
8	162	53000	849.70	3.774	0.609
9	163	53000	708.08	3.783	0.542
10	160	53000	613.67	3.757	0.555
11	159	53000	597.93	3.748	0.529
12	158	53000	487.79	3.739	0.466
13	159	53000	456.32	3.748	0.448
14	160	53000	393.38	3.757	0.304
15	162	53000	251.76	3.77	0.0062

Resultados								
Medición	C _D	Y	m[kg/s]	Q[m ³ /s]	u[m/s]	ΔP _{dist} [Pa]	ΔP _{lecho} [Pa]	Re
1	0.627	0.967	0.0101	0.0250	4.16	973.94	426.48	52888.44
2	0.626	0.96	0.010	0.0248	4.09	946.88	453.55	52958.35
3	0.627	0.968	0.009	0.0242	3.92	873.40	448.35	51256.66
4	0.627	0.970	0.0092	0.0235	3.75	801.60	457.21	49294.02
5	0.627	0.971	0.0087	0.0230	3.54	717.89	509.45	46827.81
6	0.628	0.973	0.0076	0.0211	3.12	554.43	531.29	40829.53
7	0.628	0.975	0.0074	0.0218	3.04	525.54	402.83	39439.21
8	0.628	0.976	0.0070	0.0212	2.91	477.47	372.22	37301.34
9	0.630	0.983	0.00585	0.0180	2.42	330.71	377.37	30923.34
10	0.630	0.983	0.0058	0.0181	2.39	323.70	289.96	30949.02
11	0.630	0.984	0.0053	0.0174	2.19	274.18	323.75	28591.52
12	0.631	0.986	0.00493	0.0159	2.00	228.90	258.88	26225.69
13	0.632	0.988	0.00438	0.0148	1.78	181.28	275.03	23246.58
14	0.633	0.991	0.00359	0.0134	1.46	121.97	271.40	18991.71
15	0.635	0.993	0.00307	0.0115	1.26	89.56	162.19	16148.90

B.4 Resultados Fluidinámicos 53 kPa y 120°C húmedo.

Lestático(cm)	8
H1 placa(cm)	68.7
H2 placa(cm)	68.6
H1 columna(cm)	48.7
H2 columna(cm)	35.7
Temperatura(°C)	120
Presión(Pa)	53000
Humedad de entrada(%)	0.1412536
Humedad de salida(%)	0.0597609

Placa									
Medición	T[°C]	P _{abs} [Pa]	P _{man} [kg/cm ²]	P _{vacío} [cmHg]	ΔP _{placa} [Pa]	v [m ³ /kg]	μ [N*s/m ²]	v [m ² /s]	r
1	123	82932	0.03	0	7026.90	2.18	1.315E-05	2.872E-05	0.915
2	122	82932	0.03	0	6542.28	2.17	1.311E-05	2.856E-05	0.921
3	122	81951.33	0.02	0	6421.13	2.204	1.311E-05	2.891E-05	0.921
4	118	81951.33	0.02	0	6178.82	2.181	1.296E-05	2.827E-05	0.924
5	116	77323.56	0	2	5573.06	2.308	1.289E-05	2.965E-05	0.927
6	116	69324.24	0	8	4482.67	2.568	1.289E-05	3.312E-05	0.935
7	117	67991.02	0	9	4119.21	2.626	1.293E-05	3.397E-05	0.939
8	120	66657.8	0	10	3876.91	2.701	1.305E-05	3.524E-05	0.941
9	122	63991.36	0	12	3513.45	2.829	1.312E-05	3.713E-05	0.945
10	123	62658.14	0	13	3271.14	2.897	1.316E-05	3.814E-05	0.947
11	124	62658.14	0	13	2786.53	2.905	1.32E-05	3.835E-05	0.955
12	125	59991.7	0	15	2180.76	3.043	1.324E-05	4.029E-05	0.963
13	124	59991.7	0	15	1696.14	3.035	1.32E-05	4.007E-05	0.971
14	124	53325.6	0	20	1090.38	3.417	1.321E-05	4.513E-05	0.979
15	124	53325.6	0	20	242.30	3.417	1.321E-05	4.513E-05	0.995

Columna					
Medición	T[°C]	P _{abs} [Pa]	ΔP _{columna} [Pa]	v [m ³ /kg]	ε
1	123	53000	1856.75	3.429	0.746
2	122	53000	1825.28	3.420	0.737
3	122	53000	1793.81	3.420	0.709
4	118	53000	1683.67	3.384	0.692
5	116	53000	1368.96	3.366	0.686
6	116	53000	1195.87	3.366	0.666
7	117	53000	1022.79	3.375	0.644
8	120	53000	896.908	3.402	0.636
9	122	53000	881.17	3.420	0.632
10	123	53000	786.76	3.429	0.619
11	124	53000	692.35	3.438	0.6
12	125	53000	613.67	3.447	0.555
13	124	53000	566.46	3.438	0.542
14	124	53000	424.85	3.438	0.466
15	124	53000	283.23	3.438	0.006

Resultados								
Medición	C _D	Y	m[kg/s]	Q[m ³ /s]	u[m/s]	ΔP _{dist} [Pa]	ΔP _{lecho} [Pa]	Re
1	0.626	0.969	0.01042	0.0227	3.89	937.84	918.91	61194.26
2	0.626	0.971	0.0100	0.0219	3.75	877.33	947.95	59436.52
3	0.626	0.972	0.0099	0.0219	3.70	851.34	942.47	58546.52
4	0.626	0.973	0.0098	0.0214	3.61	821.14	862.52	58477.92
5	0.626	0.974	0.0090	0.0209	3.33	700.96	668.00	54476.59
6	0.627	0.977	0.0074	0.0190	2.72	468.16	727.70	44501.58
7	0.628	0.978	0.0073	0.0193	2.70	460.54	562.24	43947.67
8	0.628	0.979	0.0070	0.0190	2.61	426.01	470.89	41732.63
9	0.628	0.980	0.00657	0.0186	2.44	371.91	509.25	38661.56
10	0.629	0.981	0.0062	0.018	2.34	339.98	446.77	36807.85
11	0.629	0.984	0.0058	0.0168	2.17	291.71	400.63	33952.74
12	0.630	0.987	0.0049	0.0150	1.85	212.95	400.72	28884.83
13	0.631	0.989	0.0044	0.0135	1.67	172.94	393.52	26139.55
14	0.633	0.992	0.0034	0.0116	1.27	100.001	324.85	19870.17
15	0.641	0.998	0.0016	0.0055	0.61	23.028	260.20	9535.32

B.5 Resultados Fluidinámicos 53 kPa y 140°C húmedo.

Lestático(cm)	8
H1 placa(cm)	68.7
H2 placa(cm)	68.6
H1 columna(cm)	49
H2 columna(cm)	35.3
Temperatura(°C)	140
Presión(Pa)	53000
Humedad de entrada(%)	0.1452621
Humedad de salida(%)	0.0543894

Placa									
Medición	T[°C]	P _{abs} [Pa]	P _{man} [kg/cm ²]	P _{vacío} [cmHg]	ΔP _{placa} [Pa]	v [m ³ /kg]	μ [N*s/m ²]	v [m ² /s]	r
1	142	79990	0	0	7632.67	2.378	1.388E-05	3.301E-05	0.904
2	142	78656.78	0	1	7390.363	2.418	1.388E-05	3.358E-05	0.906
3	140	77323.56	0	2	7026.90	2.448	1.381E-05	3.38E-05	0.909
4	139	77323.56	0	2	5936.52	2.442	1.377E-05	3.362E-05	0.923
5	140	74657.12	0	4	5694.21	2.53	1.381E-05	3.502E-05	0.923
6	140	69324.24	0	8	4967.29	2.73	1.381E-05	3.774E-05	0.928
7	141	66657.8	0	10	4361.52	2.850	1.385E-05	3.947E-05	0.934
8	144	63991.36	0	12	3876.91	2.991	1.397E-05	4.179E-05	0.939
9	144	63991.36	0	12	3149.99	2.991	1.397E-05	4.179E-05	0.950
10	144	63991.36	0	12	2907.68	2.991	1.397E-05	4.179E-05	0.954
11	144	63324.75	0	12.5	1696.14	3.023	1.397E-05	4.223E-05	0.973
12	144	59991.7	0	15	1332.68	3.192	1.397E-05	4.46E-05	0.977
13	144	57325.26	0	17	969.228	3.341	1.397E-05	4.669E-05	0.983
14	144	53325.6	0	20	363.460	3.593	1.397E-05	5.021E-05	0.993

