FITTING LOSS COEFFICIENTS

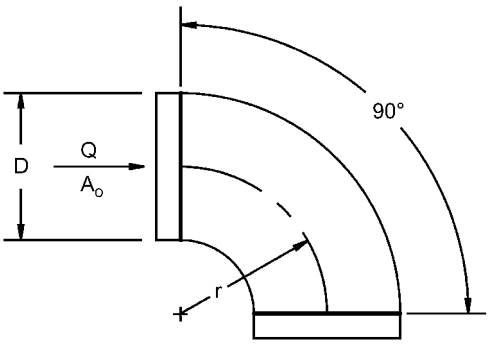
Fittings to support Examples 6 and 7 and some of the more common fittings are reprinted here.

For the complete fitting database see the *ASHRAE Duct Fitting Database* (ASHRAE 2009).

ROUND FITTINGS

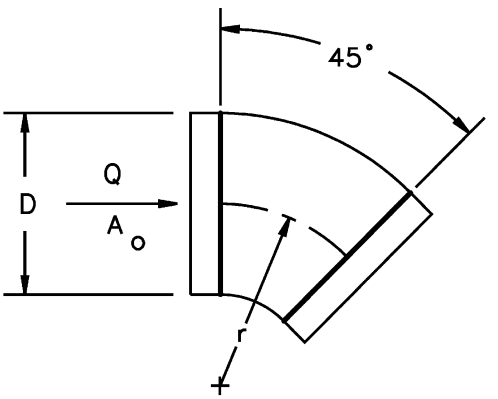
CD3-1 Elbow, Die Stamped, 90 Degree, $r/D = 1.5$

***D*, mm**	**75**	**100**	**125**	**150**	**180**	**200**	**230**	**250**
C_o	0.30	0.21	0.16	0.14	0.12	0.11	0.11	0.11



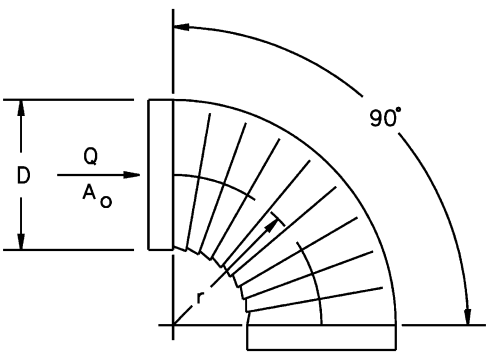
CD3-3 Elbow, Die Stamped, 45 Degree, $r/D = 1.5$

***D*, mm**	**75**	**100**	**125**	**150**	**180**	**200**	**230**	**250**
C_o	0.18	0.13	0.10	0.08	0.07	0.07	0.07	0.07



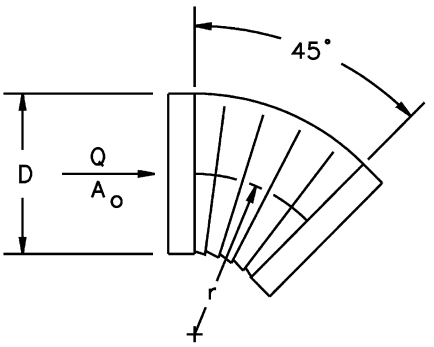
CD3-5 Elbow, Pleated, 90 Degree, $r/D = 1.5$

***D*, mm**	**100**	**150**	**200**	**250**	**300**	**350**	**400**
C_o	0.57	0.43	0.34	0.28	0.26	0.25	0.25



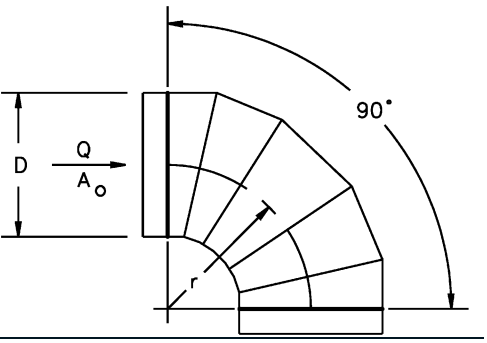
CD3-7 Elbow, Pleated, 45 Degree, $r/D = 1.5$

***D*, mm**	**100**	**150**	**200**	**250**	**300**	**350**	**400**
C_o	0.34	0.26	0.21	0.17	0.16	0.15	0.15



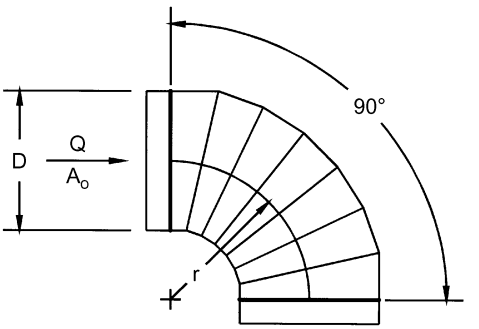
CD3-9 Elbow, 5 Gore, 90 Degree, r/D = 1.5

D, mm	75	150	230	300	380	450	530	600	690	750	1500
C_o	0.51	0.28	0.21	0.18	0.16	0.15	0.14	0.13	0.12	0.12	0.12



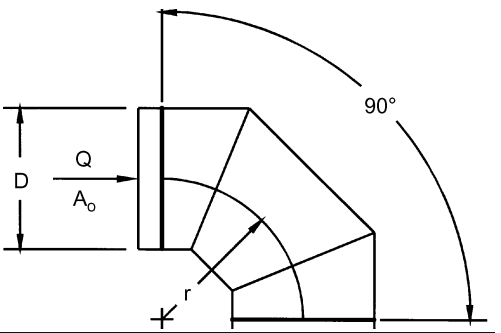
CD3-10 Elbow, 7 Gore, 90 Degree, r/D = 2.5

D, mm	75	150	230	300	380	450	690	1500
C_o	0.16	0.12	0.10	0.08	0.07	0.06	0.05	0.03



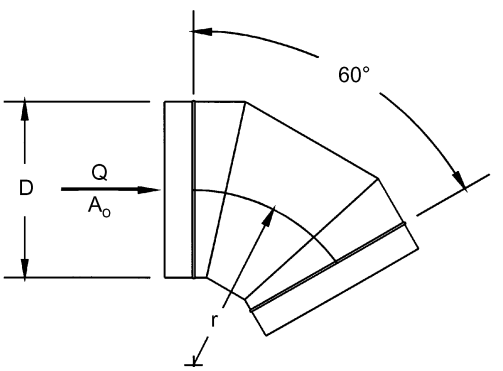
CD3-12 Elbow, 3 Gore, 90 Degree, r/D = 0.75 to 2.0

r/D	0.75	1.00	1.50	2.00
C_o	0.54	0.42	0.34	0.33



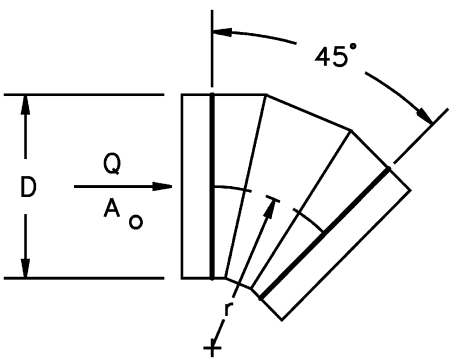
CD3-13 Elbow, 3 Gore, 60 Degree, r/D = 1.5

D, mm	75	150	230	300	380	450	530	600	690	750	1500
C_o	0.40	0.21	0.16	0.14	0.12	0.12	0.11	0.10	0.09	0.09	0.09



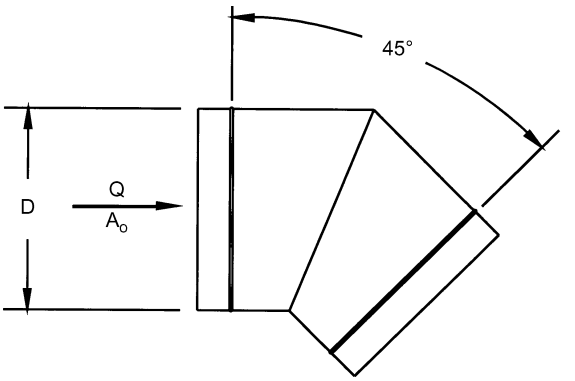
CD3-14 Elbow, 3 Gore, 45 Degree, r/D = 1.5

D, mm	75	150	230	300	380	450	530	600	690	750	1500
C_o	0.31	0.17	0.13	0.11	0.11	0.09	0.08	0.08	0.07	0.07	0.07



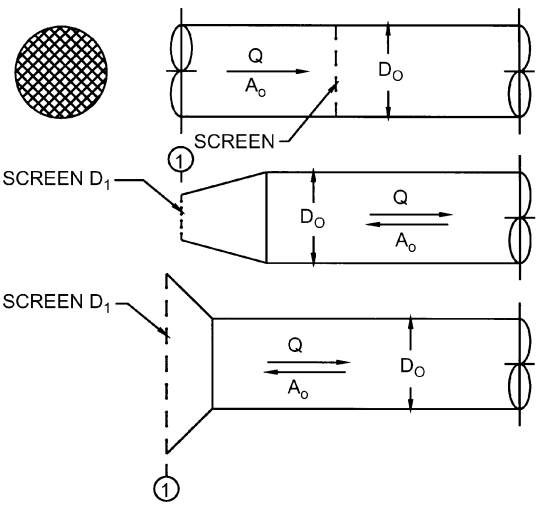
CD3-17 Elbow, Mitered, 45 Degree

D, mm	75	150	230	300	380	450	530	600	690	1500
C_o	0.87	0.79	0.74	0.72	0.71	0.70	0.69	0.68	0.68	0.67



CD6-1 Screen (Only)

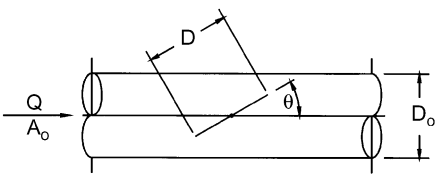
	C_o Values												
	n												
A_1/A_o	0.30	0.35	0.40	0.45	0.50	0.55	0.60	0.65	0.70	0.75	0.80	0.90	1.00
0.2	155.00	102.50	75.00	55.00	41.25	31.50	24.25	18.75	14.50	11.00	8.00	3.50	0.0
0.3	68.89	45.56	33.33	24.44	18.33	14.00	10.78	8.33	6.44	4.89	3.56	1.56	0.0
0.4	38.75	25.63	18.75	13.75	10.31	7.88	6.06	4.69	3.63	2.75	2.00	0.88	0.0
0.5	24.80	16.40	12.00	8.80	6.60	5.04	3.88	3.00	2.32	1.76	1.28	0.56	0.0
0.6	17.22	11.39	8.33	6.11	4.58	3.50	2.69	2.08	1.61	1.22	0.89	0.39	0.0
0.7	12.65	8.37	6.12	4.49	3.37	2.57	1.98	1.53	1.18	0.90	0.65	0.29	0.0
0.8	9.69	6.40	4.69	3.44	2.58	1.97	1.52	1.17	0.91	0.69	0.50	0.22	0.0
0.9	7.65	5.06	3.70	2.72	2.04	1.56	1.20	0.93	0.72	0.54	0.40	0.17	0.0
1.0	6.20	4.10	3.00	2.20	1.65	1.26	0.97	0.75	0.58	0.44	0.32	0.14	0.0
1.2	4.31	2.85	2.08	1.53	1.15	0.88	0.67	0.52	0.40	0.31	0.22	0.10	0.0
1.4	3.16	2.09	1.53	1.12	0.84	0.64	0.49	0.38	0.30	0.22	0.16	0.07	0.0
1.6	2.42	1.60	1.17	0.86	0.64	0.49	0.38	0.29	0.23	0.17	0.13	0.05	0.0
1.8	1.91	1.27	0.93	0.68	0.51	0.39	0.30	0.23	0.18	0.14	0.10	0.04	0.0
2.0	1.55	1.03	0.75	0.55	0.41	0.32	0.24	0.19	0.15	0.11	0.08	0.04	0.0
2.5	0.99	0.66	0.48	0.35	0.26	0.20	0.16	0.12	0.09	0.07	0.05	0.02	0.0
3.0	0.69	0.46	0.33	0.24	0.18	0.14	0.11	0.08	0.06	0.05	0.04	0.02	0.0
4.0	0.39	0.26	0.19	0.14	0.10	0.08	0.06	0.05	0.04	0.03	0.02	0.01	0.0
6.0	0.17	0.11	0.08	0.06	0.05	0.04	0.03	0.02	0.02	0.01	0.01	0.00	0.0



n = free area ratio of screen
A_o = area of duct
A_1 = cross-sectional area of duct or fitting where screen is located

CD9-1 Damper, Butterfly

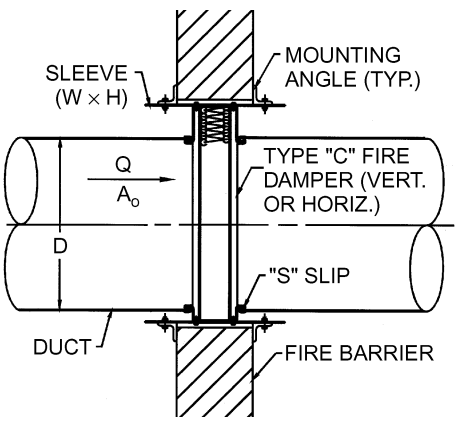
θ	0	10	20	30	40	50	60	70	75	90
C_O	0.60	0.85	1.70	4.0	9.4	24	67	215	400	9999



$\frac{D}{D_o} = 0.98$

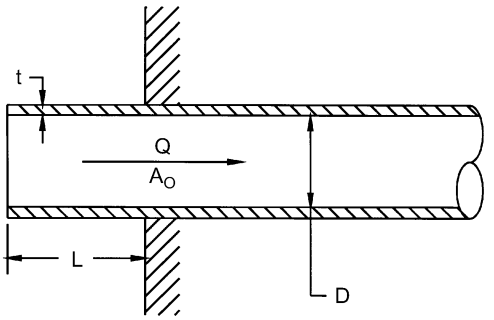
CD9-3 Fire Damper, Curtain Type, Type C, Horizontal Duct

$C_o = 0.12$



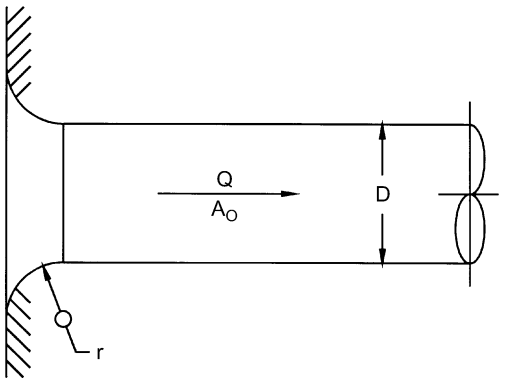
ED1-1 Duct Mounted in Wall

	C_o Values								
	L/D								
t/D	0.0	0.002	0.01	0.05	0.10	0.20	0.30	0.50	10.0
0.00	0.50	0.57	0.68	0.80	0.86	0.92	0.97	1.00	1.00
0.02	0.50	0.51	0.52	0.55	0.60	0.66	0.69	0.72	0.72
0.05	0.50	0.50	0.50	0.50	0.50	0.50	0.50	0.50	0.50
10.00	0.50	0.50	0.50	0.50	0.50	0.50	0.50	0.50	0.50



ED1-3 Bellmouth, with Wall

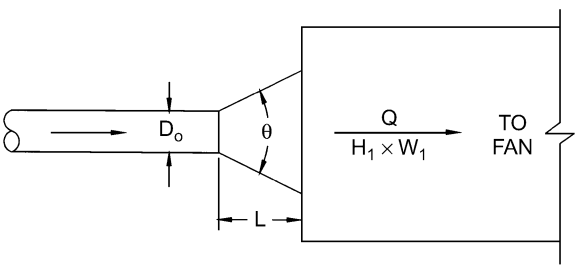
r/D	0.0	0.01	0.02	0.03	0.04	0.05	0.06	0.08	0.10	0.12	0.16	0.20	10.0
C_o	0.50	0.44	0.37	0.31	0.26	0.22	0.20	0.15	0.12	0.09	0.06	0.03	0.03



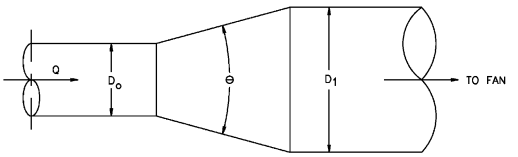
ED2-1 Conical Diffuser, Round to Plenum, Exhaust/Return Systems

	C_o Values										
	L/D_o										
A_1/A_o	0.5	1.0	2.0	3.0	4.0	5.0	6.0	8.0	10.0	12.0	14.0
1.0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
1.5	0.03	0.02	0.03	0.03	0.04	0.05	0.06	0.08	0.10	0.11	0.13
2.0	0.08	0.06	0.04	0.04	0.04	0.05	0.05	0.06	0.08	0.09	0.10
2.5	0.13	0.09	0.06	0.06	0.06	0.06	0.06	0.06	0.07	0.08	0.09
3.0	0.17	0.12	0.09	0.07	0.07	0.06	0.06	0.07	0.07	0.08	0.08
4.0	0.23	0.17	0.12	0.10	0.09	0.08	0.08	0.08	0.08	0.08	0.08
6.0	0.30	0.22	0.16	0.13	0.12	0.10	0.10	0.09	0.09	0.09	0.08
8.0	0.34	0.26	0.18	0.15	0.13	0.12	0.11	0.10	0.09	0.09	0.09
10.0	0.36	0.28	0.20	0.16	0.14	0.13	0.12	0.11	0.10	0.09	0.09
14.0	0.39	0.30	0.22	0.18	0.16	0.14	0.13	0.12	0.10	0.10	0.10
20.0	0.41	0.32	0.24	0.20	0.17	0.15	0.14	0.12	0.11	0.11	0.10
1000.0	0.41	0.32	0.24	0.20	0.17	0.15	0.14	0.12	0.11	0.11	0.10