Columna					
Medición	T[°C]	P _{abs} [Pa]	ΔP _{columna} [Pa]	v [m ³ /kg]	ε
1	142	53000	2077.05	3.597	0.75
2	142	53000	1998.37	3.597	0.746
3	140	53000	1919.69	3.580	0.741
4	139	53000	1762.34	3.571	0.737
5	140	53000	1589.25	3.580	0.733
6	140	53000	1494.84	3.580	0.692
7	141	53000	1164.40	3.589	0.666
8	144	53000	1085.73	3.615	0.627
9	144	53000	1022.79	3.615	0.609
10	144	53000	959.84	3.615	0.542
11	144	53000	849.70	3.615	0.407
12	144	53000	755.29	3.615	0.272
13	144	53000	660.88	3.615	0.111
14	144	53000	550.73	3.615	0.030

Resultados								
Medición	C _D	Y	m[kg/s]	Q[m ³ /s]	u[m/s]	ΔP _{dist} [Pa]	ΔP _{lecho} [Pa]	Re
1	0.626	0.966	0.01037	0.0246	4.06	974.82	1102.22	57694.90
2	0.626	0.966	0.01013	0.0245	3.96	929.38	1068.98	56331.26
3	0.626	0.967	0.00983	0.0240	3.83	870.95	1048.74	54970.47
4	0.627	0.972	0.00910	0.0222	3.53	744.37	1017.96	51025.45
5	0.627	0.972	0.00875	0.0222	3.40	689.93	899.328	48920.28
6	0.628	0.974	0.00740	0.0202	2.88	493.60	1001.24	41369.71
7	0.628	0.976	0.00726	0.0207	2.83	476.83	687.57	40493.14
8	0.629	0.978	0.00670	0.0200	2.63	408.92	676.80	37046.02
9	0.629	0.982	0.0060	0.0181	2.39	335.66	687.12	33564.16
10	0.629	0.983	0.00584	0.0174	2.300	310.94	648.90	32304.53
11	0.631	0.990	0.00448	0.0135	1.76	183.01	666.69	24782.58
12	0.633	0.992	0.00378	0.0120	1.48	130.12	625.16	20894.56
13	0.634	0.993	0.00325	0.0108	1.27	96.104	564.75	17954.84
14	0.639	0.997	0.00194	0.0069	0.76	34.330	516.40	10729.60

B.6 Resultados Fluidinámicos 53 kPa y 120°C húmedo.

Lestático(cm)	9.5
H1 placa(cm)	68.7
H2 placa(cm)	68.6
H1 columna(cm)	48.7
H2 columna(cm)	35.9
Temperatura(°C)	160
Presión(Pa)	53000
Humedad de entrada(%)	0.2071572
Humedad de salida(%)	0.0453557

Placa									
Medición	T[°C]	P _{abs} [Pa]	P _{man} [kg/cm ²]	P _{vacio} [cmHg]	ΔP _{placa} [Pa]	v [m ³ /kg]	μ [N*s/m ²]	v [m ² /s]	r
1	157	82932	0.03	0	7269.21	2.378	1.447E-05	3.441E-05	0.912
2	157	81951.33	0.02	0	7026.90	2.40	1.447E-05	3.482E-05	0.914
3	158	80970.67	0.01	0	6784.59	2.44	1.451E-05	3.543E-05	0.916
4	158	78656.78	0	1	6299.98	2.51	1.451E-05	3.648E-05	0.919
5	157	77323.56	0	2	5573.06	2.55	1.447E-05	3.693E-05	0.927
6	158	74657.12	0	4	5330.75	2.65	1.451E-05	3.845E-05	0.928
7	160	69324.24	0	8	4603.83	2.86	1.459E-05	4.186E-05	0.933
8	161	65324.58	0	11	3998.06	3.05	1.463E-05	4.466E-05	0.938
9	163	66657.8	0	10	3392.29	3.00	1.471E-05	4.421E-05	0.949
10	165	65324.58	0	11	3149.99	3.08	1.479E-05	4.557E-05	0.951
11	164	61324.92	0	14	2423.07	3.27	1.475E-05	4.832E-05	0.960
12	163	58658.48	0	16	1817.30	3.41	1.471E-05	5.028E-05	0.969
13	162	58658.48	0	16	969.22	3.40	1.467E-05	5.003E-05	0.983
14	162	53325.6	0	20	726.92	3.75	1.468E-05	5.506E-05	0.986
15	160	51992.38	0	21	242.30	3.83	1.46E-05	5.591E-05	0.995

Columna					
Medición	T[°C]	P _{abs} [Pa]	ΔP _{columna} [Pa]	v [m ³ /kg]	ε
1	157	53000	1935.43	3.73	0.703
2	157	53000	1856.75	3.73	0.693
3	158	53000	1778.08	3.739	0.693
4	158	53000	1620.72	3.739	0.683
5	157	53000	1447.64	3.730	0.672
6	158	53000	1353.23	3.739	0.660
7	160	53000	1022.79	3.757	0.648
8	161	53000	944.11	3.765	0.654
9	163	53000	881.17	3.783	0.654
10	165	53000	818.23	3.801	0.648
11	164	53000	708.08	3.792	0.586
12	163	53000	645.14	3.783	0.536
13	162	53000	519.26	3.774	0.457
14	162	53000	409.11	3.774	0.296
15	160	53000	204.55	3.757	0.025

Resultados								
Medición	C _D	Y	m[kg/s]	Q[m ³ /s]	u[m/s]	ΔP _{dist} [Pa]	ΔP _{techo} [Pa]	Re
1	0.626	0.968	0.010	0.0241	4.12	968.89	966.53	54204.15
2	0.626	0.969	0.0099	0.0239	4.03	927.08	929.67	53020.02
3	0.627	0.970	0.0097	0.0237	3.94	885.97	892.10	51627.94
4	0.627	0.971	0.0092	0.0232	3.75	801.88	818.84	49113.06
5	0.627	0.974	0.0086	0.0220	3.51	702.13	745.50	46134.54
6	0.628	0.974	0.0077	0.0204	3.14	561.35	791.87	41087.17
7	0.628	0.976	0.0074	0.0213	3.04	523.35	499.43	39358.68
8	0.629	0.978	0.006	0.0205	2.76	430.62	513.49	35559.58
9	0.629	0.981	0.0062	0.0188	2.58	376.24	504.93	32984.64
10	0.630	0.982	0.0059	0.0184	2.47	343.39	474.83	31269.56
11	0.631	0.985	0.0051	0.0167	2.11	250.33	457.75	26797.84
12	0.632	0.988	0.0042	0.0146	1.76	174.13	471.01	22434.33
13	0.635	0.994	0.0032	0.0109	1.32	98.53	420.72	16941.11
14	0.636	0.995	0.0026	0.0100	1.09	67.68	341.42	14038.89
15	0.643	0.998	0.0015	0.0059	0.63	22.59	181.96	8173.23

B.7 Resultados Fluidinámicos 67 kPa y 120°C seco.