	Optimum Angle θ, degrees										
A_1/A_o	0.5	1.0	2.0	3.0	4.0	5.0	6.0	8.0	10.0	12.0	14.0
1.0	0	0	0	0	0	0	0	0	0	0	0
1.5	17	10	6.5	4.5	3.5	2.8	2.2	1.7	1.2	1.0	0.8
2.0	21	14	8.5	6.2	5.0	4.3	3.8	3.0	2.3	2.0	1.6
2.5	25	16	10	7.4	6.0	5.4	4.8	4.0	3.5	3.0	2.5
3.0	27	17	11	8.5	7.0	6.1	5.6	4.8	4.2	3.8	3.2
4.0	29	20	13	9.8	8.0	7.2	6.6	5.8	5.2	4.8	4.4
6.0	31	21	14	11	9.4	8.2	7.4	6.2	5.6	5.2	4.7
8.0	32	22	15	12	10	8.8	8.0	6.6	5.8	5.4	5.0
33	33	23	15	12	11	9.4	8.4	7.0	6.2	5.5	5.2
14.0	33	24	16	13	11	9.6	8.7	7.3	6.3	5.6	5.4
20.0	34	24	16	13	11	9.8	9.0	7.5	6.5	6.0	5.6
1000.0	34	24	16	13	11	9.8	9.0	7.5	6.5	6.0	5.6

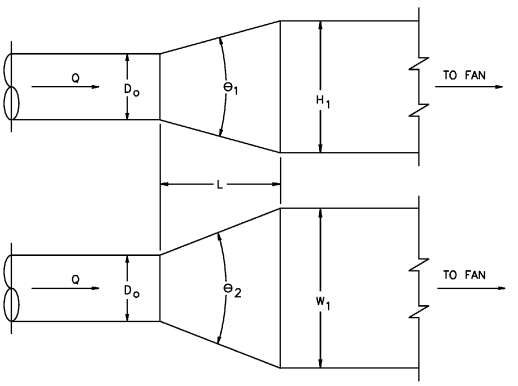


ED4-1 Transition, Round to Round, Exhaust/Return Systems



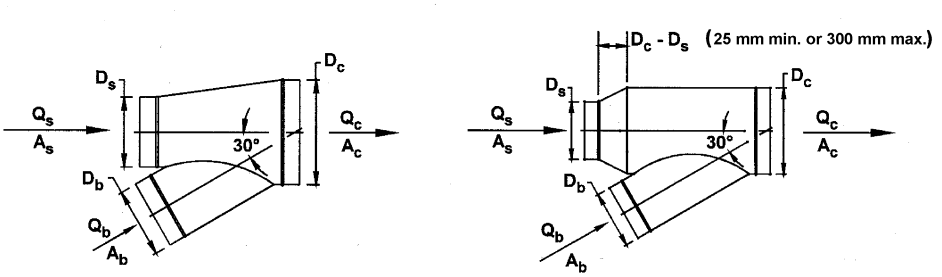
	C_o Values												
	θ												
A_o/A_1	0	3	5	10	15	20	30	45	60	90	120	150	180
0.063	0.0	0.18	0.18	0.20	0.29	0.38	0.60	0.84	0.88	0.88	0.88	0.88	0.88
0.10	0.0	0.20	0.18	0.20	0.27	0.38	0.59	0.76	0.80	0.83	0.84	0.83	0.83
0.167	0.0	0.18	0.17	0.18	0.25	0.33	0.48	0.66	0.77	0.74	0.73	0.73	0.72
0.25	0.0	0.20	0.17	0.16	0.21	0.30	0.46	0.61	0.68	0.64	0.63	0.62	0.62
0.50	0.0	0.15	0.13	0.11	0.13	0.19	0.32	0.33	0.33	0.32	0.31	0.30	0.30
1.00	0.0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
2.00	0.0	0.30	0.26	0.21	0.19	0.19	0.19	0.23	0.27	0.51	0.73	0.90	0.95
4.00	0.0	1.60	1.14	0.75	0.70	0.70	0.70	0.90	1.09	2.78	4.29	5.63	6.53
6.00	0.0	3.89	3.02	1.73	1.58	1.58	1.58	2.12	2.66	6.62	10.01	13.03	15.12
10.00	0.0	11.80	9.30	5.30	5.00	5.00	5.00	6.45	7.90	19.00	28.50	36.70	42.70

ED4-2 Transition, Round to Rectangular, Exhaust/Return Systems



	C_o Values												
	θ												
A_o/A_1	0	3	5	10	15	20	30	45	60	90	120	150	180
0.063	0.0	0.17	0.19	0.30	0.46	0.53	0.64	0.77	0.88	0.95	0.95	0.94	0.93
0.10	0.0	0.17	0.19	0.30	0.45	0.53	0.64	0.75	0.84	0.89	0.89	0.89	0.88
0.167	0.0	0.18	0.19	0.30	0.44	0.53	0.63	0.72	0.78	0.79	0.79	0.79	0.79
0.25	0.0	0.16	0.18	0.25	0.36	0.45	0.52	0.58	0.62	0.64	0.64	0.64	0.64
0.50	0.0	0.14	0.14	0.15	0.22	0.25	0.30	0.33	0.33	0.33	0.32	0.31	0.30
1.00	0.0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
2.00	0.0	0.30	0.27	0.26	0.28	0.25	0.19	0.23	0.27	0.52	0.75	0.91	0.95
4.00	0.0	1.60	1.14	0.84	0.85	0.86	0.76	0.90	1.09	2.78	4.30	5.65	6.55
6.00	0.0	3.89	3.04	1.84	1.77	1.78	1.73	2.18	2.67	6.67	10.07	13.09	15.18
10.00	0.0	11.80	9.31	5.40	5.18	5.15	5.05	6.44	7.94	19.06	28.55	36.75	42.75

ED5-1 Wye, 30 Degree, Converging



		C_b Values								
		Q_b/Q_c								
A_s/A_c	A_b/A_c	0.1	0.2	0.3	0.4	0.5	0.6	0.7	0.8	0.9
0.1	0.1	–13.25	–1.80	0.01	0.55	0.75	0.84	0.88	0.91	0.97
	0.2	–56.10	–10.12	–2.80	–0.63	0.19	0.53	0.69	0.75	0.78
	0.3	–127.28	–23.81	–7.31	–2.44	–0.59	0.19	0.52	0.66	0.70
	0.4	–226.84	–42.88	–13.55	–4.89	–1.61	–0.22	0.38	0.62	0.68
	0.5	–354.79	–67.34	–21.52	–7.98	–2.86	–0.69	0.24	0.61	0.70
	0.6	–511.13	–97.21	–31.22	–11.73	–4.35	–1.23	0.11	0.64	0.77
	0.7	–695.87	–132.47	–42.66	–16.13	–6.08	–1.84	0.00	0.71	0.89
	0.8	–909.01	–173.14	–55.83	–21.17	–8.05	–2.51	–0.12	0.82	1.05
	0.9	–1151.	–219.20	–70.73	–26.87	–10.27	–3.25	–0.22	0.97	1.26
	1.0	–1420.	–270.66	–87.36	–33.21	–12.72	–4.05	–0.31	1.15	1.51

ED5-1 Wye, 30 Degree, Converging (*Continued*)

		C_b Values (*Continued*)								
		Q_b/Q_c								
A_s/A_c	A_b/A_c	**0.1**	**0.2**	**0.3**	**0.4**	**0.5**	**0.6**	**0.7**	**0.8**	**0.9**
0.2	0.1	–5.30	–0.24	0.54	0.77	0.85	0.88	0.90	0.93	0.98
	0.2	–24.17	–3.78	–0.60	0.30	0.64	0.77	0.83	0.88	0.98
	0.3	–55.88	–9.77	–2.57	–0.50	0.25	0.55	0.67	0.70	0.71
	0.4	–99.93	–17.94	–5.13	–1.45	–0.11	0.42	0.62	0.68	0.68
	0.5	–156.51	–28.40	–8.37	–2.62	–0.52	0.30	0.62	0.71	0.69
	0.6	–225.62	–41.13	–12.30	–4.01	–0.99	0.20	0.66	0.78	0.75
	0.7	–307.26	–56.14	–16.90	–5.61	–1.51	0.11	0.73	0.90	0.86
	0.8	–401.44	–73.44	–22.18	–7.44	–2.08	0.04	0.84	1.06	1.01
	0.9	–508.15	–93.02	–28.15	–9.49	–2.71	–0.03	0.99	1.27	1.20
	1.0	–627.39	–114.89	–34.80	–11.77	–3.39	–0.08	1.18	1.52	1.43
0.3	0.1	–2.77	0.26	0.71	0.83	0.88	0.90	0.91	0.93	0.99
	0.2	–13.97	–1.77	0.08	0.59	0.77	0.84	0.88	0.92	1.06
	0.3	–33.06	–5.33	–1.09	0.10	0.51	0.66	0.71	0.72	0.74
	0.4	–59.43	–10.08	–2.52	–0.41	0.32	0.59	0.67	0.68	0.66
	0.5	–93.24	–16.11	–4.30	–1.00	0.14	0.56	0.69	0.70	0.66
	0.6	–134.51	–23.45	–6.44	–1.68	–0.03	0.57	0.76	0.77	0.70
	0.7	–183.25	–32.08	–8.93	–2.45	–0.21	0.61	0.87	0.88	0.79
	0.8	–239.47	–42.01	–11.77	–3.32	–0.38	0.69	1.02	1.03	0.91
	0.9	–303.16	–53.25	–14.97	–4.27	–0.56	0.80	1.21	1.23	1.07
	1.0	–374.32	–65.79	–18.53	–5.32	–0.73	0.94	1.45	1.47	1.27
0.4	0.1	–1.58	0.48	0.78	0.86	0.89	0.90	0.91	0.93	0.99
	0.2	–9.20	–0.85	0.39	0.71	0.82	0.87	0.90	0.94	1.09
	0.3	–22.31	–3.24	–0.38	0.39	0.64	0.73	0.76	0.78	0.85
	0.4	–40.52	–6.48	–1.37	0.02	0.48	0.64	0.67	0.66	0.65
	0.5	–63.71	–10.50	–2.50	–0.33	0.40	0.63	0.69	0.67	0.63
	0.6	–92.00	–15.37	–3.84	–0.71	0.33	0.67	0.75	0.71	0.65
	0.7	–125.40	–21.08	–5.40	–1.13	0.28	0.75	0.85	0.80	0.70
	0.8	–163.90	–27.65	–7.16	–1.59	0.25	0.86	1.00	0.93	0.80
	0.9	–207.52	–35.07	–9.14	–2.09	0.25	1.02	1.18	1.10	0.93
	1.0	–256.25	–43.35	–11.33	–2.63	0.26	1.21	1.42	1.31	1.09
0.5	0.1	–0.94	0.60	0.82	0.87	0.89	0.90	0.91	0.93	0.99
	0.2	–6.62	–0.36	0.54	0.77	0.85	0.88	0.90	0.95	1.11
	0.3	–16.42	–2.11	–0.01	0.54	0.72	0.78	0.80	0.83	0.96
	0.4	–30.26	–4.59	–0.79	0.22	0.54	0.64	0.66	0.64	0.64
	0.5	–47.68	–7.55	–1.61	–0.02	0.48	0.63	0.65	0.62	0.59
	0.6	–68.93	–11.13	–2.56	–0.28	0.45	0.67	0.69	0.65	0.58
	0.7	–94.00	–15.31	–3.65	–0.55	0.44	0.74	0.77	0.71	0.61
	0.8	–122.90	–20.12	–4.88	–0.83	0.46	0.85	0.90	0.81	0.68
	0.9	–155.63	–25.54	–6.25	–1.12	0.51	1.00	1.06	0.94	0.77
	1.0	–192.18	–31.58	–7.77	–1.43	0.59	1.19	1.26	1.12	0.90
0.6	0.1	–0.57	0.66	0.84	0.88	0.89	0.90	0.91	0.93	0.99
	0.2	–5.12	–0.10	0.62	0.79	0.85	0.87	0.90	0.95	1.11
	0.3	–13.00	–1.49	0.18	0.61	0.75	0.79	0.82	0.86	1.02
	0.4	–24.31	–3.55	–0.50	0.30	0.55	0.62	0.63	0.62	0.63
	0.5	–38.41	–5.94	–1.16	0.09	0.48	0.59	0.60	0.57	0.55
	0.6	–55.58	–8.80	–1.92	–0.12	0.45	0.61	0.62	0.57	0.52
	0.7	–75.83	–12.16	–2.79	–0.33	0.44	0.66	0.67	0.60	0.52
	0.8	–99.17	–16.00	–3.76	–0.54	0.46	0.74	0.76	0.67	0.56
	0.9	–125.60	–20.33	–4.83	–0.76	0.51	0.86	0.88	0.77	0.62
	1.0	–155.12	–25.14	–6.02	–0.99	0.58	1.02	1.04	0.90	0.71
0.7	0.1	–0.35	0.70	0.84	0.88	0.89	0.90	0.90	0.92	0.99
	0.2	–4.24	0.05	0.65	0.80	0.85	0.87	0.89	0.94	1.12
	0.3	–11.00	–1.15	0.27	0.63	0.75	0.79	0.82	0.87	1.06
	0.4	–20.82	–3.00	–0.38	0.31	0.52	0.59	0.60	0.59	0.61
	0.5	–32.99	–5.09	–0.98	0.10	0.43	0.53	0.54	0.52	0.51
	0.6	–47.78	–7.58	–1.67	–0.11	0.38	0.52	0.53	0.49	0.45
	0.7	–65.22	–10.50	–2.44	–0.32	0.34	0.53	0.54	0.49	0.43
	0.8	–85.32	–13.83	–3.30	–0.53	0.33	0.58	0.59	0.52	0.43
	0.9	–108.07	–17.58	–4.26	–0.75	0.34	0.66	0.67	0.58	0.46
	1.0	–133.48	–21.76	–5.30	–0.97	0.38	0.76	0.78	0.67	0.51
0.8	0.1	–0.23	0.71	0.84	0.88	0.89	0.89	0.90	0.92	0.98
	0.2	–3.75	0.11	0.65	0.79	0.84	0.86	0.88	0.94	1.12
	0.3	–9.88	–0.99	0.29	0.63	0.74	0.78	0.81	0.87	1.09
	0.4	–18.88	–2.75	–0.36	0.28	0.48	0.55	0.56	0.57	0.61
	0.5	–29.98	–4.71	–0.96	0.04	0.36	0.46	0.47	0.46	0.47
	0.6	–43.46	–7.05	–1.64	–0.20	0.26	0.41	0.43	0.41	0.39
	0.7	–59.34	–9.77	–2.40	–0.44	0.19	0.38	0.41	0.38	0.34
	0.8	–77.64	–12.88	–3.26	–0.69	0.13	0.38	0.42	0.37	0.31
	0.9	–98.35	–16.38	–4.20	–0.95	0.09	0.40	0.45	0.39	0.30
	1.0	–121.48	–20.27	–5.24	–1.23	0.06	0.45	0.51	0.43	0.31

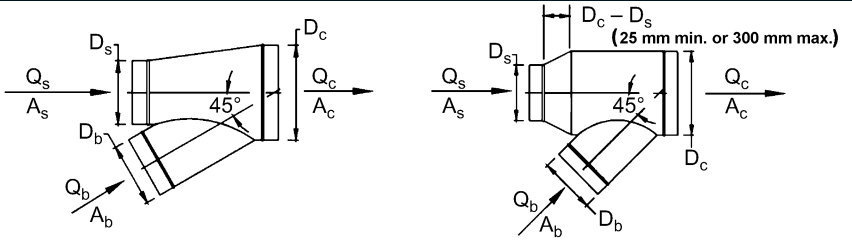
ED5-1 Wye, 30 Degree, Converging (*Continued*)