Lestático(cm)	11
H1 placa(cm)	68.7
H2 placa(cm)	68.6
H1 columna(cm)	59.5
H2 columna(cm)	34.4
Temperatura(°C)	120
Presión(Pa)	67000

Placa									
Medición	T[°C]	P _{abs} [Pa]	P _{man} [kg/cm ²]	P _{vacío} [cmHg]	ΔP _{placa} [Pa]	v [m ³ /kg]	μ [N*s/m ²]	v [m ² /s]	r
1	120	103526	0.24	0	3755.75	1.731	1.302E-05	2.254E-05	0.963
2	124	100584	0.21	0	3513.45	1.801	1.318E-05	2.374E-05	0.965
3	124	99603.3	0.2	0	3271.14	1.819	1.318E-05	2.398E-05	0.967
4	125	98622.64	0.19	0	2968.26	1.842	1.321E-05	2.435E-05	0.969
5	124	98622.64	0.19	0	2786.53	1.838	1.318E-05	2.422E-05	0.971
6	120	98132.3	0.185	0	2544.22	1.827	1.302E-05	2.381E-05	0.974
7	119	94209.64	0.145	0	2301.91	1.899	1.299E-05	2.467E-05	0.975
8	118	93719.31	0.14	0	2059.60	1.904	1.295E-05	2.467E-05	0.978
9	120	91757.98	0.12	0	1817.30	1.956	1.303E-05	2.549E-05	0.980
10	122	89796.65	0.1	0	1453.84	2.010	1.311E-05	2.635E-05	0.983
11	120	83912.66	0.04	0	726.92	2.141	1.303E-05	2.791E-05	0.991

Columna					
Medición	T[°C]	P _{abs} [Pa]	ΔP _{columna} [Pa]	v [m ³ /kg]	ε
1	120	67000	1022.79	2.685	0.584
2	124	67000	991.32	2.715	0.551
3	124	67000	928.37	2.715	0.531
4	125	67000	881.17	2.722	0.488
5	124	67000	857.57	2.715	0.5
6	120	67000	833.96	2.687	0.488
7	119	67000	723.82	2.680	0.463
8	118	67000	676.61	2.672	0.443
9	120	67000	660.88	2.687	0.421
10	122	67000	511.39	2.70	0.266
11	120	67000	204.55	2.685	0.214

Resultados								
Medición	C _D	Y	m[kg/s]	Q[m ³ /s]	u[m/s]	ΔP _{dist} [Pa]	ΔP _{lecho} [Pa]	Re
1	0.627	0.987	0.00872	0.0151	2.55	514.6	508.18	51711.43
2	0.627	0.987	0.00828	0.0149	2.44	468.42	522.89	48502.41
3	0.627	0.988	0.00795	0.0144	2.35	432.76	495.61	46617.56
4	0.627	0.989	0.00754	0.0139	2.23	389.92	491.24	44062.53
5	0.628	0.989	0.00732	0.0134	2.16	366.73	490.83	42911.80
6	0.628	0.990	0.00668	0.0122	1.95	302.43	531.52	39632.26
7	0.628	0.991	0.00656	0.0124	1.91	290.62	433.19	39007.64
8	0.629	0.992	0.00621	0.0118	1.80	259.39	417.22	37008.54
9	0.629	0.992	0.00576	0.0112	1.68	224.72	436.15	34151.99
10	0.630	0.994	0.0051	0.0102	1.49	176.82	334.57	30036.00
11	0.633	0.996	0.00352	0.0075	1.02	83.747	120.81	20840.01

B.8 Resultados Fluidinámicos 67 kPa y 140°C seco.

Lestático(cm)	8
H1 placa(cm)	68.7
H2 placa(cm)	68.6
H1 columna(cm)	40.5
H2 columna(cm)	36.6
Temperatura(°C)	140
Presión(Pa)	67000

Placa									
Medición	T[°C]	P _{abs} [Pa]	P _{man} [kg/cm ²]	P _{vacío} [cmHg]	ΔP _{placa} [Pa]	v [m ³ /kg]	μ [N*s/m ²]	v [m ² /s]	r
1	142	85873.99	0.06	0	6421.13	2.213	1.388E-05	3.072E-05	0.925
2	144	83912.66	0.04	0	5815.36	2.27	1.396E-05	3.178E-05	0.930
3	146	83912.66	0.04	0	5573.06	2.288	1.403E-05	3.212E-05	0.933
4	148	83912.66	0.04	0	5330.75	2.299	1.411E-05	3.246E-05	0.936
5	148	84893.33	0.05	0	4846.14	2.273	1.411E-05	3.208E-05	0.942
6	147	82932	0.03	0	4482.67	2.321	1.407E-05	3.268E-05	0.945
7	146	82932	0.03	0	4240.37	2.315	1.404E-05	3.25E-05	0.948
8	144	82932	0.03	0	3998.06	2.304	1.396E-05	3.216E-05	0.951
9	144	81951.33	0.02	0	3634.60	2.332	1.396E-05	3.255E-05	0.955
10	146	79990	0	0	3149.99	2.401	1.404E-05	3.371E-05	0.960
11	148	74657.12	0	4	2301.91	2.587	1.412E-05	3.652E-05	0.969
12	148	69324.24	0	8	1453.84	2.787	1.412E-05	3.936E-05	0.979
13	147	70657.46	0	7	1211.53	2.727	1.408E-05	3.841E-05	0.982
14	145	67991.02	0	9	848.07	2.821	1.4E-05	3.951E-05	0.987
15	144	66657.8	0	10	605.76	2.871	1.397E-05	4.01E-05	0.990

Columna					
Medición	T[°C]	P _{abs} [Pa]	ΔP _{columna} [Pa]	v [m ³ /kg]	ε
1	142	67000	1148.67	2.842	0.698
2	144	67000	1101.46	2.856	0.68
3	146	67000	1085.731	2.870	0.666
4	148	67000	975.58	2.884	0.666
5	148	67000	865.43	2.884	0.659
6	147	67000	833.96	2.877	0.659
7	146	67000	755.29	2.870	0.652
8	144	67000	739.55	2.856	0.644
9	144	67000	676.61	2.856	0.609
10	146	67000	613.67	2.870	0.5897
11	148	67000	550.73	2.884	0.578
12	148	67000	503.52	2.884	0.407
13	147	67000	424.85	2.877	0.36
14	145	67000	330.44	2.863	0.238
15	144	67000	141.61	2.856	0.0062

Resultados								
Medición	C _D	Y	m[kg/s]	Q[m ³ /s]	u[m/s]	ΔP _{dist} [Pa]	ΔP _{lecho} [Pa]	Re
1	0.626	0.973	0.0099	0.0220	3.07	707.02	441.64	55292.80
2	0.627	0.975	0.0093	0.0213	2.90	628.75	472.70	51720.29
3	0.627	0.976	0.0091	0.0209	2.85	604.09	481.63	50290.72
4	0.627	0.977	0.0089	0.0205	2.80	579.31	396.27	48856.62
5	0.627	0.979	0.0085	0.0195	2.69	535.70	329.72	46983.72
6	0.628	0.980	0.0079	0.0184	2.49	459.45	374.51	43682.13
7	0.628	0.981	0.0079	0.0184	2.49	460.38	294.90	43901.81
8	0.628	0.982	0.0077	0.0179	2.41	435.17	304.38	43026.29
9	0.628	0.984	0.0073	0.0172	2.29	392.36	284.24	40853.90
10	0.628	0.986	0.0067	0.0163	2.12	333.61	280.06	37367.43
11	0.630	0.989	0.0056	0.0145	1.76	229.75	320.97	30757.86
12	0.632	0.992	0.0042	0.0118	1.33	131.32	372.20	23249.04
13	0.632	0.993	0.0040	0.0109	1.25	116.45	308.39	21982.41
14	0.634	0.995	0.0033	0.0093	1.03	79.08	251.35	18258.48
15	0.635	0.996	0.0027	0.0080	0.86	55.79	85.82	15396.29

B.9 Resultados Fluidinámicos 67 kPa y 160°C seco.

Lestático(cm)	9
H1 placa(cm)	68.7
H2 placa(cm)	68.6
H1 columna(cm)	60.3
H2 columna(cm)	34.5
Temperatura(°C)	160
Presión(Pa)	67000

Placa									
Medición	T[°C]	P _{abs} [Pa]	P _{man} [kg/cm ²]	P _{vacío} [cmHg]	ΔP _{placa} [Pa]	v [m ³ /kg]	μ [N*s/m ²]	v [m ² /s]	r
1	168	94699.98	0.15	0	5209.60	2.135	1.49E-05	3.182E-05	0.944
2	168	93719.31	0.14	0	4846.14	2.158	1.49E-05	3.215E-05	0.948
3	168	91757.98	0.12	0	4482.67	2.204	1.49E-05	3.285E-05	0.951
4	165	89796.65	0.1	0	4482.67	2.237	1.478E-05	3.307E-05	0.950
5	158	88815.99	0.09	0	3876.91	2.225	1.45E-05	3.227E-05	0.956
6	157	83912.66	0.04	0	3513.45	2.350	1.447E-05	3.4E-05	0.958
7	157	80970.67	0.01	0	3028.83	2.436	1.447E-05	3.525E-05	0.962
8	158	80480.33	0.005	0	2786.53	2.457	1.451E-05	3.565E-05	0.965
9	160	79323.39	0	0.5	2423.07	2.505	1.459E-05	3.654E-05	0.969
10	164	78656.78	0	1	2059.60	2.550	1.474E-05	3.761E-05	0.973
11	168	77323.56	0	2	1817.30	2.619	1.49E-05	3.903E-05	0.976
12	166	76656.95	0	2.5	1574.99	2.629	1.482E-05	3.898E-05	0.979
13	165	74657.12	0	4	1211.53	2.694	1.479E-05	3.984E-05	0.983
14	164	71990.68	0	6	726.92	2.788	1.475E-05	4.112E-05	0.989
15	166	69324.24	0	8	484.61	2.909	1.483E-05	4.314E-05	0.993

Columna					
Medición	T[°C]	P _{abs} [Pa]	ΔP _{columna} [Pa]	v [m ³ /kg]	ε
1	168	67000	1793.81	3.024	0.672
2	168	67000	1611.28	3.024	0.672
3	168	67000	1573.52	3.024	0.660
4	165	67000	1526.31	3.003	0.653
5	158	67000	1463.37	2.954	0.633
6	157	67000	1101.46	2.947	0.617
7	157	67000	1007.05	2.947	0.6
8	158	67000	975.58	2.954	0.576
9	160	67000	849.70	2.96	0.555
10	164	67000	786.762	2.996	0.544
11	168	67000	676.61	3.024	0.538
12	166	67000	645.14	3.010	0.5
13	165	67000	487.79	3.003	0.357
14	164	67000	283.23	2.996	0.121
15	166	67000	204.55	3.010	0.0109

Resultados								
Medición	C _D	Y	m[kg/s]	Q[m ³ /s]	u[m/s]	ΔP _{dist} [Pa]	ΔP _{lecho} [Pa]	Re
1	0.627	0.980	0.0091	0.0196	3.02	643.47	1150.33	47641.92
2	0.627	0.981	0.0088	0.0190	2.90	594.18	1017.10	45779.34
3	0.628	0.982	0.0084	0.0185	2.77	539.62	1033.90	43624.54
4	0.628	0.982	0.0083	0.0186	2.73	527.63	998.68	43633.48
5	0.628	0.984	0.0078	0.0173	2.51	453.81	1009.55	41577.42
6	0.629	0.985	0.0067	0.0158	2.16	336.23	765.235	35922.18
7	0.629	0.986	0.0066	0.0161	2.12	325.52	681.53	35342.01
8	0.629	0.987	0.0063	0.0155	2.03	298.53	677.048	33713.10
9	0.630	0.989	0.0058	0.0146	1.89	257.03	592.665	31038.73
10	0.630	0.990	0.005	0.0137	1.75	217.78	568.98	28131.51
11	0.631	0.991	0.0049	0.0130	1.64	189.61	487.00	25849.13
12	0.632	0.992	0.0045	0.0120	1.50	159.55	485.58	23893.59
13	0.633	0.994	0.0040	0.0108	1.32	123.29	364.49	21083.10
14	0.635	0.996	0.0030	0.0086	1.00	72.17	211.06	16191.08
15	0.637	0.997	0.0024	0.0072	0.81	46.760	157.79	12932.12

B.10 Resultados Fluidinámicos 67 kPa y 120°C húmedo.

Lestático(cm)	9.5
H1 placa(cm)	68.7
H2 placa(cm)	68.6
H1 columna(cm)	46.4
H2 columna(cm)	38.3
Temperatura(°C)	120
Presión(Pa)	67000
Humedad de entrada(%)	0.1653
Humedad de salida(%)	0.03256

Placa									
Medición	T[°C]	P _{abs} [Pa]	P _{man} [kg/cm ²]	P _{vacío} [cmHg]	ΔP _{placa} [Pa]	v [m ³ /kg]	μ [N*s/m ²]	v [m ² /s]	r
1	124	83912.66	0.04	0	5209.60	2.164	1.319E-05	2.853E-05	0.937
2	124	82932	0.03	0	4967.29	2.189	1.319E-05	2.888E-05	0.940
3	123	81951.33	0.02	0	4482.67	2.210	1.315E-05	2.907E-05	0.945
4	123	79990	0	0	4119.29	2.265	1.315E-05	2.979E-05	0.948
5	122	77323.56	0	2	3755.75	2.337	1.311E-05	3.066E-05	0.951
6	122	75990.34	0	3	3271.14	2.379	1.312E-05	3.12E-05	0.956
7	123	74657.12	0	4	3149.99	2.428	1.315E-05	3.194E-05	0.957
8	124	74657.12	0	4	2786.53	2.434	1.319E-05	3.212E-05	0.962
9	125	73323.9	0	5	2301.91	2.486	1.323E-05	3.289E-05	0.968
10	126	71990.68	0	6	2423.07	2.539	1.327E-05	3.369E-05	0.966
11	124	67991.02	0	9	1696.14	2.675	1.32E-05	3.531E-05	0.975
12	125	66657.8	0	10	1453.84	2.73	1.324E-05	3.622E-05	0.978
13	127	69324.24	0	8	1090.38	2.649	1.331E-05	3.52E-05	0.984
14	126	66657.8	0	10	848.07	2.743	1.327E-05	3.642E-05	0.987
15	126	66657.8	0	10	484.61	2.743	1.327E-05	3.642E-05	0.992

Columna					
Medición	T[°C]	P _{abs} [Pa]	ΔP _{columna} [Pa]	v [m ³ /kg]	ε
1	124	67000	1306.024	2.715	0.660
2	124	67000	1258.81	2.715	0.623
3	123	67000	1195.878	2.708	0.61
4	123	67000	1069.99	2.708	0.595
5	122	67000	1007.05	2.701	0.595
6	122	67000	912.64	2.701	0.595
7	123	67000	865.43	2.708	0.568
8	124	67000	833.96	2.715	0.486
9	125	67000	739.55	2.72	0.457
10	126	67000	708.08	2.729	0.457
11	124	67000	566.46	2.715	0.387
12	125	67000	519.26	2.722	0.296
13	127	67000	503.52	2.736	0.136
14	126	67000	424.85	2.729	0.025
15	126	67000	330.44	2.729	0.025

Resultados								
Medición	C _D	Y	m[kg/s]	Q[m ³ /s]	u[m/s]	ΔP _{dist} [Pa]	ΔP _{lecho} [Pa]	Re
1	0.626	0.977	0.0091	0.0197	2.69	566.17	739.84	53280.33
2	0.627	0.978	0.0088	0.0193	2.61	534.57	724.24	51769.66
3	0.627	0.980	0.0083	0.0185	2.47	478.88	716.98	49202.82
4	0.627	0.981	0.0079	0.0180	2.34	430.82	639.17	46663.85
5	0.627	0.982	0.0074	0.0175	2.20	380.80	626.25	44050.26
6	0.628	0.984	0.0068	0.0162	2.00	315.6	597.01	40101.45
7	0.628	0.985	0.0067	0.0163	1.98	310.30	555.12	39592.43
8	0.629	0.986	0.0063	0.0154	1.87	275.80	558.16	37170.10
9	0.629	0.988	0.0057	0.0142	1.69	225.17	514.38	33442.99
10	0.629	0.988	0.0058	0.0147	1.72	232.24	475.84	33820.44
11	0.630	0.991	0.0047	0.0127	1.40	155.08	411.38	27863.79
12	0.631	0.992	0.0043	0.0117	1.27	127.16	392.094	25124.52
13	0.63	0.994	0.0038	0.0102	1.15	102.88	400.64	22413.58
14	0.633	0.995	0.0033	0.0092	0.99	77.36	347.48	19515.27
15	0.636	0.997	0.0025	0.0070	0.75	44.71	285.69	14840.62

B.11 Resultados Fluidinámicos 67 kPa y 140°C húmedo.