		C_b Values (*Concluded*)								
		Q_b/Q_c								
A_s/A_c	A_b/A_c	0.1	0.2	0.3	0.4	0.5	0.6	0.7	0.8	0.9
0.9	0.1	–0.18	0.72	0.84	0.87	0.88	0.89	0.90	0.92	0.98
	0.2	–3.52	0.12	0.64	0.78	0.82	0.85	0.88	0.93	1.12
	0.3	–9.34	–0.95	0.28	0.60	0.71	0.76	0.80	0.87	1.10
	0.4	–17.96	–2.70	–0.40	0.22	0.43	0.50	0.53	0.54	0.60
	0.5	–28.58	–4.65	–1.05	–0.07	0.26	0.37	0.40	0.41	0.42
	0.6	–41.45	–6.97	–1.77	–0.35	0.12	0.28	0.32	0.32	0.32
	0.7	–56.61	–9.66	–2.58	–0.65	0.00	0.21	0.27	0.26	0.24
	0.8	–74.08	–12.74	–3.49	–0.97	–0.12	0.16	0.23	0.22	0.18
	0.9	–93.84	–16.21	–4.50	–1.30	–0.23	0.13	0.21	0.19	0.14
	1.0	–115.92	–20.06	–5.61	–1.66	–0.34	0.11	0.21	0.18	0.11
1.0	0.1	–0.17	0.71	0.83	0.87	0.88	0.89	0.90	0.92	0.98
	0.2	–3.48	0.10	0.62	0.76	0.81	0.84	0.87	0.92	1.11
	0.3	–9.22	–1.00	0.23	0.56	0.68	0.74	0.78	0.86	1.11
	0.4	–17.76	–2.79	–0.50	0.14	0.37	0.45	0.49	0.52	0.60
	0.5	–28.31	–4.82	–1.21	–0.20	0.15	0.28	0.33	0.35	0.38
	0.6	–41.06	–7.21	–2.01	–0.55	–0.04	0.15	0.22	0.23	0.25
	0.7	–56.09	–9.99	–2.91	–0.92	–0.23	0.03	0.12	0.14	0.15
	0.8	–73.39	–13.17	–3.92	–1.32	–0.41	–0.07	0.04	0.06	0.06
	0.9	–92.98	–16.75	–5.04	–1.75	–0.60	–0.17	–0.03	–0.01	–0.02
	1.0	–114.85	–20.74	–6.28	–2.21	–0.79	–0.26	–0.09	–0.07	–0.09
		C_s Values								
		Q_s/Q_c								
A_s/A_c	A_b/A_c	0.1	0.2	0.3	0.4	0.5	0.6	0.7	0.8	0.9
0.1	0.1	–3.90	–1.07	–0.04	0.66	1.27	1.87	2.47	3.10	3.76
	0.2	–3.76	–0.34	0.52	1.05	1.53	2.02	2.56	3.14	3.77
	0.3	–2.50	0.10	0.76	1.20	1.62	2.08	2.59	3.15	3.77
	0.4	–1.64	0.35	0.88	1.27	1.67	2.11	2.60	3.15	3.77
	0.5	–1.05	0.52	0.96	1.32	1.69	2.12	2.61	3.16	3.77
	0.6	–0.63	0.63	1.02	1.35	1.71	2.13	2.61	3.16	3.77
	0.7	–0.32	0.71	1.06	1.37	1.73	2.14	2.62	3.16	3.77
	0.8	–0.07	0.78	1.09	1.39	1.74	2.15	2.62	3.16	3.77
	0.9	0.13	0.83	1.11	1.40	1.74	2.15	2.62	3.16	3.77
	1.0	0.29	0.87	1.13	1.41	1.75	2.15	2.63	3.17	3.77
0.2	0.1	–14.54	–4.50	–1.82	–0.62	0.05	0.47	0.75	0.95	1.09
	0.2	–16.02	–3.15	–0.80	0.04	0.45	0.69	0.86	0.99	1.10
	0.3	–11.65	–1.94	–0.26	0.32	0.60	0.77	0.90	1.01	1.10
	0.4	–8.56	–1.20	0.05	0.47	0.68	0.82	0.92	1.02	1.11
	0.5	–6.41	–0.71	0.25	0.57	0.73	0.84	0.93	1.02	1.11
	0.6	–4.85	–0.36	0.38	0.63	0.76	0.86	0.94	1.02	1.11
	0.7	–3.68	–0.10	0.48	0.68	0.79	0.87	0.95	1.03	1.11
	0.8	–2.77	0.10	0.56	0.71	0.81	0.88	0.95	1.03	1.11
	0.9	–2.04	0.26	0.62	0.74	0.82	0.89	0.95	1.03	1.11
	1.0	–1.45	0.38	0.66	0.76	0.83	0.89	0.96	1.03	1.11
0.3	0.1	–32.30	–10.04	–4.34	–1.94	–0.73	–0.07	0.30	0.50	0.59
	0.2	–36.37	–7.59	–2.48	–0.79	–0.06	0.29	0.47	0.57	0.61
	0.3	–26.79	–5.07	–1.42	–0.27	0.21	0.42	0.53	0.59	0.61
	0.4	–19.94	–3.49	–0.80	0.02	0.35	0.49	0.56	0.60	0.62
	0.5	–15.18	–2.44	–0.41	0.20	0.43	0.54	0.58	0.61	0.62
	0.6	–11.73	–1.70	–0.13	0.32	0.49	0.56	0.60	0.61	0.62
	0.7	–9.13	–1.14	0.07	0.41	0.53	0.58	0.60	0.61	0.62
	0.8	–7.11	–0.72	0.23	0.48	0.57	0.60	0.61	0.62	0.62
	0.9	–5.49	–0.38	0.35	0.53	0.59	0.61	0.62	0.62	0.62
	1.0	–4.17	–0.11	0.45	0.58	0.61	0.62	0.62	0.62	0.62
0.4	0.1	–57.18	–17.78	–7.80	–3.69	–1.66	–0.59	–0.02	0.26	0.37
	0.2	–64.82	–13.76	–4.74	–1.81	–0.59	–0.02	0.24	0.36	0.39
	0.3	–47.92	–9.38	–2.93	–0.94	–0.16	0.19	0.34	0.39	0.40
	0.4	–35.81	–6.62	–1.88	–0.46	0.07	0.30	0.38	0.41	0.40
	0.5	–27.39	–4.78	–1.20	–0.16	0.22	0.36	0.41	0.42	0.41
	0.6	–21.28	–3.48	–0.73	0.04	0.31	0.41	0.43	0.43	0.41
	0.7	–16.68	–2.51	–0.38	0.20	0.38	0.44	0.45	0.43	0.41
	0.8	–13.10	–1.77	–0.12	0.31	0.44	0.46	0.46	0.44	0.41
	0.9	–10.24	–1.18	0.09	0.40	0.48	0.48	0.46	0.44	0.41
	1.0	–7.90	–0.69	0.26	0.47	0.51	0.50	0.47	0.44	0.41

ED5-1 Wye, 30 Degree, Converging (*Continued*)

		C_s Values (*Concluded*)								
		Q_b/Q_c								
A_s/A_c	A_b/A_c	**0.1**	**0.2**	**0.3**	**0.4**	**0.5**	**0.6**	**0.7**	**0.8**	**0.9**
0.5	0.1	–89.21	–27.74	–12.24	–5.89	–2.79	–1.18	–0.33	0.08	0.23
	0.2	–101.39	–21.64	–7.61	–3.07	–1.19	–0.34	0.05	0.22	0.26
	0.3	–75.05	–14.87	–4.83	–1.75	–0.54	–0.03	0.19	0.26	0.27
	0.4	–56.18	–10.59	–3.21	–1.02	–0.20	0.13	0.26	0.29	0.27
	0.5	–43.04	–7.74	–2.16	–0.56	0.02	0.23	0.30	0.30	0.27
	0.6	–33.51	–5.72	–1.43	–0.24	0.16	0.30	0.33	0.31	0.28
	0.7	–26.34	–4.22	–0.90	–0.01	0.27	0.35	0.35	0.32	0.28
	0.8	–20.75	–3.06	–0.49	0.16	0.35	0.39	0.37	0.33	0.28
	0.9	–16.29	–2.14	–0.17	0.30	0.41	0.41	0.38	0.33	0.28
	1.0	–12.64	–1.39	0.10	0.41	0.46	0.44	0.39	0.33	0.28
0.6	0.1	–128.36	–39.93	–17.66	–8.57	–4.15	–1.85	–0.66	–0.09	0.12
	0.2	–146.06	–31.26	–11.09	–4.56	–1.89	–0.68	–0.12	0.10	0.16
	0.3	–108.19	–21.55	–7.12	–2.69	–0.97	–0.24	0.07	0.17	0.17
	0.4	–81.04	–15.40	–4.80	–1.65	–0.48	–0.01	0.17	0.20	0.18
	0.5	–62.13	–11.31	–3.30	–0.99	–0.17	0.13	0.22	0.22	0.18
	0.6	–48.43	–8.41	–2.25	–0.54	0.03	0.22	0.26	0.24	0.18
	0.7	–38.10	–6.25	–1.49	–0.22	0.18	0.29	0.29	0.25	0.19
	0.8	–30.07	–4.59	–0.90	0.03	0.30	0.34	0.31	0.25	0.19
	0.9	–23.64	–3.27	–0.44	0.23	0.39	0.38	0.33	0.26	0.19
	1.0	–18.39	–2.20	–0.06	0.39	0.46	0.42	0.34	0.27	0.19
0.7	0.1	–174.66	–54.33	–24.05	–11.71	–5.72	–2.62	–1.01	–0.25	0.03
	0.2	–198.85	–42.62	–15.17	–6.31	–2.68	–1.04	–0.29	0.01	0.08
	0.3	–147.33	–29.41	–9.78	–3.77	–1.44	–0.45	–0.04	0.10	0.10
	0.4	–110.40	–21.07	–6.64	–2.36	–0.77	–0.14	0.09	0.15	0.11
	0.5	–84.67	–15.50	–4.60	–1.48	–0.36	0.05	0.17	0.17	0.11
	0.6	–66.02	–11.56	–3.19	–0.86	–0.08	0.18	0.23	0.19	0.12
	0.7	–51.97	–8.63	–2.15	–0.42	0.12	0.27	0.27	0.20	0.12
	0.8	–41.04	–6.37	–1.35	–0.08	0.27	0.34	0.29	0.21	0.12
	0.9	–32.30	–4.58	–0.72	0.19	0.39	0.39	0.32	0.22	0.12
	1.0	–25.16	–3.12	–0.21	0.40	0.49	0.43	0.33	0.23	0.13
0.8	0.1	–228.09	–70.95	–31.43	–15.33	–7.52	–3.48	–1.39	–0.40	–0.04
	0.2	–259.75	–55.70	–19.86	–8.29	–3.56	–1.43	–0.46	–0.06	–0.03
	0.3	–192.48	–38.47	–12.84	–4.99	–1.95	–0.66	–0.12	0.05	0.05
	0.4	–144.25	–27.58	–8.74	–3.16	–1.09	–0.26	0.05	0.11	0.06
	0.5	–110.65	–20.32	–6.08	–2.00	–0.55	–0.01	0.15	0.15	0.07
	0.6	–86.30	–15.17	–4.24	–1.20	–0.19	0.15	0.22	0.17	0.08
	0.7	–67.95	–11.34	–2.88	–0.62	0.08	0.27	0.27	0.19	0.08
	0.8	–53.67	–8.40	–1.84	–0.18	0.28	0.36	0.30	0.20	0.08
	0.9	–42.26	–6.05	–1.02	0.16	0.44	0.43	0.33	0.21	0.08
	1.0	–32.93	–4.15	–0.35	0.44	0.56	0.49	0.36	0.22	0.09
0.9	0.1	–288.66	–89.79	–39.78	–19.41	–9.54	–4.43	–1.80	–0.55	–0.09
	0.2	–328.76	–70.51	–25.16	–10.53	–4.54	–1.84	–0.62	–0.12	0.00
	0.3	–243.63	–48.72	–16.28	–6.35	–2.50	–0.87	–0.20	0.03	0.03
	0.4	–182.60	–34.94	–11.09	–4.03	–1.41	–0.37	0.02	0.10	0.04
	0.5	–140.07	–25.75	–7.74	–2.57	–0.74	–0.06	0.15	0.14	0.05
	0.6	–109.25	–19.24	–5.40	–1.56	–0.28	0.15	0.23	0.17	0.05
	0.7	–86.04	–14.40	–3.68	–0.83	0.06	0.30	0.30	0.20	0.06
	0.8	–67.96	–10.66	–2.37	–0.27	0.31	0.41	0.34	0.21	0.06
	0.9	–53.52	–7.70	–1.33	0.17	0.51	0.50	0.38	0.22	0.06
	1.0	–41.71	–5.29	–0.49	0.52	0.67	0.57	0.41	0.23	0.07
1.0	0.1	–356.36	–110.84	–49.12	–23.97	–11.78	–5.48	–2.23	–0.69	–0.12
	0.2	–405.88	–87.06	–31.07	–13.01	–5.62	–2.29	–0.77	–0.16	–0.02
	0.3	–300.78	–60.15	–20.11	–7.85	–3.10	–1.09	–0.26	0.02	0.02
	0.4	–225.44	–43.14	–13.70	–4.99	–1.76	–0.47	0.01	0.11	0.04
	0.5	–172.93	–31.80	–9.56	–3.18	–0.92	–0.09	0.17	0.17	0.05
	0.6	–134.89	–23.76	–6.68	–1.94	–0.35	0.17	0.28	0.20	0.06
	0.7	–106.23	–17.78	–4.56	–1.04	0.06	0.36	0.35	0.23	0.06
	0.8	–83.92	–13.18	–2.93	–0.35	0.37	0.50	0.41	0.25	0.06
	0.9	–66.08	–9.52	–1.65	0.19	0.62	0.61	0.46	0.26	0.07
	1.0	–51.51	–6.54	–0.61	0.63	0.81	0.70	0.49	0.28	0.07

ED5-2 Wye, 45 Degree, Converging



		C_b Values								
		Q_b/Q_c								
A_s/A_c	A_b/A_c	0.1	0.2	0.3	0.4	0.5	0.6	0.7	0.8	0.9
0.1	0.1	–13.70	–1.90	–0.02	0.54	0.75	0.85	0.89	0.92	0.96
	0.2	–57.73	–10.44	–2.88	–0.64	0.22	0.59	0.76	0.85	0.94
	0.3	–131.08	–24.63	–7.59	–2.53	–0.60	0.24	0.61	0.79	0.92
	0.4	–233.78	–44.46	–14.15	–5.15	–1.71	–0.23	0.43	0.72	0.88
	0.5	–365.85	–69.96	–22.58	–8.50	–3.12	–0.81	0.21	0.65	0.82
	0.6	–527.21	–101.08	–32.83	–12.55	–4.80	–1.49	–0.02	0.59	0.79
	0.7	–717.81	–137.79	–44.90	–17.28	–6.74	–2.23	–0.23	0.60	0.85
	0.8	–937.72	–180.12	–58.79	–22.73	–8.96	–3.06	–0.45	0.63	0.95
	0.9	–1187.	–228.09	–74.53	–28.88	–11.45	–3.99	–0.69	0.67	1.07
	1.0	–1465.	–281.68	–92.10	–35.74	–14.23	–5.01	–0.94	0.74	1.22
0.2	0.1	–5.52	–0.26	0.56	0.79	0.88	0.92	0.95	0.97	1.05
	0.2	–25.19	–3.97	–0.64	0.32	0.67	0.82	0.90	0.96	1.08
	0.3	–58.03	–10.14	–2.63	–0.45	0.36	0.69	0.84	0.93	1.08
	0.4	–104.08	–18.80	–5.40	–1.51	–0.07	0.52	0.77	0.88	1.01
	0.5	–163.36	–29.97	–8.97	–2.87	–0.62	0.29	0.67	0.80	0.84
	0.6	–235.59	–43.47	–13.22	–4.44	–1.20	0.12	0.65	0.83	0.85
	0.7	–320.90	–59.38	–18.21	–6.25	–1.84	–0.04	0.68	0.91	0.93
	0.8	–419.32	–77.73	–23.95	–8.33	–2.56	–0.22	0.72	1.02	1.02
	0.9	–530.86	–98.50	–30.44	–10.66	–3.36	–0.40	0.79	1.16	1.14
	1.0	–655.51	–121.72	–37.68	–13.26	–4.25	–0.59	0.87	1.33	1.28
0.3	0.1	–2.74	0.32	0.78	0.90	0.94	0.97	0.99	1.02	1.13
	0.2	–14.27	–1.77	0.13	0.66	0.85	0.93	0.97	1.03	1.21
	0.3	–33.62	–5.28	–0.95	0.27	0.70	0.87	0.94	1.01	1.19
	0.4	–60.85	–10.26	–2.48	–0.30	0.47	0.77	0.88	0.93	1.04
	0.5	–95.87	–16.64	–4.44	–1.00	0.21	0.66	0.82	0.84	0.84
	0.6	–138.38	–24.26	–6.68	–1.73	0.01	0.66	0.88	0.91	0.88
	0.7	–188.60	–33.25	–9.32	–2.58	–0.20	0.68	0.98	1.02	0.95
	0.8	–246.54	–43.60	–12.34	–3.54	–0.43	0.72	1.11	1.15	1.03
	0.9	–312.21	–55.33	–15.76	–4.61	–0.68	0.78	1.26	1.31	1.13
	1.0	–385.59	–68.43	–19.56	–5.79	–0.94	0.86	1.45	1.49	1.24
0.4	0.1	–1.32	0.63	0.90	0.96	0.99	1.00	1.02	1.06	1.20
	0.2	–8.77	–0.64	0.54	0.85	0.95	0.99	1.03	1.09	1.31
	0.3	–21.41	–2.85	–0.10	0.63	0.87	0.96	1.00	1.06	1.26
	0.4	–39.30	–6.02	–1.05	0.28	0.72	0.87	0.91	0.92	1.00
	0.5	–62.10	–9.96	–2.16	–0.06	0.63	0.85	0.90	0.88	0.86
	0.6	–89.77	–14.65	–3.42	–0.38	0.61	0.93	0.99	0.95	0.90
	0.7	–122.46	–20.19	–4.88	–0.74	0.61	1.04	1.12	1.06	0.95
	0.8	–160.18	–26.56	–6.55	–1.15	0.62	1.18	1.29	1.19	1.01
	0.9	–202.93	–33.77	–8.44	–1.60	0.64	1.36	1.48	1.35	1.07
	1.0	–250.70	–41.83	–10.54	–2.09	0.68	1.56	1.71	1.53	1.15
0.5	0.1	–0.44	0.83	0.98	1.01	1.02	1.03	1.05	1.10	1.27
	0.2	–5.45	0.04	0.79	0.97	1.02	1.04	1.07	1.14	1.39
	0.3	–14.10	–1.39	0.40	0.84	0.97	1.00	1.02	1.07	1.28
	0.4	–26.48	–3.53	–0.24	0.59	0.83	0.89	0.88	0.85	0.86
	0.5	–41.84	–5.96	–0.80	0.51	0.88	0.97	0.95	0.90	0.87
	0.6	–60.61	–8.90	–1.46	0.43	0.97	1.09	1.06	0.97	0.90
	0.7	–82.80	–12.36	–2.22	0.35	1.09	1.25	1.20	1.08	0.93
	0.8	–108.39	–16.35	–3.09	0.27	1.24	1.45	1.38	1.20	0.96
	0.9	–137.41	–20.86	–4.07	0.19	1.42	1.68	1.59	1.35	0.99
	1.0	–169.84	–25.90	–5.15	0.11	1.63	1.95	1.83	1.52	1.02
0.6	0.1	–0.41	0.83	0.98	1.02	1.03	1.04	1.07	1.13	1.33
	0.2	–5.54	–0.08	0.70	0.91	0.98	1.01	1.05	1.14	1.42
	0.3	–14.48	–1.75	0.13	0.64	0.81	0.88	0.92	0.98	1.19
	0.4	–27.10	–4.14	–0.68	0.26	0.57	0.68	0.71	0.72	0.76
	0.5	–42.84	–6.91	–1.50	–0.02	0.47	0.64	0.68	0.69	0.70
	0.6	–62.07	–10.28	–2.48	–0.34	0.37	0.61	0.67	0.66	0.63
	0.7	–84.79	–14.26	–3.62	–0.71	0.27	0.59	0.67	0.63	0.54
	0.8	–111.02	–18.84	–4.92	–1.12	0.16	0.58	0.67	0.61	0.44
	0.9	–140.76	–24.03	–6.40	–1.57	0.04	0.58	0.68	0.59	0.31
	1.0	–174.01	–29.83	–8.04	–2.07	–0.08	0.58	0.70	0.56	0.15