Lestático(cm)	8
H1 placa(cm)	68.7
H2 placa(cm)	68.7
H1 columna(cm)	46.3
H2 columna(cm)	38.3
Temperatura(°C)	140
Presión(Pa)	67000
Humedad de entrada(%)	0.1255704
Humedad de salida(%)	0.04567

Placa									
Medición	T[°C]	P _{abs} [Pa]	P _{man} [kg/cm ²]	P _{vacío} [cmHg]	ΔP _{placa} [Pa]	v [m ³ /kg]	μ [N*s/m ²]	v [m ² /s]	r
1	140	83912.66	0.04	0	5209.60	2.254	1.38E-05	3.112E-05	0.937
2	140	80970.67	0.01	0	4846.14	2.337	1.38E-05	3.226E-05	0.940
3	142	79990	0	0	4603.83	2.378	1.388E-05	3.301E-05	0.942
4	143	78656.78	0	1	3998.065	2.424	1.392E-05	3.375E-05	0.949
5	144	78656.78	0	1	3634.60	2.430	1.396E-05	3.393E-05	0.953
6	144	77323.56	0	2	3392.29	2.472	1.396E-05	3.452E-05	0.956
7	143	74657.12	0	4	2907.68	2.555	1.392E-05	3.558E-05	0.961
8	145	73323.9	0	5	2544.22	2.615	1.4E-05	3.662E-05	0.965
9	144	70657.46	0	7	2059.60	2.707	1.396E-05	3.781E-05	0.970
10	145	69324.24	0	8	1817.30	2.767	1.4E-05	3.875E-05	0.973
11	145	66657.8	0	10	1211.53	2.878	1.4E-05	4.031E-05	0.981
12	145	65324.58	0	11	969.22	2.937	1.401E-05	4.114E-05	0.985
13	145	63991.36	0	12	726.92	2.999	1.401E-05	4.201E-05	0.988
14	144	62658.14	0	13	484.61	3.055	1.397E-05	4.268E-05	0.992
15	143	62658.14	0	13	242.30	3.048	1.393E-05	4.246E-05	0.996

Columna					
Medición	T[°C]	P _{abs} [Pa]	ΔP _{columna} [Pa]	v [m ³ /kg]	ε
1	140	67000	1368.96	2.828	0.724
2	140	67000	1274.55	2.828	0.698
3	142	67000	1148.67	2.842	0.686
4	143	67000	1022.7	2.849	0.68
5	144	67000	944.11	2.856	0.555
6	144	67000	928.37	2.85	0.555
7	143	67000	818.23	2.849	0.515
8	145	67000	723.82	2.863	0.448
9	144	67000	660.88	2.856	0.407
10	145	67000	566.46	2.863	0.333
11	145	67000	487.79	2.863	0.304
12	145	67000	409.11	2.863	0.179
13	145	67000	298.96	2.863	0.085
14	144	67000	220.29	2.856	0.030
15	143	67000	157.35	2.849	0.0006

Resultados								
Medición	C _D	Y	m[kg/s]	Q[m ³ /s]	u[m/s]	ΔP _{dist} [Pa]	ΔP _{lecho} [Pa]	Re
1	0.627	0.977	0.0089	0.020	2.74	566.61	802.35	49896.89
2	0.627	0.978	0.0084	0.019	2.60	509.75	764.80	47321.53
3	0.627	0.979	0.0081	0.019	2.53	479.46	669.20	45522.93
4	0.628	0.981	0.0075	0.018	2.35	411.98	610.80	42025.99
5	0.628	0.983	0.0072	0.017	2.24	376.12	567.98	39994.54
6	0.629	0.984	0.0064	0.015	1.99	296.95	631.42	35534.95
7	0.629	0.986	0.0063	0.016	1.96	287.73	530.49	35116.36
8	0.629	0.987	0.0058	0.015	1.82	248.41	475.40	32366.43
9	0.630	0.989	0.0052	0.014	1.61	195.01	465.86	28789.48
10	0.631	0.990	0.0048	0.013	1.5	169.44	397.02	26727.40
11	0.632	0.993	0.0039	0.011	1.21	109.80	377.98	21513.61
12	0.634	0.994	0.0034	0.010	1.06	83.70	325.41	18782.28
13	0.635	0.995	0.0029	0.008	0.92	64.05	234.94	16425.81
14	0.637	0.997	0.0024	0.007	0.75	42.16	178.12	13383.47
15	0.641	0.998	0.0017	0.005	0.53	21.402	135.94	9572.98

B.12 Resultados Fluidinámicos 67 kPa y 160°C húmedo.

Lestático(cm)	9
H1 placa(cm)	68.7
H2 placa(cm)	68.6
H1 columna(cm)	47
H2 columna(cm)	37.2
Temperatura(°C)	160
Presión(Pa)	67000
Humedad de entrada(%)	0.1547722
Humedad de salida(%)	0.0209817

Placa									
Medición	T[°C]	P _{abs} [Pa]	P _{man} [kg/cm ²]	P _{vacío} [cmHg]	ΔP _{placa} [Pa]	v [m ³ /kg]	μ [N*s/m ²]	v [m ² /s]	r
1	160	91757.98	0.12	0	6178.82	2.16	1.458E-05	3.155E-05	0.932
2	157	90777.32	0.11	0	5936.52	2.17	1.446E-05	3.141E-05	0.934
3	155	89796.65	0.1	0	5694.21	2.18	1.438E-05	3.143E-05	0.936
4	154	85873.99	0.06	0	5451.90	2.28	1.435E-05	3.271E-05	0.936
5	157	82932	0.03	0	5209.60	2.37	1.447E-05	3.441E-05	0.937
6	160	80970.67	0.01	0	4482.67	2.45	1.459E-05	3.579E-05	0.944
7	162	79990	0	0	3876.91	2.49	1.466E-05	3.66E-05	0.951
8	163	78656.78	0	1	3513.45	2.54	1.47E-05	3.742E-05	0.955
9	163	75990.34	0	3	2907.68	2.63	1.471E-05	3.874E-05	0.961
10	162	73323.9	0	5	1574.99	2.72	1.467E-05	3.996E-05	0.978
11	160	70657.46	0	7	1211.53	2.81	1.459E-05	4.106E-05	0.982
12	160	67991.02	0	9	726.92	2.92	1.459E-05	4.268E-05	0.989
13	162	66657.8	0	10	363.46	2.99	1.467E-05	4.399E-05	0.994
14	162	65991.19	0	10.5	121.15	3.02	1.467E-05	4.443E-05	0.998

Columna					
Medición	T[°C]	P _{abs} [Pa]	ΔP _{columna} [Pa]	v [m ³ /kg]	ε
1	160	67000	1542.05	2.96	0.694
2	157	67000	1510.58	2.94	0.689
3	155	67000	1447.64	2.93	0.678
4	154	67000	1306.02	2.92	0.672
5	157	67000	1148.67	2.94	0.666
6	160	67000	1038.52	2.96	0.64
7	162	67000	786.76	2.98	0.625
8	163	67000	755.29	2.98	0.590
9	163	67000	660.88	2.98	0.513
10	162	67000	550.73	2.98	0.454
11	160	67000	487.79	2.968	0.454
12	160	67000	361.91	2.968	0.28
13	162	67000	251.76	2.982	0.217
14	162	67000	157.35	2.982	0.005

Resultados								
Medición	C _D	Y	m[kg/s]	Q[m ³ /s]	u[m/s]	ΔP _{dist} [Pa]	ΔP _{lecho} [Pa]	Re
1	0.627	0.976	0.0098	0.021	3.19	731.66	810.38	52387.78
2	0.627	0.976	0.0096	0.021	3.10	696.58	814.00	51716.07
3	0.627	0.977	0.0094	0.020	3.02	662.05	785.58	50813.27
4	0.627	0.977	0.0090	0.020	2.89	606.39	699.63	48815.45
5	0.627	0.977	0.0086	0.020	2.78	560.20	588.46	46366.56
6	0.628	0.980	0.0074	0.018	2.39	410.43	628.08	39223.93
7	0.628	0.982	0.0073	0.018	2.39	407.54	379.21	38782.67
8	0.629	0.984	0.0069	0.017	2.26	364.56	390.72	36537.98
9	0.629	0.986	0.0062	0.016	2.03	293.42	367.45	32777.14
10	0.632	0.992	0.0045	0.012	1.48	156.29	394.43	24012.58
11	0.633	0.993	0.0039	0.011	1.27	116.60	371.18	20900.27
12	0.635	0.996	0.0029	0.008	0.95	65.454	296.45	15657.54
13	0.639	0.998	0.0021	0.006	0.69	33.925	217.83	11185.00
14	0.646	0.999	0.0012	0.003	0.39	11.275	146.07	6448.22

B.13 Resultados Fluidinámicos 80 kPa y 120°C seco.

Lestático(cm)	11
H1 placa(cm)	68.7
H2 placa(cm)	68.6
H1 columna(cm)	59.4
H2 columna(cm)	34.3
Temperatura(°C)	120
Presión(Pa)	80000

Placa									
Medición	T[°C]	P _{abs} [Pa]	P _{man} [kg/cm ²]	P _{vacío} [cmHg]	ΔP _{placa} [Pa]	v [m ³ /kg]	μ [N*s/m ²]	v [m ² /s]	r
1	120	103526	0.24	0	3755.75	1.73	1.302E-05	2.254E-05	0.963
2	124	100584	0.21	0	3513.45	1.80	1.318E-05	2.374E-05	0.965
3	124	99603.3	0.2	0	3271.14	1.81	1.318E-05	2.398E-05	0.967
4	125	98622.64	0.19	0	2968.26	1.84	1.321E-05	2.435E-05	0.969
5	124	98622.64	0.19	0	2786.53	1.83	1.318E-05	2.422E-05	0.971
6	120	98132.3	0.185	0	2544.22	1.82	1.302E-05	2.381E-05	0.974
7	119	94209.64	0.145	0	2301.91	1.89	1.299E-05	2.467E-05	0.975
8	118	93719.31	0.14	0	2059.60	1.90	1.295E-05	2.467E-05	0.978
9	120	91757.98	0.12	0	1817.30	1.95	1.303E-05	2.549E-05	0.980
10	122	89796.65	0.1	0	1453.84	2.01	1.311E-05	2.635E-05	0.983
11	120	83912.66	0.04	0	726.92	2.14	1.303E-05	2.791E-05	0.991

Columna					
Medición	T[°C]	P _{abs} [Pa]	ΔP _{columna} [Pa]	v [m ³ /kg]	ε
1	120	80000	1022.7906	2.247004777	0.58490566
2	124	80000	991.32012	2.270875059	0.55102041
3	124	80000	928.37916	2.270875059	0.53191489
4	125	80000	881.17344	2.276835121	0.48837209
5	124	80000	857.57058	2.270875059	0.5
6	120	80000	833.96772	2.247004777	0.48837209
7	119	80000	723.82104	2.241029369	0.46341463
8	118	80000	676.61532	2.235050688	0.44303797
9	120	80000	660.88008	2.247004777	0.42105263
10	122	80000	511.3953	2.258946053	0.26666667
11	120	80000	204.55812	2.247004777	0.21428571

Resultados								
Medición	C _D	Y	m[kg/s]	Q[m ³ /s]	u[m/s]	ΔP _{dist} [Pa]	ΔP _{techo} [Pa]	Re
1	0.627	0.987	0.0087	0.0151	2.13	430.30	592.48	51711.43
2	0.627	0.987	0.0082	0.0149	2.04	391.72	599.59	48502.41
3	0.627	0.988	0.0079	0.0144	1.96	361.90	566.47	46617.56
4	0.627	0.989	0.0075	0.0139	1.86	326.08	555.08	44062.53
5	0.628	0.989	0.0073	0.0134	1.81	306.68	550.88	42911.80
6	0.628	0.990	0.0066	0.0122	1.63	252.89	581.07	39632.26
7	0.628	0.991	0.0065	0.0124	1.60	243.01	480.80	39007.64
8	0.629	0.992	0.0062	0.0118	1.51	216.89	459.71	37008.54
9	0.629	0.992	0.0057	0.0112	1.40	187.91	472.96	34151.99
10	0.630	0.994	0.005	0.0102	1.25	147.86	363.53	30036.00
11	0.633	0.996	0.003	0.00753	0.86	70.029	134.52	20840.01

B.14 Resultados Fluidinámicos 80 kPa y 140°C seco.

Lestático(cm)	11
H1 placa(cm)	68.7
H2 placa(cm)	68.6
H1 columna(cm)	59.7
H2 columna(cm)	33.8
Temperatura(°C)	140
Presión(Pa)	80000

Placa									
Medición	T[°C]	P _{abs} [Pa]	P _{man} [kg/cm ²]	P _{vacío} [cmHg]	ΔP _{placa} [Pa]	v [m ³ /kg]	μ [N*s/m ²]	v [m ² /s]	r
1	140	100584	0.21	0	4361.52	1.87806	1.379E-05	2.59E-05	0.956
2	140	100584	0.21	0	4240.37	1.87806	1.379E-05	2.59E-05	0.957
3	141	99603.3	0.2	0	4119.21	1.9015161	1.383E-05	2.63E-05	0.958
4	144	99603.3	0.2	0	3876.91	1.915864	1.395E-05	2.672E-05	0.961
5	144	98622.64	0.19	0	3392.29	1.9350883	1.395E-05	2.699E-05	0.965
6	136	95680.64	0.16	0	2786.53	1.9553038	1.364E-05	2.667E-05	0.970
7	137	93719.31	0.14	0	2665.37	2.001702	1.368E-05	2.738E-05	0.971
8	137	89796.65	0.1	0	2301.91	2.0899537	1.368E-05	2.859E-05	0.974
9	139	89796.65	0.1	0	2059.60	2.1005485	1.376E-05	2.89E-05	0.977
10	140	88815.99	0.09	0	1574.99	2.1292932	1.38E-05	2.938E-05	0.982
11	142	88325.65	0.085	0	1211.53	2.1519664	1.388E-05	2.986E-05	0.986
12	144	87835.32	0.08	0	969.22	2.1748808	1.395E-05	3.035E-05	0.988
13	146	82932	0.03	0	484.61	2.3159106	1.404E-05	3.25E-05	0.994

Columna					
Medición	T[°C]	P _{abs} [Pa]	ΔP _{columna} [Pa]	v [m ³ /kg]	ε
1	140	80000	1243.08	2.365	0.576
2	140	80000	1180.14	2.365	0.568
3	141	80000	1132.93	2.371	0.56
4	144	80000	1069.99	2.389	0.531
5	144	80000	1030.65	2.389	0.521
6	136	80000	802.49	2.342	0.5
7	137	80000	755.29	2.348	0.476
8	137	80000	692.35	2.348	0.45
9	139	80000	613.67	2.359	0.405
10	140	80000	487.79	2.365	0.343
11	142	80000	503.52	2.377	0.290
12	144	80000	393.38	2.389	0.241
13	146	80000	204.55	2.401	0.102