ED5-2 Wye, 45 Degree, Converging (*Continued*)

		C_b Values (*Concluded*)								
		Q_b/Q_c								
A_s/A_c	A_b/A_c	**0.1**	**0.2**	**0.3**	**0.4**	**0.5**	**0.6**	**0.7**	**0.8**	**0.9**
0.7	0.1	0.03	0.94	1.03	1.05	1.06	1.07	1.10	1.16	1.39
	0.2	–3.96	0.25	0.83	0.97	1.01	1.04	1.08	1.17	1.47
	0.3	–11.07	–1.10	0.34	0.71	0.83	0.87	0.90	0.95	1.13
	0.4	–20.92	–2.92	–0.27	0.43	0.65	0.72	0.73	0.73	0.77
	0.5	–33.20	–5.01	–0.85	0.24	0.59	0.69	0.71	0.69	0.70
	0.6	–48.21	–7.55	–1.55	0.03	0.53	0.68	0.69	0.65	0.61
	0.7	–65.95	–10.56	–2.37	–0.20	0.48	0.68	0.69	0.62	0.49
	0.8	–86.42	–14.01	–3.30	–0.46	0.43	0.68	0.69	0.58	0.35
	0.9	–109.65	–17.93	–4.35	–0.75	0.38	0.70	0.70	0.53	0.18
	1.0	–135.63	–22.32	–5.53	–1.07	0.33	0.72	0.71	0.48	–0.03
0.8	0.1	0.38	1.02	1.08	1.08	1.08	1.09	1.12	1.19	1.44
	0.2	–2.78	0.50	0.91	1.01	1.03	1.05	1.09	1.18	1.49
	0.3	–8.58	–0.65	0.47	0.74	0.82	0.85	0.86	0.89	1.02
	0.4	–16.29	–2.00	0.05	0.56	0.71	0.75	0.74	0.74	0.78
	0.5	–25.98	–3.59	–0.37	0.44	0.68	0.73	0.72	0.69	0.69
	0.6	–37.82	–5.52	–0.87	0.31	0.65	0.72	0.70	0.64	0.58
	0.7	–51.83	–7.79	–1.44	0.17	0.63	0.73	0.69	0.59	0.43
	0.8	–68.01	–10.42	–2.10	0.01	0.62	0.75	0.69	0.53	0.25
	0.9	–86.37	–13.39	–2.84	–0.16	0.61	0.77	0.68	0.47	0.03
	1.0	–106.91	–16.73	–3.68	–0.35	0.61	0.79	0.68	0.38	–0.25
0.9	0.1	0.65	1.10	1.11	1.10	1.10	1.11	1.14	1.22	1.49
	0.2	–1.87	0.68	0.98	1.03	1.05	1.06	1.09	1.18	1.49
	0.3	–6.70	–0.33	0.54	0.74	0.79	0.80	0.80	0.81	0.87
	0.4	–12.69	–1.29	0.29	0.66	0.76	0.77	0.75	0.74	0.78
	0.5	–20.37	–2.48	0.00	0.59	0.74	0.75	0.72	0.69	0.67
	0.6	–29.77	–3.94	–0.34	0.52	0.73	0.75	0.70	0.63	0.54
	0.7	–40.89	–5.66	–0.73	0.45	0.74	0.76	0.68	0.56	0.36
	0.8	–53.74	–7.64	–1.18	0.37	0.76	0.78	0.67	0.48	0.13
	0.9	–68.32	–9.89	–1.69	0.28	0.77	0.80	0.65	0.38	–0.15
	1.0	–84.66	–12.42	–2.27	0.18	0.80	0.83	0.62	0.26	–0.49
1.0	0.1	0.88	1.16	1.14	1.12	1.12	1.13	1.16	1.25	1.54
	0.2	–1.17	0.81	1.02	1.05	1.05	1.06	1.09	1.18	1.48
	0.3	–5.09	–0.02	0.64	0.78	0.81	0.81	0.80	0.80	0.86
	0.4	–9.81	–0.72	0.48	0.74	0.79	0.78	0.76	0.74	0.77
	0.5	–15.89	–1.61	0.29	0.71	0.79	0.77	0.72	0.68	0.65
	0.6	–23.34	–2.69	0.07	0.68	0.80	0.77	0.69	0.60	0.49
	0.7	–32.15	–3.96	–0.18	0.66	0.82	0.78	0.67	0.51	0.27
	0.8	–42.35	–5.44	–0.47	0.64	0.85	0.79	0.63	0.41	0.00
	0.9	–53.94	–7.12	–0.80	0.61	0.88	0.81	0.60	0.28	–0.34
	1.0	–66.93	–9.01	–1.17	0.58	0.92	0.82	0.55	0.13	–0.75

		C_s Values								
		Q_s/Q_c								
A_s/A_c	A_b/A_c	**0.1**	**0.2**	**0.3**	**0.4**	**0.5**	**0.6**	**0.7**	**0.8**	**0.9**
0.1	0.1	–0.64	–0.63	0.17	1.00	1.87	2.79	3.76	4.81	5.92
	0.2	–2.38	–0.06	0.77	1.47	2.19	2.99	3.88	4.86	5.93
	0.3	–1.56	0.35	1.03	1.64	2.30	3.06	3.91	4.87	5.94
	0.4	–0.89	0.59	1.17	1.73	2.36	3.09	3.93	4.88	5.94
	0.5	–0.40	0.75	1.26	1.78	2.40	3.11	3.94	4.88	5.94
	0.6	–0.04	0.86	1.32	1.82	2.42	3.13	3.95	4.89	5.94
	0.7	0.23	0.95	1.36	1.85	2.44	3.14	3.96	4.89	5.94
	0.8	0.45	1.01	1.40	1.87	2.45	3.15	3.96	4.89	5.94
	0.9	0.62	1.06	1.42	1.88	2.46	3.15	3.96	4.89	5.94
	1.0	0.76	1.10	1.44	1.89	2.47	3.16	3.97	4.89	5.94
0.2	0.1	–0.33	–2.09	–1.13	–0.35	0.22	0.65	0.97	1.23	1.45
	0.2	–10.16	–2.08	–0.43	0.24	0.62	0.88	1.10	1.29	1.46
	0.3	–7.83	–1.20	0.03	0.50	0.77	0.97	1.14	1.30	1.46
	0.4	–5.62	–0.59	0.30	0.65	0.85	1.01	1.16	1.31	1.46
	0.5	–3.96	–0.18	0.48	0.74	0.90	1.04	1.18	1.32	1.47
	0.6	–2.71	0.12	0.60	0.80	0.94	1.06	1.19	1.32	1.47
	0.7	–1.75	0.34	0.70	0.85	0.96	1.07	1.19	1.32	1.47
	0.8	–0.99	0.52	0.77	0.88	0.98	1.08	1.20	1.32	1.47
	0.9	–0.38	0.66	0.82	0.91	0.99	1.09	1.20	1.33	1.47
	1.0	0.13	0.77	0.87	0.93	1.00	1.10	1.20	1.33	1.47

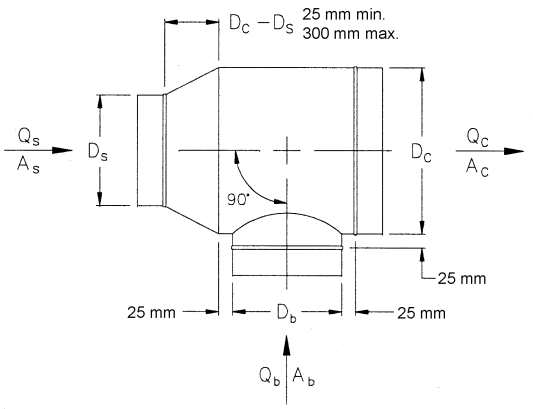
ED5-2 Wye, 45 Degree, Converging (*Continued*)

		C_s Values (*Continued*)								
		Q_s/Q_c								
A_s/A_c	A_b/A_c	0.1	0.2	0.3	0.4	0.5	0.6	0.7	0.8	0.9
0.3	0.1	–0.18	–4.36	–2.61	–1.29	–0.45	0.08	0.41	0.60	0.71
	0.2	–23.33	–5.14	–1.67	–0.44	0.12	0.42	0.58	0.67	0.72
	0.3	–18.44	–3.44	–0.84	0.00	0.36	0.54	0.64	0.69	0.73
	0.4	–13.64	–2.22	–0.34	0.25	0.49	0.60	0.67	0.70	0.73
	0.5	–10.00	–1.37	0.00	0.41	0.57	0.64	0.69	0.71	0.73
	0.6	–7.26	–0.75	0.24	0.52	0.62	0.67	0.70	0.72	0.73
	0.7	–5.15	–0.29	0.41	0.60	0.66	0.69	0.71	0.72	0.73
	0.8	–3.48	0.07	0.55	0.66	0.69	0.70	0.71	0.72	0.73
	0.9	–2.14	0.36	0.65	0.71	0.72	0.72	0.72	0.72	0.73
	1.0	–1.03	0.60	0.74	0.75	0.73	0.73	0.72	0.72	0.73
0.4	0.1	–0.46	–7.64	–4.66	–2.49	–1.15	–0.36	0.10	0.33	0.43
	0.2	–42.17	–9.48	–3.34	–1.23	–0.31	0.12	0.33	0.42	0.44
	0.3	–33.68	–6.60	–1.98	–0.53	0.05	0.31	0.41	0.45	0.45
	0.4	–25.24	–4.51	–1.13	–0.13	0.25	0.40	0.46	0.47	0.45
	0.5	–18.83	–3.04	–0.57	0.13	0.37	0.46	0.48	0.48	0.46
	0.6	–13.99	–1.97	–0.17	0.31	0.46	0.50	0.50	0.48	0.46
	0.7	–10.27	–1.17	0.12	0.44	0.52	0.53	0.51	0.49	0.46
	0.8	–7.32	–0.54	0.35	0.54	0.57	0.55	0.52	0.49	0.46
	0.9	–4.94	–0.04	0.53	0.62	0.61	0.57	0.53	0.49	0.46
	1.0	–2.98	0.37	0.68	0.68	0.64	0.58	0.54	0.50	0.46
0.5	0.1	–1.43	–12.03	–7.36	–4.03	–2.01	–0.84	–0.18	0.14	0.26
	0.2	–66.95	–15.18	–5.49	–2.21	–0.81	–0.16	0.14	0.26	0.28
	0.3	–53.80	–10.77	–3.45	–1.17	–0.27	0.11	0.26	0.30	0.29
	0.4	–40.66	–7.54	–2.16	–0.57	0.02	0.25	0.32	0.33	0.30
	0.5	–30.68	–5.27	–1.30	–0.18	0.21	0.33	0.36	0.34	0.30
	0.6	–23.15	–3.62	–0.69	0.09	0.33	0.39	0.38	0.35	0.30
	0.7	–17.34	–2.38	–0.24	0.29	0.42	0.43	0.40	0.35	0.30
	0.8	–12.75	–1.41	0.11	0.44	0.49	0.47	0.41	0.36	0.30
	0.9	–9.04	–0.64	0.39	0.56	0.55	0.49	0.43	0.36	0.30
	1.0	–5.99	0.00	0.61	0.65	0.59	0.51	0.43	0.36	0.30
0.6	0.1	–3.34	–17.58	–10.74	–5.94	–3.06	–1.39	–0.48	–0.03	0.13
	0.2	–97.90	–22.29	–8.18	–3.41	–1.39	–0.46	–0.03	0.13	0.16
	0.3	–79.03	–15.99	–5.28	–1.94	–0.64	–0.09	0.13	0.19	0.17
	0.4	–60.15	–11.37	–3.44	–1.09	–0.23	0.10	0.21	0.22	0.18
	0.5	–45.80	–8.13	–2.22	–0.55	0.03	0.22	0.26	0.24	0.18
	0.6	–34.97	–5.77	–1.35	–0.17	0.20	0.30	0.30	0.25	0.18
	0.7	–26.62	–3.98	–0.71	0.11	0.33	0.36	0.32	0.26	0.19
	0.8	–20.02	–2.59	–0.21	0.33	0.43	0.41	0.34	0.26	0.19
	0.9	–14.68	–1.48	0.18	0.49	0.51	0.44	0.35	0.27	0.19
	1.0	–10.29	–0.57	0.51	0.63	0.57	0.47	0.37	0.27	0.19
0.7	0.1	–6.43	–24.36	–14.82	–8.23	–4.31	–2.04	–0.81	–0.20	0.01
	0.2	–135.28	–30.88	–11.42	–4.85	–2.08	–0.80	–0.21	0.02	0.06
	0.3	–109.64	–22.35	–7.50	–2.88	–1.07	–0.31	0.00	0.09	0.07
	0.4	–83.96	–16.08	–5.02	–1.73	–0.52	–0.05	0.11	0.13	0.08
	0.5	–64.44	–11.67	–3.36	–0.99	–0.17	0.11	0.18	0.15	0.09
	0.6	–49.71	–8.47	–2.19	–0.48	0.06	0.22	0.22	0.17	0.09
	0.7	–38.35	–6.04	–1.31	–0.10	0.24	0.30	0.26	0.18	0.09
	0.8	–29.37	–4.16	–0.64	0.18	0.37	0.36	0.28	0.19	0.09
	0.9	–22.12	–2.65	–0.10	0.41	0.47	0.40	0.30	0.19	0.09
	1.0	–16.14	–1.41	0.33	0.60	0.55	0.44	0.32	0.20	0.09
0.8	0.1	–10.94	–32.43	–19.63	–10.93	–5.77	–2.80	–1.18	–0.38	–0.09
	0.2	–179.32	–41.01	–15.25	–6.55	–2.88	–1.19	–0.41	–0.10	–0.04
	0.3	–145.86	–29.89	–10.14	–3.99	–1.58	–0.55	–0.13	0.00	–0.02
	0.4	–112.34	–21.71	–6.91	–2.50	–0.86	–0.22	0.01	0.05	–0.01
	0.5	–86.85	–15.96	–4.75	–1.54	–0.41	–0.01	0.10	0.08	0.00
	0.6	–67.62	–11.78	–3.22	–0.87	–0.10	0.13	0.16	0.10	0.00
	0.7	–52.79	–8.62	–2.08	–0.38	0.12	0.23	0.20	0.11	0.00
	0.8	–41.06	–6.16	–1.20	0.00	0.29	0.31	0.23	0.12	0.01
	0.9	–31.59	–4.19	–0.51	0.29	0.43	0.37	0.26	0.13	0.01
	1.0	–23.78	–2.58	0.06	0.53	0.54	0.42	0.28	0.14	0.01

ED5-2 Wye, 45 Degree, Converging (*Continued*)