Resultados								
Medición	C _D	Y	m[kg/s]	Q[m ³ /s]	u[m/s]	ΔP _{dist} [Pa]	ΔP _{lecho} [Pa]	Re
1	0.627	0.984	0.0090	0.0169	2.31	482.81	760.27	50394.43
2	0.627	0.985	0.0088	0.0166	2.28	469.91	710.22	49716.90
3	0.627	0.985	0.0087	0.0165	2.24	452.42	680.50	48583.24
4	0.627	0.986	0.0084	0.0161	2.19	426.84	643.15	46620.18
5	0.628	0.987	0.0078	0.0152	2.04	371.44	659.21	43488.30
6	0.628	0.989	0.0069	0.0135	1.77	284.71	517.77	39328.92
7	0.628	0.989	0.0068	0.0137	1.75	279.03	476.25	38772.12
8	0.629	0.990	0.0062	0.0130	1.60	231.70	460.64	35325.09
9	0.629	0.991	0.0059	0.0124	1.52	207.97	405.69	33195.49
10	0.630	0.99	0.0051	0.0109	1.32	158.35	329.43	28847.31
11	0.631	0.995	0.0045	0.0097	1.16	121.87	381.65	25102.33
12	0.632	0.996	0.0039	0.0086	1.03	95.22	298.15	22009.71
13	0.636	0.997	0.0027	0.0064	0.72	46.68	157.91	15277.35

B.15 Resultados Fluidinámicos 80 kPa y 160°C seco.

Lestático(cm)	11
H1 placa(cm)	68.7
H2 placa(cm)	68.6
H1 columna(cm)	59.7
H2 columna(cm)	34.5
Temperatura(°C)	160
Presión(Pa)	80000

Placa									
Medición	T[°C]	P _{abs} [Pa]	P _{man} [kg/cm ²]	P _{vacio} [cmHg]	ΔP _{placa} [Pa]	v [m ³ /kg]	μ [N*s/m ²]	v [m ² /s]	r
1	160	101564.6	0.22	0	3392.29	1.953	1.458E-05	2.847E-05	0.966
2	164	100584	0.21	0	3149.99	1.991	1.473E-05	2.934E-05	0.968
3	164	98622.64	0.19	0	2786.53	2.031	1.474E-05	2.993E-05	0.971
4	166	94699.98	0.15	0	2301.91	2.125	1.482E-05	3.15E-05	0.975
5	164	94699.98	0.15	0	2059.60	2.115	1.474E-05	3.118E-05	0.978
6	166	89796.65	0.1	0	1696.14	2.242	1.482E-05	3.324E-05	0.981
7	166	89306.32	0.095	0	1211.53	2.255	1.482E-05	3.342E-05	0.986
8	164	85873.99	0.06	0	969.22	2.334	1.474E-05	3.442E-05	0.988
9	164	83912.66	0.04	0	605.76	2.389	1.474E-05	3.523E-05	0.992

Columna					
Medición	T[°C]	P _{abs} [Pa]	ΔP _{columna} [Pa]	v [m ³ /kg]	ε
1	160	80000	1022.79	2.483	0.614
2	164	80000	928.37	2.507	0.551
3	164	80000	865.43	2.507	0.488
4	166	80000	676.61	2.51	0.45
5	164	80000	582.20	2.507	0.421
6	166	80000	487.79	2.519	0.388
7	166	80000	409.11	2.519	0.352
8	164	80000	283.23	2.507	0.29
9	164	80000	267.49	2.507	0.12

Resultados								
Medición	C _D	Y	m[kg/s]	Q[m ³ /s]	u[m/s]	ΔP _{dist} [Pa]	ΔP _{lecho} [Pa]	Re
1	0.628	0.988	0.0078	0.0152	2.11	383.12	639.66	41457.00
2	0.628	0.988	0.0074	0.0149	2.04	353.17	575.20	39190.01
3	0.629	0.989	0.0069	0.0141	1.90	307.38	558.05	36558.89
4	0.629	0.991	0.0062	0.013	1.70	245.04	431.56	32388.07
5	0.630	0.992	0.0059	0.012	1.61	219.88	362.32	30916.95
6	0.632	0.993	0.0044	0.009	1.21	123.70	364.08	23008.36
7	0.632	0.995	0.0044	0.0099	1.21	123.49	285.62	22988.66
8	0.633	0.995	0.0038	0.00908	1.06	95.41	187.80	20362.65
9	0.635	0.997	0.0030	0.0073	0.83	58.84	208.65	15989.37

B.16 Resultados Fluidinámicos 80 kPa y 120°C húmedo

Lestático(cm)	8
H1 placa(cm)	68.7
H2 placa(cm)	68.6
H1 columna(cm)	46.5
H2 columna(cm)	43.7
Temperatura(°C)	120
Presión(Pa)	80000
Humedad de entrada(%)	0.1611175
Humedad de salida(%)	0.067293

Placa									
Medición	T[°C]	P _{abs} [Pa]	P _{man} [kg/cm ²]	P _{vacío} [cmHg]	ΔP _{placa} [Pa]	v [m ³ /kg]	μ [N*s/m ²]	v [m ² /s]	r
1	118	97641.97	0.18	0	4724.98	1.82	1.295E-05	2.366E-05	0.959
2	118	96661.31	0.17	0	4119.21	1.84	1.295E-05	2.39E-05	0.957
3	117	94699.98	0.15	0	3876.91	1.87	1.291E-05	2.427E-05	0.959
4	116	91757.98	0.12	0	3634.60	1.93	1.288E-05	2.492E-05	0.960
5	117	89796.65	0.1	0	3149.99	1.98	1.292E-05	2.562E-05	0.964
6	118	88815.99	0.09	0	2423.07	2.01	1.295E-05	2.605E-05	0.972
7	120	88325.65	0.085	0	2059.60	2.03	1.303E-05	2.649E-05	0.976
8	125	86854.66	0.07	0	1817.30	2.09	1.322E-05	2.771E-05	0.979
9	126	83912.66	0.04	0	1211.53	2.17	1.326E-05	2.885E-05	0.985
10	124	82932	0.03	0	969.22	2.18	1.319E-05	2.888E-05	0.988
11	123	82441.66	0.025	0	605.76	2.19	1.315E-05	2.889E-05	0.992
12	124	80970.67	0.01	0	242.30	2.24	1.319E-05	2.959E-05	0.997

Columna					
Medición	T[°C]	P _{abs} [Pa]	ΔP _{columna} [Pa]	v [m ³ /kg]	ε
1	118	80000	833.96	2.235	0.724
2	118	80000	755.29	2.235	0.714
3	117	80000	692.35	2.229	0.666
4	116	80000	645.14	2.223	0.619
5	117	80000	613.67	2.229	0.542
6	118	80000	456.32	2.235	0.483
7	120	80000	409.11	2.247	0.5
8	125	80000	393.38	2.276	0.448
9	126	80000	314.70	2.282	0.407
10	124	80000	251.76	2.270	0.272
11	123	80000	157.35	2.264	0.085
12	124	80000	62.94	2.270	0

Resultados								
Medición	C _D	Y	m[kg/s]	Q[m ³ /s]	u[m/s]	ΔP _{dist} [Pa]	ΔP _{techo} [Pa]	Re
1	0.626	0.982	0.0094	0.017	2.30	505.05	328.89	56486.55
2	0.627	0.984	0.0088	0.016	2.14	438.17	317.11	52610.03
3	0.627	0.985	0.0084	0.015	2.06	404.67	287.67	50770.03
4	0.627	0.985	0.0081	0.015	1.96	368.08	277.05	48620.83
5	0.627	0.987	0.0074	0.014	1.81	313.59	300.07	44681.28
6	0.629	0.990	0.0060	0.012	1.46	204.76	251.56	35949.03
7	0.629	0.991	0.006	0.012	1.46	204.23	204.88	35597.45
8	0.629	0.992	0.0055	0.011	1.38	177.79	215.58	32517.90
9	0.631	0.994	0.0044	0.009	1.11	115.57	199.12	26104.31
10	0.632	0.995	0.0040	0.008	0.99	91.79	159.97	23458.31
11	0.634	0.997	0.0031	0.006	0.78	57.55	99.80	18652.86
12	0.639	0.998	0.0019	0.004	0.48	22.28	40.65	11558.10

B.17 Resultados Fluidinámicos 80 kPa y 140°C húmedo.