		C_s Values (*Concluded*)								
		Q_s/Q_c								
A_s/A_c	A_b/A_c	0.1	0.2	0.3	0.4	0.5	0.6	0.7	0.8	0.9
0.9	0.1	–17.13	–41.85	–25.21	–14.05	–7.45	–3.66	–1.59	–0.57	–0.20
	0.2	–230.27	–52.75	–19.69	–8.53	–3.81	–1.63	–0.63	–0.22	–0.13
	0.3	–187.95	–38.69	–13.24	–5.29	–2.16	–0.83	–0.28	–0.10	–0.10
	0.4	–145.53	–28.34	–9.15	–3.41	–1.26	–0.41	–0.10	–0.04	–0.09
	0.5	–113.27	–21.07	–6.42	–2.19	–0.69	–0.15	0.01	0.00	–0.09
	0.6	–88.94	–15.78	–4.48	–1.35	–0.30	0.03	0.09	0.03	–0.08
	0.7	–70.16	–11.78	–3.04	–0.73	–0.02	0.16	0.14	0.04	–0.08
	0.8	–55.33	–8.67	–1.93	–0.25	0.20	0.26	0.18	0.06	–0.07
	0.9	–43.33	–6.18	–1.05	0.12	0.37	0.33	0.21	0.07	–0.07
	1.0	–33.46	–4.14	–0.34	0.42	0.50	0.39	0.24	0.08	–0.07
1.0	0.1	–25.23	–52.69	–31.58	–17.61	–9.37	–4.64	–2.06	–0.79	–0.31
	0.2	–288.39	–66.15	–24.77	–10.80	–4.88	–2.14	–0.87	–0.35	–0.22
	0.3	–236.14	–48.79	–16.81	–6.80	–2.85	–1.15	–0.44	–0.20	–0.19
	0.4	–183.77	–36.02	–11.76	–4.47	–1.73	–0.63	–0.22	–0.12	–0.18
	0.5	–143.95	–27.05	–8.39	–2.98	–1.03	–0.31	–0.08	–0.08	–0.17
	0.6	–113.91	–20.52	–6.00	–1.93	–0.55	–0.09	0.01	–0.04	–0.16
	0.7	–90.73	–15.58	–4.23	–1.17	–0.20	0.07	0.08	–0.02	–0.16
	0.8	–72.41	–11.74	–2.86	–0.58	0.06	0.19	0.13	–0.01	–0.16
	0.9	–57.61	–8.66	–1.77	–0.12	0.27	0.28	0.16	0.01	–0.15
	1.0	–45.42	–6.15	–0.88	0.25	0.44	0.36	0.20	0.02	–0.15

ED5-3 Tee, D_c < or = 250 mm, Converging



		C_b Values								
		Q_b/Q_c								
A_s/A_c	A_b/A_c	0.1	0.2	0.3	0.4	0.5	0.6	0.7	0.8	0.9
0.1	0.1	–13.39	–1.73	0.13	0.68	0.89	0.98	1.02	1.05	1.08
	0.2	–56.68	–9.99	–2.53	–0.32	0.52	0.88	1.04	1.12	1.18
	0.3	–128.89	–23.79	–6.99	–2.02	–0.12	0.68	1.04	1.20	1.29
	0.4	–230.03	–43.12	–13.26	–4.40	–1.04	0.40	1.03	1.30	1.42
	0.5	–360.10	–68.01	–21.33	–7.49	–2.23	0.02	1.00	1.40	1.53
	0.6	–519.10	–98.44	–31.20	–11.27	–3.69	–0.46	0.95	1.52	1.66
	0.7	–706.92	–134.35	–42.83	–15.70	–5.38	–0.99	0.93	1.70	1.88
	0.8	–923.64	–175.79	–56.25	–20.82	–7.34	–1.60	0.90	1.91	2.15
	0.9	–1169.	–222.75	–71.47	–26.62	–9.56	–2.30	0.87	2.14	2.44
	1.0	–1444.	–275.24	–88.47	–33.10	–12.04	–3.08	0.84	2.40	2.76
0.2	0.1	–5.33	–0.12	0.69	0.92	1.01	1.04	1.06	1.08	1.13
	0.2	–24.56	–3.63	–0.36	0.59	0.93	1.08	1.14	1.19	1.27
	0.3	–56.72	–9.54	–2.15	–0.01	0.78	1.10	1.23	1.30	1.39
	0.4	–101.83	–17.86	–4.68	–0.87	0.52	1.09	1.32	1.41	1.48
	0.5	–159.91	–28.59	–7.98	–2.02	0.17	1.05	1.40	1.51	1.51
	0.6	–230.83	–41.68	–11.98	–3.39	–0.24	1.03	1.53	1.66	1.61
	0.7	–314.56	–57.10	–16.68	–4.98	–0.69	1.04	1.71	1.90	1.82
	0.8	–411.18	–74.90	–22.10	–6.82	–1.21	1.04	1.92	2.16	2.05
	0.9	–520.69	–95.08	–28.25	–8.90	–1.81	1.04	2.15	2.45	2.31
	1.0	–643.09	–117.63	–35.12	–11.24	–2.47	1.04	2.41	2.78	2.58

ED5-3 Tee, D_c < or = 250 mm, Converging (*Continued*)

		C_b Values (*Continued*)								
		Q_b/Q_c								
A_s/A_c	A_b/A_c	0.1	0.2	0.3	0.4	0.5	0.6	0.7	0.8	0.9
0.3	0.1	–2.67	0.42	0.88	1.01	1.05	1.07	1.09	1.11	1.18
	0.2	–14.05	–1.55	0.36	0.89	1.08	1.16	1.19	1.23	1.34
	0.3	–33.18	–4.91	–0.58	0.64	1.07	1.23	1.30	1.34	1.44
	0.4	–60.09	–9.68	–1.94	0.24	1.00	1.29	1.39	1.42	1.47
	0.5	–94.80	–15.89	–3.74	–0.33	0.87	1.32	1.46	1.46	1.38
	0.6	–136.97	–23.33	–5.84	–0.92	0.81	1.45	1.65	1.66	1.53
	0.7	–186.81	–32.14	–8.32	–1.62	0.74	1.61	1.88	1.88	1.70
	0.8	–244.33	–42.30	–11.19	–2.43	0.65	1.78	2.14	2.13	1.88
	0.9	–309.54	–53.82	–14.44	–3.35	0.54	1.98	2.42	2.41	2.08
	1.0	–382.43	–66.70	–18.08	–4.39	0.42	2.19	2.74	2.72	2.29
0.4	0.1	–1.36	0.69	0.98	1.06	1.08	1.10	1.11	1.14	1.23
	0.2	–8.95	–0.54	0.71	1.04	1.15	1.20	1.22	1.26	1.40
	0.3	–21.82	–2.70	0.16	0.94	1.19	1.29	1.32	1.35	1.47
	0.4	–39.99	–5.81	–0.67	0.73	1.19	1.35	1.39	1.39	1.41
	0.5	–63.37	–9.82	–1.75	0.45	1.18	1.42	1.47	1.43	1.32
	0.6	–91.72	–14.59	–2.97	0.20	1.26	1.60	1.67	1.60	1.43
	0.7	–125.23	–20.24	–4.41	–0.10	1.34	1.81	1.90	1.81	1.56
	0.8	–163.91	–26.77	–6.09	–0.45	1.43	2.04	2.16	2.03	1.69
	0.9	–207.76	–34.17	–7.99	–0.85	1.53	2.30	2.44	2.28	1.82
	1.0	–256.79	–42.45	–10.12	–1.30	1.63	2.58	2.75	2.54	1.95
0.5	0.1	–0.60	0.85	1.04	1.09	1.11	1.12	1.13	1.16	1.27
	0.2	–6.03	0.04	0.91	1.13	1.20	1.22	1.24	1.29	1.44
	0.3	–15.35	–1.46	0.56	1.09	1.25	1.30	1.32	1.35	1.46
	0.4	–28.59	–3.67	–0.01	0.96	1.26	1.34	1.35	1.32	1.29
	0.5	–45.45	–6.42	–0.66	0.85	1.33	1.45	1.45	1.38	1.24
	0.6	–65.92	–9.70	–1.41	0.78	1.46	1.64	1.63	1.53	1.32
	0.7	–90.12	–13.58	–2.29	0.69	1.61	1.86	1.85	1.70	1.39
	0.8	–118.07	–18.07	–3.32	0.57	1.78	2.11	2.09	1.89	1.46
	0.9	–149.75	–23.18	–4.49	0.43	1.96	2.38	2.35	2.09	1.53
	1.0	–185.19	–28.89	–5.81	0.27	2.16	2.67	2.63	2.31	1.57
0.6	0.1	–0.11	0.96	1.09	1.12	1.12	1.13	1.15	1.18	1.31
	0.2	–4.20	0.39	1.03	1.18	1.22	1.24	1.26	1.30	1.47
	0.3	–11.33	–0.72	0.79	1.16	1.27	1.30	1.31	1.33	1.43
	0.4	–21.57	–2.42	0.35	1.05	1.25	1.29	1.27	1.22	1.12
	0.5	–34.29	–4.35	–0.03	1.07	1.38	1.44	1.41	1.32	1.16
	0.6	–49.85	–6.73	–0.50	1.08	1.54	1.63	1.57	1.45	1.19
	0.7	–68.26	–9.55	–1.06	1.09	1.71	1.83	1.76	1.58	1.21
	0.8	–89.52	–12.81	–1.72	1.10	1.91	2.07	1.97	1.73	1.22
	0.9	–113.64	–16.52	–2.47	1.10	2.12	2.32	2.20	1.88	1.21
	1.0	–140.62	–20.68	–3.33	1.09	2.35	2.60	2.44	2.03	1.16
0.7	0.1	0.22	1.03	1.12	1.14	1.14	1.14	1.16	1.20	1.35
	0.2	–3.00	0.62	1.10	1.21	1.23	1.24	1.26	1.31	1.49
	0.3	–8.74	–0.27	0.91	1.19	1.26	1.27	1.27	1.28	1.36
	0.4	–16.90	–1.59	0.58	1.11	1.25	1.27	1.24	1.18	1.06
	0.5	–26.99	–3.06	0.33	1.17	1.38	1.41	1.36	1.26	1.06
	0.6	–39.35	–4.86	0.02	1.22	1.54	1.57	1.50	1.35	1.05
	0.7	–53.97	–7.01	–0.35	1.29	1.72	1.76	1.65	1.45	1.02
	0.8	–70.87	–9.50	–0.79	1.35	1.91	1.97	1.82	1.54	0.96
	0.9	–90.04	–12.34	–1.31	1.41	2.12	2.19	2.00	1.64	0.86
	1.0	–111.50	–15.53	–1.89	1.46	2.34	2.43	2.19	1.73	0.72
0.8	0.1	0.46	1.08	1.14	1.15	1.15	1.16	1.17	1.22	1.38
	0.2	–2.20	0.76	1.14	1.22	1.24	1.24	1.26	1.31	1.49
	0.3	–7.04	–0.01	0.95	1.18	1.23	1.23	1.23	1.22	1.27
	0.4	–13.77	–1.06	0.71	1.13	1.24	1.24	1.20	1.13	1.00
	0.5	–22.11	–2.24	0.54	1.20	1.36	1.36	1.30	1.19	0.97
	0.6	–32.33	–3.69	0.31	1.27	1.50	1.50	1.41	1.25	0.90
	0.7	–44.42	–5.41	0.04	1.34	1.66	1.65	1.53	1.30	0.81
	0.8	–58.40	–7.42	–0.29	1.42	1.83	1.83	1.65	1.35	0.67
	0.9	–74.28	–9.72	–0.67	1.49	2.01	2.01	1.78	1.38	0.49
	1.0	–92.06	–12.30	–1.12	1.56	2.21	2.20	1.92	1.40	0.24

ED5-3 Tee, D_c < or = 250 mm, Converging (*Continued*)

		C_b Values (*Concluded*)								
		Q_b/Q_c								
A_s/A_c	A_b/A_c	0.1	0.2	0.3	0.4	0.5	0.6	0.7	0.8	0.9
0.9	0.1	0.62	1.12	1.16	1.16	1.16	1.17	1.19	1.24	1.41
	0.2	–1.67	0.85	1.16	1.22	1.23	1.24	1.25	1.30	1.48
	0.3	–5.95	0.12	0.95	1.14	1.18	1.18	1.16	1.15	1.14
	0.4	–11.68	–0.74	0.77	1.12	1.20	1.20	1.16	1.08	0.93
	0.5	–18.85	–1.74	0.63	1.18	1.31	1.30	1.23	1.11	0.86
	0.6	–27.63	–2.98	0.44	1.24	1.42	1.41	1.31	1.13	0.75
	0.7	–38.04	–4.45	0.21	1.30	1.55	1.53	1.39	1.14	0.58
	0.8	–50.07	–6.17	–0.07	1.36	1.69	1.66	1.47	1.13	0.37
	0.9	–63.75	–8.14	–0.40	1.42	1.83	1.79	1.54	1.11	0.09
	1.0	–79.08	–10.36	–0.79	1.46	1.98	1.92	1.61	1.06	–0.26
1.0	0.1	0.74	1.15	1.18	1.17	1.17	1.18	1.20	1.25	1.43
	0.2	–1.33	0.89	1.16	1.21	1.22	1.22	1.24	1.29	1.46
	0.3	–5.30	0.15	0.90	1.08	1.11	1.11	1.09	1.06	0.99
	0.4	–10.31	–0.57	0.78	1.09	1.16	1.15	1.11	1.03	0.86
	0.5	–16.71	–1.47	0.64	1.13	1.24	1.22	1.15	1.03	0.74
	0.6	–24.56	–2.59	0.46	1.17	1.32	1.30	1.20	1.01	0.57
	0.7	–33.87	–3.93	0.23	1.20	1.41	1.38	1.24	0.97	0.34
	0.8	–44.64	–5.49	–0.05	1.22	1.51	1.46	1.27	0.91	0.05
	0.9	–56.89	–7.29	–0.38	1.24	1.59	1.54	1.28	0.82	–0.33
	1.0	–70.62	–9.32	–0.77	1.24	1.68	1.61	1.28	0.69	–0.80
		C_s Values								
		Q_s/Q_c								
A_s/A_c	A_b/A_c	0.1	0.2	0.3	0.4	0.5	0.6	0.7	0.8	0.9
0.1	0.1	6.57	1.67	1.10	0.95	0.88	0.85	0.84	0.83	0.82
	0.2	4.13	1.39	1.03	0.92	0.87	0.85	0.83	0.83	0.82
	0.3	3.30	1.30	1.00	0.91	0.87	0.85	0.83	0.82	0.82
	0.4	2.89	1.24	0.99	0.90	0.86	0.84	0.83	0.82	0.82
	0.5	2.63	1.21	0.97	0.90	0.86	0.84	0.83	0.82	0.82
	0.6	2.45	1.18	0.97	0.89	0.86	0.84	0.83	0.82	0.82
	0.7	2.32	1.16	0.96	0.89	0.86	0.84	0.83	0.82	0.82
	0.8	2.22	1.15	0.95	0.89	0.85	0.84	0.83	0.82	0.82
	0.9	2.14	1.13	0.95	0.88	0.85	0.84	0.83	0.82	0.82
	1.0	2.07	1.12	0.94	0.88	0.85	0.84	0.83	0.82	0.82
0.2	0.1	34.53	5.26	2.11	1.29	0.98	0.84	0.76	0.71	0.68
	0.2	18.11	3.42	1.62	1.11	0.90	0.80	0.74	0.70	0.68
	0.3	12.67	2.79	1.45	1.04	0.87	0.78	0.73	0.70	0.68
	0.4	9.98	2.47	1.36	1.01	0.85	0.77	0.72	0.69	0.67
	0.5	8.39	2.27	1.30	0.98	0.84	0.76	0.72	0.69	0.67
	0.6	7.34	2.13	1.26	0.96	0.83	0.76	0.72	0.69	0.67
	0.7	6.61	2.02	1.22	0.95	0.82	0.75	0.71	0.69	0.67
	0.8	6.08	1.94	1.19	0.93	0.81	0.75	0.71	0.68	0.67
	0.9	5.68	1.87	1.17	0.92	0.80	0.74	0.70	0.68	0.66
	1.0	4.55	1.61	1.05	0.86	0.76	0.71	0.68	0.66	0.65
0.3	0.1	90.35	12.35	4.15	2.07	1.30	0.95	0.76	0.65	0.59
	0.2	44.33	7.19	2.80	1.57	1.08	0.84	0.71	0.63	0.57
	0.3	29.24	5.46	2.33	1.40	1.00	0.80	0.69	0.62	0.57
	0.4	21.88	4.59	2.09	1.30	0.96	0.78	0.67	0.61	0.56
	0.5	17.62	4.06	1.93	1.24	0.92	0.76	0.66	0.60	0.56
	0.6	14.90	3.71	1.82	1.19	0.90	0.74	0.65	0.59	0.55
	0.7	13.06	3.45	1.74	1.15	0.88	0.73	0.64	0.59	0.55
	0.8	11.78	3.26	1.67	1.12	0.86	0.72	0.63	0.58	0.54
	0.9	9.02	2.64	1.41	0.97	0.77	0.66	0.59	0.54	0.51
	1.0	8.36	2.52	1.36	0.95	0.75	0.65	0.58	0.54	0.51
0.4	0.1	167.76	22.21	7.04	3.22	1.81	1.17	0.84	0.64	0.52
	0.2	78.99	12.25	4.42	2.26	1.39	0.97	0.74	0.60	0.50
	0.3	50.14	8.96	3.54	1.92	1.24	0.90	0.70	0.57	0.49
	0.4	36.26	7.32	3.08	1.74	1.16	0.85	0.67	0.56	0.48
	0.5	28.38	6.35	2.80	1.63	1.10	0.82	0.65	0.54	0.47
	0.6	23.50	5.72	2.61	1.54	1.05	0.79	0.63	0.53	0.46
	0.7	20.32	5.27	2.46	1.47	1.02	0.77	0.62	0.52	0.45
	0.8	14.94	4.13	1.98	1.21	0.85	0.65	0.53	0.46	0.40
	0.9	13.55	3.88	1.89	1.16	0.82	0.63	0.52	0.45	0.39
	1.0	12.66	3.69	1.80	1.12	0.79	0.62	0.51	0.44	0.39

ED5-3 Tee, D_c < or = 250 mm, Converging (*Continued*)

		C_s Values (*Concluded*)								
		Q_s/Q_c								
A_s/A_c	A_b/A_c	0.1	0.2	0.3	0.4	0.5	0.6	0.7	0.8	0.9
0.5	0.1	252.09	33.17	10.32	4.56	2.44	1.47	0.97	0.67	0.49
	0.2	114.73	17.76	6.27	3.07	1.79	1.16	0.81	0.60	0.46
	0.3	70.56	12.71	4.92	2.56	1.56	1.05	0.75	0.56	0.44
	0.4	49.68	10.24	4.23	2.29	1.43	0.98	0.71	0.54	0.42
	0.5	38.12	8.81	3.81	2.11	1.34	0.93	0.68	0.52	0.41
	0.6	31.23	7.90	3.53	1.99	1.27	0.88	0.65	0.50	0.39
	0.7	21.87	6.00	2.75	1.57	1.01	0.71	0.52	0.40	0.32
	0.8	19.30	5.57	2.59	1.49	0.96	0.67	0.50	0.38	0.30
	0.9	17.84	5.27	2.46	1.42	0.92	0.65	0.48	0.37	0.29
	1.0	17.16	5.05	2.36	1.36	0.88	0.62	0.46	0.35	0.28
0.6	0.1	323.56	42.99	13.40	5.88	3.09	1.80	1.12	0.73	0.48
	0.2	142.32	22.64	8.06	3.91	2.23	1.39	0.92	0.63	0.44
	0.3	84.89	16.05	6.28	3.24	1.92	1.23	0.83	0.58	0.41
	0.4	58.43	12.90	5.39	2.88	1.75	1.14	0.78	0.55	0.39
	0.5	44.34	11.13	4.86	2.66	1.63	1.07	0.74	0.52	0.37
	0.6	29.06	8.20	3.69	2.04	1.25	0.81	0.55	0.38	0.26
	0.7	24.71	7.51	3.44	1.91	1.18	0.77	0.52	0.35	0.24
	0.8	22.56	7.06	3.26	1.81	1.11	0.72	0.48	0.33	0.22
	0.9	21.89	6.78	3.12	1.73	1.06	0.68	0.45	0.30	0.20
	1.0	22.24	6.61	3.00	1.65	1.00	0.65	0.43	0.28	0.18
0.7	0.1	360.67	49.26	15.65	6.94	3.65	2.11	1.29	0.80	0.49
	0.2	152.32	25.82	9.48	4.66	2.65	1.63	1.04	0.68	0.44
	0.3	87.85	18.38	7.46	3.88	2.29	1.44	0.94	0.62	0.40
	0.4	59.34	14.92	6.47	3.48	2.09	1.33	0.87	0.58	0.37
	0.5	35.18	10.56	4.78	2.60	1.55	0.97	0.62	0.38	0.22
	0.6	28.26	9.51	4.41	2.42	1.45	0.90	0.57	0.35	0.19
	0.7	25.45	8.91	4.16	2.28	1.36	0.85	0.53	0.32	0.17
	0.8	25.21	8.60	3.99	2.18	1.29	0.79	0.49	0.28	0.14
	0.9	26.68	8.48	3.86	2.08	1.22	0.74	0.45	0.25	0.12
	1.0	29.34	8.49	3.77	2.01	1.16	0.70	0.41	0.22	0.10
0.8	0.1	343.46	49.71	16.47	7.52	4.02	2.35	1.43	0.87	0.51
	0.2	136.74	26.38	10.30	5.22	3.01	1.85	1.17	0.74	0.45
	0.3	75.52	19.20	8.32	4.45	2.64	1.66	1.06	0.67	0.41
	0.4	37.55	12.79	5.92	3.23	1.91	1.17	0.72	0.42	0.21
	0.5	27.25	11.28	5.41	2.98	1.77	1.08	0.66	0.37	0.18
	0.6	24.23	10.57	5.10	2.81	1.66	1.01	0.60	0.33	0.14
	0.7	25.36	10.32	4.91	2.69	1.57	0.94	0.55	0.29	0.11
	0.8	29.09	10.37	4.80	2.59	1.50	0.88	0.50	0.25	0.08
	0.9	34.55	10.60	4.74	2.50	1.42	0.82	0.46	0.21	0.05
	1.0	41.23	10.98	4.71	2.43	1.36	0.77	0.41	0.18	0.01
0.9	0.1	256.86	42.66	15.41	7.44	4.14	2.48	1.53	0.93	0.54
	0.2	90.70	23.73	10.34	5.54	3.28	2.05	1.30	0.81	0.47
	0.3	29.93	14.20	6.95	3.86	2.30	1.41	0.85	0.48	0.22
	0.4	16.27	12.21	6.28	3.55	2.12	1.29	0.77	0.42	0.18
	0.5	14.80	11.58	5.96	3.35	1.99	1.20	0.70	0.37	0.14
	0.6	19.43	11.62	5.81	3.23	1.89	1.13	0.64	0.32	0.10
	0.7	27.55	12.06	5.77	3.14	1.81	1.06	0.59	0.27	0.06
	0.8	37.84	12.73	5.79	3.07	1.74	0.99	0.53	0.23	0.02
	0.9	49.59	13.57	5.85	3.01	1.67	0.93	0.48	0.18	–0.02
	1.0	62.35	14.52	5.94	2.97	1.61	0.87	0.42	0.14	–0.06
1.0	0.1	94.95	27.29	12.24	6.64	3.96	2.48	1.57	0.98	0.57
	0.2	–6.40	12.70	7.32	4.31	2.64	1.64	1.00	0.56	0.25
	0.3	–17.35	10.90	6.66	3.97	2.44	1.51	0.90	0.49	0.20
	0.4	–11.05	11.02	6.50	3.82	2.32	1.41	0.83	0.43	0.15
	0.5	2.15	11.91	6.54	3.74	2.23	1.33	0.76	0.38	0.10
	0.6	18.80	13.18	6.67	3.70	2.16	1.26	0.70	0.32	0.06
	0.7	37.42	14.67	6.86	3.68	2.09	1.19	0.63	0.26	0.01
	0.8	57.27	16.30	7.09	3.67	2.03	1.12	0.57	0.21	–0.04
	0.9	77.95	18.02	7.35	3.66	1.97	1.06	0.51	0.15	–0.09
	1.0	99.20	19.80	7.61	3.67	1.92	1.00	0.45	0.10	–0.14

D5-3, D_c > 250 mm, Converging

		C_b Values								
		Q_b/Q_c								
A_s/A_c	A_b/A_c	0.1	0.2	0.3	0.4	0.5	0.6	0.7	0.8	0.9
0.1	0.1	–13.86	–1.90	0.03	0.61	0.83	0.92	0.96	0.98	0.98
	0.2	–58.25	–10.48	–2.80	–0.51	0.36	0.74	0.90	0.96	0.96
	0.3	–132.23	–24.75	–7.50	–2.36	–0.39	0.45	0.82	0.96	0.96
	0.4	–235.84	–44.74	–14.07	–4.93	–1.43	0.07	0.73	0.98	0.99
	0.5	–369.15	–70.45	–22.51	–8.23	–2.76	–0.42	0.61	1.01	1.05
	0.6	–532.21	–101.89	–32.83	–12.26	–4.38	–1.00	0.48	1.06	1.13
	0.7	–725.06	–139.08	–45.04	–17.02	–6.30	–1.70	0.33	1.13	1.24
	0.8	–947.77	–182.03	–59.15	–22.53	–8.52	–2.50	0.16	1.22	1.38
	0.9	–1200.	–230.76	–75.15	–28.78	–11.03	–3.40	–0.03	1.32	1.55
	1.0	–1483.	–285.27	–93.06	–35.78	–13.84	–4.41	–0.25	1.43	1.75
0.2	0.1	–5.86	–0.35	0.54	0.81	0.91	0.95	0.97	0.97	0.96
	0.2	–26.08	–4.19	–0.70	0.33	0.71	0.87	0.93	0.95	0.93
	0.3	–59.71	–10.53	–2.72	–0.43	0.43	0.78	0.91	0.95	0.91
	0.4	–106.78	–19.39	–5.53	–1.46	0.05	0.67	0.91	0.97	0.91
	0.5	–167.36	–30.77	–9.12	–2.78	–0.42	0.55	0.93	1.02	0.93
	0.6	–241.50	–44.68	–13.50	–4.37	–0.97	0.42	0.96	1.10	0.98
	0.7	–329.25	–61.15	–18.68	–6.25	–1.62	0.27	1.02	1.21	1.06
	0.8	–430.67	–80.18	–24.67	–8.42	–2.37	0.10	1.09	1.35	1.17
	0.9	–545.81	–101.78	–31.47	–10.89	–3.22	–0.08	1.17	1.52	1.31
	1.0	–674.72	–125.98	–39.08	–13.64	–4.17	–0.28	1.28	1.72	1.48
0.3	0.1	–3.26	0.15	0.70	0.86	0.93	0.96	0.97	0.97	0.95
	0.2	–15.50	–2.16	–0.04	0.58	0.81	0.90	0.93	0.94	0.91
	0.3	–35.76	–5.90	–1.20	0.16	0.66	0.85	0.92	0.92	0.88
	0.4	–64.09	–11.09	–2.78	–0.38	0.48	0.82	0.93	0.94	0.86
	0.5	–100.54	–17.73	–4.78	–1.06	0.29	0.80	0.97	0.98	0.87
	0.6	–145.16	–25.85	–7.21	–1.86	0.06	0.80	1.05	1.05	0.90
	0.7	–198.01	–35.46	–10.08	–2.81	–0.19	0.82	1.15	1.16	0.96
	0.8	–259.13	–46.56	–13.39	–3.89	–0.47	0.85	1.28	1.30	1.05
	0.9	–328.59	–59.18	–17.15	–5.11	–0.78	0.89	1.44	1.47	1.17
	1.0	–406.44	–73.33	–21.37	–6.48	–1.12	0.94	1.63	1.68	1.32
0.4	0.1	–1.99	0.38	0.77	0.89	0.94	0.96	0.97	0.97	0.95
	0.2	–10.31	–1.18	0.26	0.69	0.84	0.91	0.93	0.93	0.90
	0.3	–23.96	–3.65	–0.48	0.43	0.75	0.88	0.91	0.91	0.86
	0.4	–42.98	–7.03	–1.46	0.11	0.67	0.87	0.93	0.91	0.84
	0.5	–67.44	–11.35	–2.69	–0.26	0.59	0.90	0.97	0.94	0.84
	0.6	–97.39	–16.60	–4.17	–0.69	0.52	0.95	1.06	1.01	0.87
	0.7	–132.88	–22.81	–5.91	–1.17	0.46	1.03	1.17	1.11	0.92
	0.8	–173.96	–29.99	–7.90	–1.73	0.40	1.15	1.33	1.24	1.00
	0.9	–220.69	–38.15	–10.16	–2.35	0.35	1.29	1.51	1.40	1.11
	1.0	–273.12	–47.31	–12.70	–3.04	0.29	1.45	1.74	1.61	1.26
0.5	0.1	–1.26	0.51	0.81	0.90	0.94	0.96	0.97	0.96	0.95
	0.2	–7.26	–0.62	0.43	0.75	0.86	0.91	0.93	0.93	0.90
	0.3	–16.99	–2.35	–0.07	0.57	0.80	0.89	0.91	0.90	0.87
	0.4	–30.49	–4.67	–0.72	0.38	0.76	0.89	0.92	0.90	0.85
	0.5	–47.82	–7.61	–1.50	0.19	0.75	0.93	0.97	0.93	0.85
	0.6	–69.03	–11.17	–2.42	–0.03	0.76	1.01	1.05	0.98	0.88
	0.7	–94.17	–15.37	–3.49	–0.26	0.80	1.13	1.17	1.07	0.93
	0.8	–123.30	–20.22	–4.71	–0.50	0.87	1.29	1.33	1.20	1.02
	0.9	–156.48	–25.73	–6.09	–0.77	0.96	1.48	1.53	1.36	1.13
	1.0	–193.74	–31.92	–7.63	–1.07	1.06	1.71	1.77	1.56	1.28
0.6	0.1	–0.79	0.59	0.83	0.91	0.95	0.96	0.97	0.97	0.95
	0.2	–5.28	–0.27	0.54	0.78	0.88	0.91	0.93	0.93	0.91
	0.3	–12.43	–1.51	0.18	0.66	0.83	0.89	0.91	0.91	0.89
	0.4	–22.29	–3.15	–0.25	0.55	0.82	0.90	0.92	0.91	0.88
	0.5	–34.92	–5.19	–0.74	0.46	0.84	0.95	0.96	0.93	0.89
	0.6	–50.35	–7.64	–1.30	0.38	0.91	1.05	1.04	0.98	0.93
	0.7	–68.66	–10.52	–1.94	0.32	1.01	1.18	1.16	1.07	0.99
	0.8	–89.89	–13.83	–2.65	0.26	1.15	1.36	1.33	1.19	1.08
	0.9	–114.09	–17.61	–3.46	0.22	1.32	1.59	1.53	1.35	1.21
	1.0	–141.33	–21.84	–4.35	0.18	1.54	1.85	1.77	1.54	1.37

D5-3, D_c > 250 mm, Converging (*Continued*)

		C_b Values (*Continued*)								
		Q_b/Q_c								
A_s/A_c	A_b/A_c	0.1	0.2	0.3	0.4	0.5	0.6	0.7	0.8	0.9
0.7	0.1	–0.47	0.65	0.85	0.92	0.95	0.96	0.97	0.97	0.96
	0.2	–3.90	–0.03	0.61	0.81	0.89	0.92	0.94	0.94	0.93
	0.3	–9.25	–0.94	0.35	0.72	0.85	0.90	0.92	0.92	0.92
	0.4	–16.54	–2.10	0.07	0.66	0.85	0.91	0.93	0.92	0.92
	0.5	–25.85	–3.51	–0.22	0.64	0.90	0.97	0.97	0.94	0.95
	0.6	–37.21	–5.18	–0.54	0.65	1.00	1.07	1.05	1.00	1.00
	0.7	–50.68	–7.13	–0.87	0.70	1.14	1.22	1.17	1.08	1.08
	0.8	–66.31	–9.37	–1.24	0.78	1.33	1.41	1.33	1.21	1.20
	0.9	–84.17	–11.92	–1.64	0.89	1.56	1.65	1.53	1.36	1.34
	1.0	–104.29	–14.78	–2.09	1.03	1.84	1.94	1.78	1.56	1.52
0.8	0.1	–0.23	0.69	0.87	0.93	0.95	0.97	0.97	0.98	0.97
	0.2	–2.90	0.15	0.67	0.83	0.90	0.93	0.94	0.95	0.96
	0.3	–6.91	–0.53	0.47	0.76	0.87	0.91	0.93	0.94	0.96
	0.4	–12.31	–1.34	0.30	0.74	0.88	0.93	0.94	0.95	0.98
	0.5	–19.16	–2.29	0.15	0.77	0.94	0.99	0.98	0.98	1.03
	0.6	–27.50	–3.39	0.01	0.84	1.06	1.09	1.06	1.03	1.11
	0.7	–37.38	–4.66	–0.11	0.97	1.23	1.24	1.18	1.12	1.21
	0.8	–48.87	–6.11	–0.22	1.15	1.46	1.45	1.35	1.25	1.35
	0.9	–62.01	–7.75	–0.33	1.37	1.73	1.70	1.55	1.41	1.52
	1.0	–76.85	–9.59	–0.44	1.63	2.06	2.00	1.80	1.61	1.73
0.9	0.1	–0.05	0.72	0.88	0.93	0.96	0.97	0.98	0.99	0.99
	0.2	–2.14	0.28	0.71	0.85	0.91	0.94	0.96	0.97	0.99
	0.3	–5.14	–0.21	0.57	0.80	0.88	0.92	0.95	0.97	1.02
	0.4	–9.09	–0.76	0.47	0.80	0.91	0.94	0.96	0.98	1.06
	0.5	–14.06	–1.36	0.42	0.86	0.98	1.01	1.01	1.02	1.14
	0.6	–20.08	–2.04	0.42	0.99	1.11	1.12	1.09	1.09	1.24
	0.7	–27.21	–2.79	0.47	1.17	1.30	1.27	1.21	1.19	1.38
	0.8	–35.50	–3.63	0.55	1.42	1.55	1.49	1.38	1.32	1.55
	0.9	–45.01	–4.57	0.66	1.72	1.86	1.75	1.59	1.49	1.75
	1.0	–55.79	–5.64	0.80	2.08	2.22	2.06	1.84	1.69	1.99
1.0	0.1	0.09	0.75	0.89	0.94	0.97	0.98	0.99	1.00	1.01
	0.2	–1.54	0.39	0.74	0.87	0.92	0.95	0.97	0.99	1.03
	0.3	–3.75	0.03	0.64	0.83	0.90	0.94	0.97	1.00	1.08
	0.4	–6.57	–0.32	0.61	0.85	0.93	0.97	0.99	1.03	1.16
	0.5	–10.05	–0.65	0.64	0.94	1.02	1.03	1.04	1.08	1.26
	0.6	–14.24	–0.98	0.74	1.10	1.16	1.15	1.13	1.16	1.40
	0.7	–19.20	–1.32	0.91	1.33	1.37	1.31	1.26	1.27	1.57
	0.8	–24.98	–1.69	1.14	1.63	1.63	1.53	1.43	1.41	1.78
	0.9	–31.62	–2.10	1.42	2.00	1.96	1.80	1.64	1.59	2.02
	1.0	–39.19	–2.55	1.76	2.43	2.35	2.12	1.90	1.81	2.30