Lestático(cm)	8
H1 placa(cm)	68.7
H2 placa(cm)	68.6
H1 columna(cm)	44.5
H2 columna(cm)	39.8
Temperatura(°C)	140
Presión(Pa)	80000
Humedad de entrada(%)	0.1567946
Humedad de salida(%)	0.0563233

Placa									
Medición	T[°C]	P _{abs} [Pa]	P _{man} [kg/cm ²]	P _{vacío} [cmHg]	ΔP _{placa} [Pa]	v [m ³ /kg]	μ [N*s/m ²]	v [m ² /s]	r
1	140	94699.98	0.15	0	4240.37	1.99	1.38E-05	2.753E-05	0.955
2	139	93719.31	0.14	0	4119.21	2.01	1.376E-05	2.768E-05	0.956
3	139	92738.65	0.13	0	3876.91	2.03	1.376E-05	2.797E-05	0.958
4	139	90777.32	0.11	0	3513.45	2.079	1.376E-05	2.859E-05	0.961
5	140	89796.65	0.1	0	2907.68	2.10	1.38E-05	2.906E-05	0.967
6	142	88815.99	0.09	0	2301.91	2.13	1.388E-05	2.97E-05	0.974
7	144	88815.99	0.09	0	1938.45	2.15	1.395E-05	3.001E-05	0.978
8	144	87835.32	0.08	0	1574.99	2.17	1.395E-05	3.035E-05	0.982
9	143	84893.33	0.05	0	1211.53	2.24	1.392E-05	3.125E-05	0.985
10	142	83912.66	0.04	0	969.22	2.26	1.388E-05	3.145E-05	0.988
11	142	82932	0.03	0	726.92	2.29	1.388E-05	3.183E-05	0.991
12	142	81951.33	0.02	0	121.15	2.32	1.388E-05	3.221E-05	0.998

Columna					
Medición	T[°C]	P _{abs} [Pa]	ΔP _{columna} [Pa]	v [m ³ /kg]	ε
1	140	80000	739.55	2.36	0.714
2	139	80000	755.29	2.35	0.659
3	139	80000	692.35	2.359	0.619
4	139	80000	629.40	2.359	0.578
5	140	80000	566.46	2.365	0.529
6	142	80000	456.32	2.377	0.448
7	144	80000	456.32	2.389	0.407
8	144	80000	424.85	2.389	0.384
9	143	80000	393.3	2.383	0.346
10	142	80000	346.17	2.37	0.238
11	142	80000	298.96	2.37	0.179
12	142	80000	157.35	2.37	0.006

Resultados								
Medición	C _D	Y	m[kg/s]	Q[m ³ /s]	u[m/s]	ΔP _{dist} [Pa]	ΔP _{techo} [Pa]	Re
1	0.627	0.984	0.0086	0.017	2.21	441.58	297.9	48183.34
2	0.627	0.984	0.0084	0.017	2.17	424.8	330.43	47452.86
3	0.627	0.985	0.0081	0.016	2.09	396.4	295.85	45840.03
4	0.628	0.986	0.0077	0.016	1.97	352.8	276.59	43238.04
5	0.628	0.988	0.0069	0.014	1.79	290.6	275.79	39084.75
6	0.630	0.990	0.0056	0.012	1.47	193.36	262.95	31619.72
7	0.630	0.992	0.0056	0.012	1.47	193.95	262.36	31413.43
8	0.630	0.993	0.0051	0.011	1.3	156.64	268.21	28229.21
9	0.631	0.994	0.0044	0.009	1.14	117.12	276.25	24505.62
10	0.632	0.995	0.0039	0.008	1.02	93.04	253.12	21929.77
11	0.634	0.996	0.0034	0.007	0.88	69.37	229.59	18934.89
12	0.644	0.999	0.0013	0.003	0.35	11.49	145.85	7707.20

B.18 Resultados Fluidinámicos 80 kPa y 160°C húmedo.

Lestático(cm)	9
H1 placa(cm)	68.7
H2 placa(cm)	68.6
H1 columna(cm)	44.5
H2 columna(cm)	40.1
Temperatura(°C)	160
Presión(Pa)	80000
Humedad de entrada(%)	0.1687795
Humedad de salida(%)	0.0317111

Placa									
Medición	T[°C]	P _{abs} [Pa]	P _{man} [kg/cm ²]	P _{vacío} [cmHg]	ΔP _{placa} [Pa]	v [m ³ /kg]	μ [N*s/m ²]	v [m ² /s]	r
1	157	97641.97	0.18	0	5088.447	2.01	1.446E-05	2.918E-05	0.947
2	159	96661.31	0.17	0	4482.67	2.04	1.454E-05	2.978E-05	0.953
3	160	94699.98	0.15	0	4119.21	2.09	1.458E-05	3.056E-05	0.956
4	160	92738.65	0.13	0	3755.75	2.14	1.458E-05	3.121E-05	0.959
5	160	91757.98	0.12	0	3392.29	2.16	1.458E-05	3.155E-05	0.963
6	160	89796.65	0.1	0	2907.68	2.21	1.458E-05	3.224E-05	0.967
7	160	89796.65	0.1	0	2544.22	2.21	1.458E-05	3.224E-05	0.971
8	161	88815.99	0.09	0	2180.76	2.24	1.462E-05	3.277E-05	0.975
9	161	85873.99	0.06	0	1453.84	2.31	1.462E-05	3.39E-05	0.983
10	162	83912.66	0.04	0	1211.53	2.37	1.466E-05	3.488E-05	0.985
11	163	82932	0.03	0	726.92	2.41	1.47E-05	3.547E-05	0.991

Columna					
Medición	T[°C]	P _{abs} [Pa]	ΔP _{columna} [Pa]	v [m ³ /kg]	ε
1	157	80000	755.29	2.462	0.653
2	159	80000	708.08	2.478	0.625
3	160	80000	645.14	2.483	0.581
4	160	80000	613.67	2.483	0.55
5	160	80000	597.93	2.483	0.513
6	160	80000	534.99	2.483	0.526
7	160	80000	472.05	2.483	0.485
8	161	80000	456.32	2.489	0.4
9	161	80000	377.64	2.489	0.28
10	162	80000	346.17	2.495	0.1
11	163	80000	251.76	2.501	0.005

Resultados								
Medición	C _D	Y	m[kg/s]	Q[m ³ /s]	u[m/s]	ΔP _{dist} [Pa]	ΔP _{lecho} [Pa]	Re
1	0.627	0.981	0.0093	0.018	2.51	543.13	212.15	49936.43
2	0.627	0.983	0.0087	0.017	2.35	476.19	231.89	46392.46
3	0.628	0.984	0.0082	0.017	2.24	429.95	215.19	43908.16
4	0.628	0.985	0.0078	0.016	2.12	385.06	228.61	41550.24
5	0.628	0.986	0.0074	0.0160	2.00	345.32	252.61	39346.83
6	0.629	0.988	0.0063	0.014	1.72	255.02	279.96	33811.42
7	0.62	0.989	0.0063	0.014	1.72	255.76	216.29	33860.10
8	0.630	0.991	0.0058	0.013	1.59	217.79	238.53	31123.43
9	0.631	0.993	0.0047	0.011	1.28	141.81	235.83	25112.44
10	0.632	0.994	0.0042	0.010	1.16	115.96	230.20	22619.75
11	0.634	0.996	0.0033	0.008	0.904	69.530	182.23	17446.77