		C_s Values								
		Q_b/Q_c								
A_s/A_c	A_b/A_c	0.1	0.2	0.3	0.4	0.5	0.6	0.7	0.8	0.9
0.1	0.1	7.87	1.70	1.07	0.92	0.86	0.84	0.82	0.82	0.81
	0.2	4.21	1.30	0.97	0.88	0.85	0.83	0.82	0.81	0.81
	0.3	3.02	1.16	0.93	0.87	0.84	0.83	0.82	0.81	0.81
	0.4	2.45	1.10	0.92	0.86	0.84	0.83	0.82	0.81	0.81
	0.5	2.13	1.07	0.91	0.86	0.84	0.82	0.82	0.81	0.81
	0.6	1.93	1.04	0.90	0.86	0.84	0.82	0.82	0.81	0.81
	0.7	1.80	1.03	0.90	0.85	0.83	0.82	0.82	0.81	0.81
	0.8	1.72	1.02	0.90	0.85	0.83	0.82	0.82	0.81	0.81
	0.9	1.67	1.01	0.89	0.85	0.83	0.82	0.82	0.81	0.81
	1.0	1.63	1.01	0.89	0.85	0.83	0.82	0.82	0.81	0.81
0.2	0.1	44.93	6.00	2.16	1.24	0.92	0.78	0.71	0.67	0.65
	0.2	20.43	3.28	1.45	0.98	0.81	0.73	0.69	0.66	0.64
	0.3	12.53	2.40	1.22	0.90	0.77	0.71	0.68	0.66	0.64
	0.4	8.78	1.98	1.12	0.86	0.76	0.70	0.67	0.66	0.64
	0.5	6.69	1.75	1.06	0.84	0.75	0.70	0.67	0.65	0.64
	0.6	5.43	1.61	1.02	0.83	0.74	0.70	0.67	0.65	0.64
	0.7	4.64	1.52	1.00	0.82	0.74	0.70	0.67	0.65	0.64
	0.8	4.15	1.47	0.98	0.81	0.74	0.69	0.67	0.65	0.64
	0.9	3.86	1.43	0.97	0.81	0.74	0.69	0.67	0.65	0.64
	1.0	3.71	1.42	0.97	0.81	0.73	0.69	0.67	0.65	0.64

D5-3, D_c > 250 mm, Converging (*Continued*)

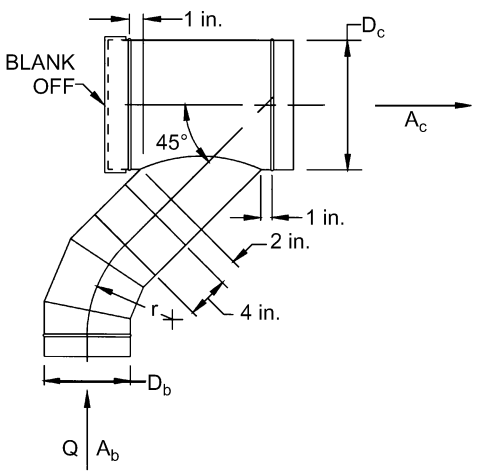
		C_s Values (*Continued*)								
		Q_b/Q_c								
A_s/A_c	A_b/A_c	0.1	0.2	0.3	0.4	0.5	0.6	0.7	0.8	0.9
0.3	0.1	118.96	14.64	4.45	2.03	1.20	0.84	0.66	0.57	0.51
	0.2	51.24	7.11	2.49	1.33	0.90	0.70	0.60	0.54	0.50
	0.3	29.57	4.70	1.87	1.10	0.80	0.66	0.58	0.53	0.50
	0.4	19.40	3.57	1.58	1.00	0.76	0.64	0.57	0.52	0.50
	0.5	13.84	2.96	1.42	0.94	0.73	0.62	0.56	0.52	0.50
	0.6	10.58	2.59	1.32	0.90	0.72	0.62	0.56	0.52	0.49
	0.7	8.64	2.38	1.27	0.88	0.71	0.61	0.56	0.52	0.49
	0.8	7.52	2.25	1.23	0.87	0.70	0.61	0.56	0.52	0.49
	0.9	6.95	2.19	1.22	0.87	0.70	0.61	0.56	0.52	0.49
	1.0	6.76	2.17	1.21	0.86	0.70	0.61	0.55	0.52	0.49
0.4	0.1	218.57	26.35	7.61	3.18	1.65	1.00	0.68	0.50	0.40
	0.2	90.30	12.10	3.91	1.85	1.08	0.74	0.55	0.45	0.38
	0.3	49.68	7.59	2.74	1.42	0.90	0.65	0.51	0.43	0.37
	0.4	30.96	5.51	2.21	1.23	0.82	0.61	0.49	0.42	0.37
	0.5	21.00	4.40	1.92	1.13	0.78	0.59	0.48	0.42	0.37
	0.6	15.43	3.78	1.76	1.07	0.75	0.58	0.48	0.41	0.37
	0.7	12.36	3.44	1.67	1.04	0.74	0.57	0.48	0.41	0.37
	0.8	10.86	3.27	1.63	1.02	0.73	0.57	0.47	0.41	0.37
	0.9	10.40	3.22	1.61	1.01	0.73	0.57	0.47	0.41	0.37
	1.0	10.67	3.25	1.62	1.02	0.73	0.57	0.47	0.41	0.37
0.5	0.1	320.10	38.52	10.97	4.44	2.18	1.21	0.72	0.46	0.31
	0.2	126.36	16.99	5.39	2.42	1.32	0.81	0.54	0.38	0.28
	0.3	65.94	10.28	3.65	1.79	1.05	0.68	0.48	0.35	0.27
	0.4	38.84	7.27	2.87	1.51	0.93	0.63	0.45	0.34	0.27
	0.5	25.07	5.74	2.47	1.37	0.87	0.60	0.44	0.33	0.26
	0.6	17.98	4.95	2.27	1.29	0.84	0.58	0.43	0.33	0.26
	0.7	14.69	4.58	2.17	1.26	0.82	0.58	0.43	0.33	0.26
	0.8	13.78	4.48	2.15	1.25	0.82	0.57	0.43	0.33	0.26
	0.9	14.45	4.56	2.17	1.26	0.82	0.58	0.43	0.33	0.26
	1.0	16.24	4.76	2.22	1.28	0.83	0.58	0.43	0.33	0.26
0.6	0.1	393.66	47.81	13.66	5.50	2.64	1.40	0.78	0.44	0.23
	0.2	146.22	20.32	6.54	2.92	1.54	0.89	0.54	0.33	0.20
	0.3	70.93	11.95	4.37	2.13	1.20	0.73	0.46	0.30	0.18
	0.4	38.66	8.37	3.44	1.80	1.06	0.67	0.43	0.28	0.18
	0.5	23.61	6.70	3.00	1.64	0.99	0.64	0.42	0.28	0.18
	0.6	17.17	5.98	2.82	1.57	0.97	0.62	0.41	0.27	0.18
	0.7	15.64	5.81	2.77	1.56	0.96	0.62	0.41	0.27	0.18
	0.8	17.19	5.98	2.82	1.57	0.97	0.62	0.41	0.27	0.18
	0.9	20.79	6.38	2.92	1.61	0.98	0.63	0.42	0.27	0.18
	1.0	25.82	6.94	3.07	1.66	1.00	0.64	0.42	0.28	0.18
0.7	0.1	409.10	50.88	14.82	6.03	2.90	1.51	0.81	0.41	0.17
	0.2	137.78	20.74	7.01	3.21	1.70	0.96	0.54	0.29	0.13
	0.3	58.74	11.96	4.73	2.39	1.34	0.79	0.47	0.26	0.12
	0.4	27.78	8.52	3.84	2.06	1.21	0.73	0.44	0.24	0.11
	0.5	16.04	7.21	3.50	1.94	1.15	0.71	0.43	0.24	0.11
	0.6	13.91	6.97	3.44	1.92	1.14	0.70	0.42	0.24	0.11
	0.7	17.28	7.35	3.54	1.95	1.16	0.71	0.43	0.24	0.11
	0.8	24.08	8.10	3.73	2.02	1.19	0.72	0.43	0.24	0.11
	0.9	33.17	9.11	3.99	2.12	1.23	0.74	0.44	0.25	0.11
	1.0	43.86	10.30	4.30	2.23	1.28	0.76	0.45	0.25	0.11
0.8	0.1	341.98	45.02	13.75	5.80	2.86	1.50	0.79	0.38	0.12
	0.2	92.97	17.35	6.57	3.21	1.75	0.99	0.55	0.27	0.08
	0.3	26.98	10.02	4.67	2.52	1.46	0.86	0.48	0.24	0.07
	0.4	6.75	7.77	4.09	2.31	1.37	0.81	0.46	0.23	0.06
	0.5	4.83	7.56	4.03	2.29	1.36	0.81	0.46	0.23	0.06
	0.6	12.05	8.36	4.24	2.37	1.39	0.83	0.47	0.23	0.07
	0.7	24.51	9.75	4.60	2.49	1.45	0.85	0.48	0.24	0.07
	0.8	40.23	11.49	5.05	2.66	1.52	0.88	0.50	0.24	0.07
	0.9	58.13	13.48	5.57	2.85	1.60	0.92	0.51	0.25	0.07
	1.0	77.56	15.64	6.13	3.05	1.68	0.96	0.53	0.26	0.08

D5-3, D_c > 250 mm, Converging (*Continued*)

		C_s Values (*Concluded*)								
		Q_b/Q_c								
A_s/A_c	A_b/A_c	0.1	0.2	0.3	0.4	0.5	0.6	0.7	0.8	0.9
0.9	0.1	179.59	28.81	10.06	4.66	2.45	1.34	0.71	0.32	0.07
	0.2	10.77	10.05	5.20	2.91	1.70	0.99	0.55	0.25	0.04
	0.3	–21.27	6.49	4.28	2.57	1.56	0.93	0.52	0.24	0.04
	0.4	–19.11	6.73	4.34	2.60	1.57	0.93	0.52	0.24	0.04
	0.5	–3.28	8.49	4.80	2.76	1.64	0.97	0.54	0.24	0.04
	0.6	19.39	11.01	5.45	3.00	1.74	1.01	0.56	0.25	0.04
	0.7	45.97	13.96	6.21	3.27	1.86	1.07	0.58	0.27	0.05
	0.8	74.99	17.18	7.05	3.58	1.98	1.13	0.61	0.28	0.05
	0.9	105.64	20.59	7.93	3.89	2.12	1.19	0.64	0.29	0.06
	1.0	137.43	24.12	8.85	4.23	2.26	1.26	0.67	0.31	0.06
1.0	0.1	–73.14	2.79	3.92	2.68	1.70	1.04	0.58	0.26	0.03
	0.2	–99.78	–0.17	3.15	2.40	1.58	0.98	0.56	0.25	0.02
	0.3	–75.42	2.54	3.85	2.65	1.69	1.03	0.58	0.26	0.03
	0.4	–38.31	6.66	4.92	3.04	1.86	1.11	0.62	0.28	0.03
	0.5	3.90	11.35	6.14	3.48	2.04	1.20	0.66	0.29	0.04
	0.6	48.66	16.32	7.43	3.94	2.24	1.29	0.70	0.31	0.04
	0.7	94.88	21.46	8.76	4.43	2.45	1.38	0.75	0.33	0.05
	0.8	142.01	26.70	10.12	4.92	2.66	1.48	0.79	0.35	0.06
	0.9	189.74	32.00	11.49	5.41	2.87	1.58	0.84	0.37	0.07
	1.0	237.90	37.35	12.88	5.92	3.08	1.68	0.88	0.39	0.07

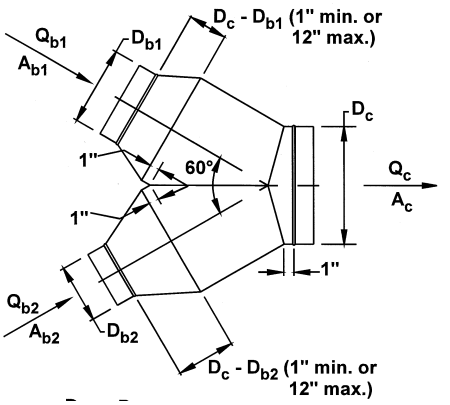
ED5-6 Capped Wye, Branch with 45-Degree Elbow, Branch 90 Degrees to Main, Converging, r/D_b = 1.5

A_b/A_c	0.1	0.2	0.3	0.4	0.5	0.6	0.7	0.8	0.9	1.0
C_b	1.02	0.97	0.93	0.88	0.84	0.79	0.75	0.70	0.66	0.61



ED5-9 Symmetrical Wye, 60 Degree, $D_{b1} \geq D_{b2}$, Converging

		C_{b1} Values								
		Q_{b1}/Q_c								
A_{b1}/A_c	A_{b2}/A_c	0.1	0.2	0.3	0.4	0.5	0.6	0.7	0.8	0.9
0.1	0.1	–3.00	–0.50	–0.11	0.06	0.12	0.14	0.14	0.13	0.11
0.2	0.1	–16.00	–3.00	–1.01	0.01	0.32	0.44	0.49	0.56	0.49
	0.2	–11.95	–1.89	–0.09	0.41	0.62	0.74	0.80	0.80	0.79
0.3	0.1	–54.00	–11.25	–3.57	–0.43	–0.22	0.38	0.55	1.41	1.22
	0.2	–45.45	–9.39	–2.44	–0.41	0.33	0.68	0.89	1.03	1.13
	0.3	–16.88	–2.92	–0.09	0.59	0.85	1.02	1.12	1.12	1.22
0.4	0.1	–97.28	–18.48	–6.35	–1.58	–0.57	–0.15	0.23	0.35	0.50
	0.2	–72.04	–14.00	–4.26	–1.24	–0.32	0.09	0.40	0.50	0.62
	0.3	–52.95	–9.91	–2.86	–0.91	–0.06	0.32	0.56	0.64	0.73
	0.4	–40.00	–6.22	–2.15	–0.57	0.19	0.56	0.72	0.79	0.85
0.5	0.1	–167.71	–32.20	–10.05	–2.52	–1.25	–0.26	0.17	0.34	0.36
	0.2	–126.04	–23.80	–7.44	–2.64	–0.85	–0.13	0.16	0.26	0.28
	0.3	–91.07	–16.91	–5.16	–1.73	–0.46	0.04	0.23	0.29	0.28
	0.4	–56.41	–10.07	–2.90	–0.82	–0.07	0.21	0.30	0.31	0.29
	0.5	–30.58	–5.23	–1.06	0.00	0.32	0.43	0.47	0.47	0.41



ED5-9 Symmetrical Wye, 60 Degree, $D_{b1} \geq D_{b2}$, Converging (*Continued*)

C_{b1} Values (*Concluded*)

		Q_{b1}/Q_c								
A_{b1}/A_c	A_{b2}/A_c	0.1	0.2	0.3	0.4	0.5	0.6	0.7	0.8	0.9
0.6	0.1	–299.02	–55.99	–16.77	–5.89	–2.09	–0.54	0.11	0.25	0.23
	0.2	–209.81	–39.31	–12.13	–4.35	–1.54	–0.40	0.06	0.25	0.23
	0.3	–147.43	–27.69	–8.75	–3.20	–1.13	–0.29	0.07	0.23	0.22
	0.4	–85.06	–16.07	–5.38	–2.04	–0.71	–0.17	0.08	0.23	0.22
	0.5	–58.22	–11.03	–3.84	–1.49	–0.50	–0.09	0.11	0.23	0.22
	0.6	–40.57	–7.86	–2.60	–0.99	–0.32	0.00	0.14	0.23	0.22
0.7	0.1	–420.02	–77.23	–23.37	–8.01	–3.30	–1.46	–0.71	–0.10	0.03
	0.2	–285.70	–53.45	–16.65	–6.05	–2.52	–1.02	–0.46	–0.02	0.06
	0.3	–195.01	–37.35	–12.21	–4.72	–1.87	–0.77	–0.14	0.04	0.09
	0.4	–104.16	–21.18	–7.20	–3.23	–1.37	–0.39	–0.10	0.08	0.12
	0.5	–67.21	–13.02	–4.52	–1.78	–0.73	–0.26	–0.03	0.12	0.15
	0.6	–49.01	–9.63	–3.13	–1.28	–0.51	–0.14	–0.02	0.16	0.17
	0.7	–59.33	–10.05	–2.53	–0.54	–0.21	–0.09	–0.01	0.23	0.24
0.8	0.1	–518.26	–95.93	–30.34	–11.09	–4.30	–2.51	–1.58	–0.63	–0.31
	0.2	–373.33	–69.73	–21.93	–8.08	–3.84	–1.96	–1.31	–0.50	–0.24
	0.3	–247.31	–48.35	–16.32	–6.65	–2.89	–1.51	–0.49	–0.30	–0.16
	0.4	–120.88	–26.76	–9.24	–4.80	–2.30	–0.71	–0.39	–0.20	–0.08
	0.5	–72.08	–14.20	–4.98	–2.00	–1.02	–0.53	–0.26	–0.10	0.01
	0.6	–55.91	–11.20	–3.56	–1.60	–0.77	–0.36	–0.13	0.01	0.05
	0.7	–35.96	–7.20	–2.31	–1.08	–0.45	–0.09	0.03	0.11	0.13
	0.8	–16.00	–3.20	–1.07	–0.56	–0.13	0.18	0.20	0.20	0.21
0.9	0.1	–629.39	–114.67	–35.12	–13.73	–6.55	–3.65	–2.25	–1.20	–0.70
	0.2	–473.23	–88.43	–27.99	–11.44	–5.67	–3.21	–2.07	–1.11	–0.65
	0.3	–303.64	–60.65	–21.13	–9.65	–4.91	–2.87	–1.51	–0.95	–0.58
	0.4	–216.44	–44.78	–16.20	–8.35	–4.46	–2.31	–1.43	–0.87	–0.52
	0.5	–116.49	–28.35	–12.15	–6.45	–3.65	–2.19	–1.35	–0.81	–0.47
	0.6	–98.16	–25.31	–10.76	–5.82	–3.48	–2.16	–1.35	–0.81	–0.49
	0.7	–78.15	–21.31	–9.54	–5.37	–3.28	–1.99	–1.25	–0.75	–0.44
	0.8	–58.15	–17.32	–8.33	–4.93	–3.08	–1.82	–1.15	–0.69	–0.39
	0.9	–72.90	–18.23	–8.10	–4.56	–2.92	–1.92	–1.29	–0.66	–0.39
1.0	0.1	–677.01	–124.30	–37.45	–16.24	–8.10	–4.89	–3.06	–1.95	–1.23
	0.2	–585.16	–109.39	–34.85	–15.63	–8.00	–4.86	–3.06	–1.95	–1.23
	0.3	–363.31	–74.20	–26.68	–13.44	–7.60	–4.72	–2.96	–1.88	–1.17
	0.4	–345.54	–68.75	–25.56	–13.13	–7.40	–4.58	–2.92	–1.84	–1.16
	0.5	–175.00	–47.50	–22.22	–12.81	–7.40	–4.58	–2.92	–1.84	–1.16
	0.6	–155.00	–45.00	–21.00	–11.88	–7.40	–4.77	–3.13	–2.02	–1.28
	0.7	–136.79	–41.38	–19.95	–11.58	–7.40	–4.77	–3.13	–2.02	–1.28
	0.8	–118.58	–37.76	–18.91	–11.29	–7.40	–4.77	–3.13	–2.02	–1.28
	0.9	–100.29	–34.13	–17.90	–10.99	–7.39	–4.77	–3.13	–2.02	–1.28
	1.0	–82.00	–30.50	–16.89	–10.69	–7.39	–4.77	–3.13	–2.02	–1.28

C_{b1} Values

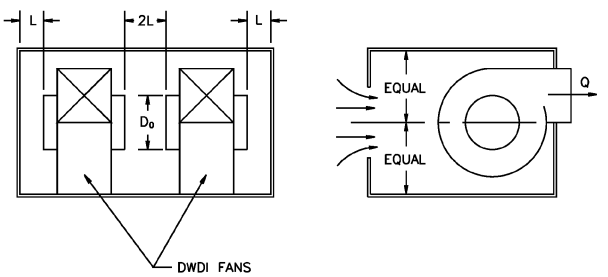
		Q_{b2}/Q_c								
A_{b1}/A_c	A_{b2}/A_c	0.1	0.2	0.3	0.4	0.5	0.6	0.7	0.8	0.9
0.1	0.1	–3.00	–0.50	–0.11	0.06	0.12	0.14	0.14	0.13	0.11
0.2	0.1	–2.70	–0.04	0.23	0.15	0.16	0.18	0.20	0.17	0.16
	0.2	–11.95	–1.89	–0.09	0.41	0.62	0.74	0.80	0.80	0.79
0.3	0.1	–2.12	0.12	0.33	0.22	0.22	0.23	0.26	0.22	0.22
	0.2	–2.00	–0.30	0.22	0.42	0.61	0.73	0.78	0.77	0.76
	0.3	–16.88	–2.92	–0.09	0.59	0.85	1.02	1.12	1.12	1.22
0.4	0.1	–2.38	–0.17	0.13	0.23	0.25	0.24	0.23	0.24	0.24
	0.2	–6.95	–1.00	0.16	0.53	0.67	0.71	0.72	0.72	0.71
	0.3	–16.21	–2.90	–0.44	0.40	0.79	0.98	1.05	1.06	1.05
	0.4	–40.00	–6.22	–2.15	–0.57	0.19	0.56	0.72	0.79	0.85
0.5	0.1	–1.58	0.11	0.33	0.31	0.32	0.33	0.34	0.32	0.32
	0.2	–4.82	–0.01	0.56	0.71	0.82	0.89	0.92	0.90	0.89
	0.3	–12.27	–1.17	0.44	0.88	1.11	1.25	1.29	1.25	1.23
	0.4	–22.40	–2.93	–0.21	0.48	0.73	0.84	0.88	0.87	0.82
	0.5	–30.58	–5.23	–1.06	0.00	0.32	0.43	0.47	0.46	0.41

ED5-9 Symmetrical Wye, 60 Degree, $D_{b1} \geq D_{b2}$, Converging (*Continued*)

		C_{b1} Values (*Concluded*)								
		Q_{b2}/Q_c								
A_{b1}/A_c	A_{b2}/A_c	0.1	0.2	0.3	0.4	0.5	0.6	0.7	0.8	0.9
0.6	0.1	–0.78	0.11	0.32	0.40	0.42	0.43	0.43	0.42	0.42
	0.2	–3.68	0.07	0.77	0.98	1.06	1.08	1.08	1.06	1.04
	0.3	–9.06	–0.55	0.86	1.27	1.42	1.48	1.49	1.46	1.42
	0.4	–17.62	–2.12	0.06	0.60	0.83	0.95	0.98	0.95	0.91
	0.5	–28.00	–4.26	–0.99	–0.16	0.20	0.39	0.45	0.41	0.38
	0.6	–40.57	–7.86	–2.60	–0.99	–0.32	0.00	0.14	0.23	0.22
0.7	0.1	–0.12	0.17	0.22	0.34	0.39	0.40	0.40	0.39	0.39
	0.2	–1.24	0.33	0.55	0.86	0.98	1.02	1.04	1.03	1.02
	0.3	–4.03	0.06	0.73	1.20	1.39	1.47	1.49	1.47	1.44
	0.4	–9.77	–0.84	0.30	0.36	0.71	0.89	0.97	0.98	0.97
	0.5	–15.88	–2.51	–0.34	–0.06	0.21	0.51	0.65	0.68	0.70
	0.6	–23.89	–4.60	–1.54	–0.55	–0.51	–0.04	0.21	0.37	0.44
	0.7	–59.33	–10.05	–2.53	–0.54	–0.21	–0.09	–0.01	0.23	0.24
0.8	0.1	0.53	0.24	0.12	0.29	0.36	0.37	0.37	0.36	0.35
	0.2	1.20	0.60	0.33	0.73	0.90	0.97	1.00	1.00	0.99
	0.3	0.99	0.68	0.60	1.13	1.36	1.45	1.49	1.48	1.46
	0.4	–1.92	0.44	0.53	0.11	0.59	0.83	0.96	1.01	1.03
	0.5	–3.75	–0.75	0.31	0.05	0.22	0.62	0.84	0.96	1.03
	0.6	–7.20	–1.35	–0.48	–0.11	–0.70	–0.09	0.28	0.51	0.65
	0.7	–11.03	–2.14	–0.74	–0.29	–2.11	0.01	0.26	0.42	0.52
	0.8	–16.00	–3.20	–1.07	–0.56	–0.13	0.18	0.20	0.20	0.21
0.9	0.1	–0.13	0.32	0.23	0.32	0.36	0.36	0.36	0.35	0.34
	0.2	–0.98	0.80	0.61	0.85	0.97	1.03	1.04	1.03	1.01
	0.3	–3.06	0.35	0.55	1.06	1.32	1.44	1.49	1.49	1.48
	0.4	–7.36	–2.06	–1.01	–0.12	0.47	0.78	0.95	1.04	1.09
	0.5	–11.88	–4.00	–1.88	–0.98	–0.30	0.24	0.56	0.75	0.87
	0.6	–18.18	–5.99	–3.20	–1.67	–1.08	–0.30	0.18	0.49	0.70
	0.7	–25.36	–8.36	–4.42	–2.45	–2.82	–0.55	–0.01	0.34	0.56
	0.8	–33.92	–11.20	–5.87	–3.43	–1.94	–0.90	–0.35	0.00	0.24
	0.9	–72.90	–18.23	–8.10	–4.56	–2.92	–1.92	–1.29	–0.66	–0.39
1.0	0.1	–0.78	0.40	0.33	0.35	0.36	0.36	0.35	0.34	0.33
	0.2	–3.16	1.00	0.89	0.96	1.05	1.08	1.08	1.06	1.04
	0.3	–7.11	0.02	0.50	0.99	1.29	1.43	1.49	1.50	1.50
	0.4	–12.80	–4.56	–2.56	–0.36	0.35	0.72	0.93	1.07	1.15
	0.5	–20.00	–7.25	–4.06	–2.02	–0.81	–0.14	0.27	0.54	0.72
	0.6	–29.16	–10.62	–5.92	–3.24	–1.47	–0.50	0.09	0.48	0.74
	0.7	–39.69	–14.58	–8.11	–4.61	–3.53	–1.10	–0.28	0.25	0.60
	0.8	–51.84	–19.20	–10.67	–6.30	–3.75	–1.97	–0.89	–0.20	0.27
	0.9	–66.02	–24.50	–13.59	–8.31	–5.93	–3.18	–1.83	–0.95	–0.35
	1.0	–82.00	–30.50	–16.89	–10.69	–7.39	–4.77	–3.13	–2.02	–1.28

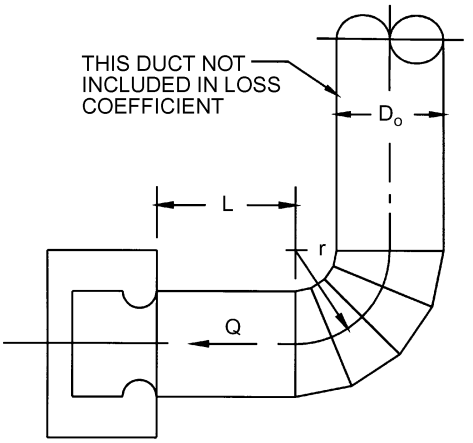
ED7-1 Centrifugal Fan Located in Plenum or Cabinet

L/D_o	0.30	0.40	0.50	0.75
C_o	0.80	0.53	0.40	0.22



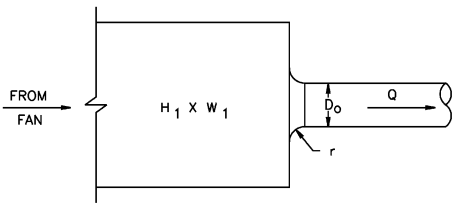
ED7-2 Fan Inlet, Centrifugal, SWSI, with 4 Gore Elbow

	C_o Values			
	L/D_o			
r/D_o	0.0	2.0	5.0	10.0
0.50	1.80	1.00	0.53	0.53
0.75	1.40	0.80	0.40	0.40
1.00	1.20	0.67	0.33	0.33
1.50	1.10	0.60	0.33	0.33
2.00	1.00	0.53	0.33	0.33
3.00	0.67	0.40	0.22	0.22



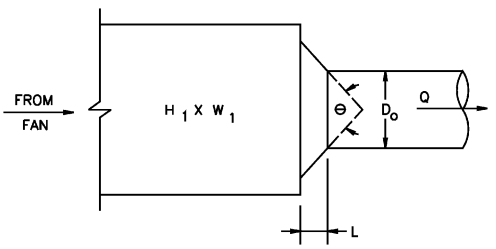
SD1-1 Bellmouth, Plenum to Round, Supply Air Systems

r/D_o	0.0	0.01	0.02	0.03	0.04	0.05	0.06	0.08	0.10	0.12	0.16	0.20	10.0
C_o	0.50	0.44	0.37	0.31	0.26	0.22	0.20	0.15	0.12	0.09	0.06	0.03	0.03



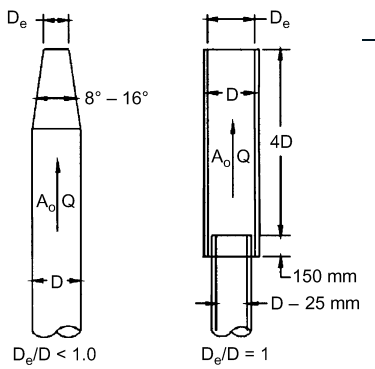
SD1-2 Conical Bellmouth/Sudden Contraction, Plenum to Round, Supply Air Systems

	C_o Values								
	θ								
L/D_o	0	10	20	30	45	60	100	140	180
0.00	0.50	0.50	0.50	0.50	0.50	0.50	0.50	0.50	0.50
0.025	0.50	0.47	0.45	0.43	0.41	0.40	0.42	0.45	0.50
0.05	0.50	0.45	0.41	0.36	0.33	0.30	0.35	0.42	0.50
0.075	0.50	0.42	0.35	0.30	0.26	0.23	0.30	0.40	0.50
0.10	0.50	0.39	0.32	0.25	0.22	0.18	0.27	0.38	0.50
0.15	0.50	0.37	0.27	0.20	0.16	0.15	0.25	0.37	0.50
0.60	0.50	0.27	0.18	0.13	0.11	0.12	0.23	0.36	0.50



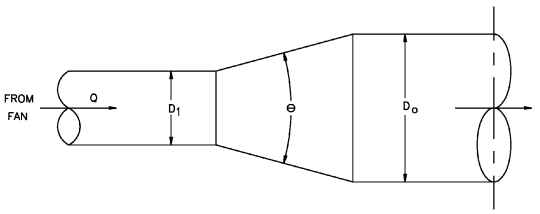
SD2-6 and SD2-7 Stackheads

D_e/D	0.3	0.4	0.5	0.6	0.7	0.8	0.9	1.0
C_O	130.	41.02	16.80	8.10	4.37	2.56	1.60	1.00



SD2-7 **SD2-6**

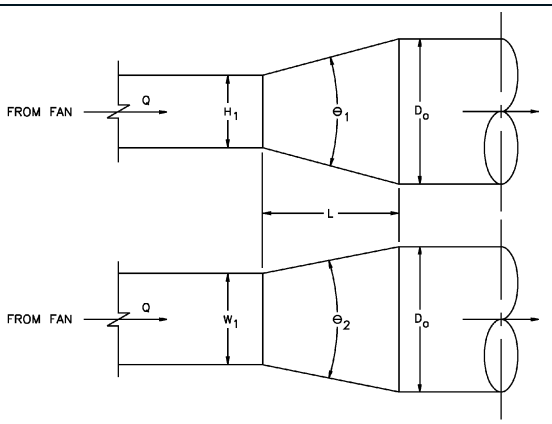
SD4-1 Transition, Round to Round, Supply Air Systems



C_o Values

	θ												
A_o/A_1	0	3	5	10	15	20	30	45	60	90	120	150	180
0.10	0.0	0.12	0.09	0.05	0.05	0.05	0.05	0.06	0.08	0.19	0.29	0.37	0.43
0.167	0.0	0.11	0.08	0.05	0.04	0.04	0.04	0.06	0.07	0.18	0.28	0.36	0.42
0.25	0.0	0.10	0.07	0.05	0.04	0.04	0.04	0.06	0.07	0.17	0.27	0.35	0.41
0.39	0.0	0.10	0.07	0.05	0.05	0.05	0.05	0.06	0.06	0.16	0.25	0.32	0.36
0.50	0.0	0.07	0.06	0.05	0.05	0.05	0.05	0.06	0.07	0.13	0.18	0.23	0.24
0.64	0.0	0.07	0.07	0.05	0.04	0.04	0.04	0.05	0.06	0.09	0.13	0.17	0.19
1.0	0.0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
2.0	0.0	0.59	0.51	0.43	0.52	0.76	1.26	1.32	1.30	1.26	1.23	1.21	1.19
4.0	0.0	3.15	2.78	2.51	3.38	4.77	7.38	9.70	10.88	10.29	10.08	9.96	9.84
6.0	0.0	6.55	6.08	6.44	9.14	11.92	17.35	23.58	27.58	26.71	26.32	26.15	25.99
10.0	0.0	19.50	18.25	20.00	27.30	38.00	58.50	76.00	80.00	83.40	84.00	83.35	82.70
16.0	0.0	45.82	44.80	50.18	73.73	96.77	153.60	215.04	225.28	225.28	225.28	225.28	225.28

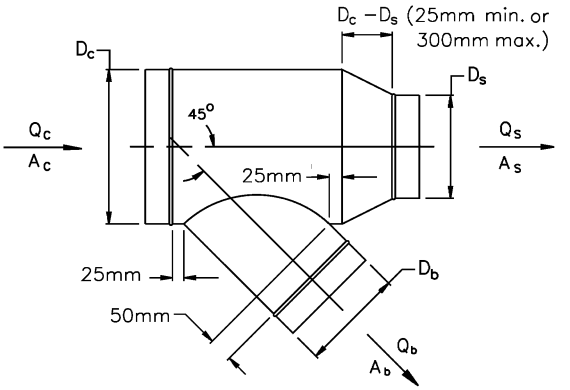
SD4-2 Transition, Rectangular to Round, Supply Air Systems



C_o Values

	θ												
A_o/A_1	0	3	5	10	15	20	30	45	60	90	120	150	180
0.10	0.0	0.12	0.09	0.05	0.05	0.05	0.05	0.06	0.08	0.19	0.29	0.37	0.43
0.167	0.0	0.11	0.08	0.05	0.05	0.05	0.05	0.06	0.07	0.19	0.28	0.37	0.42
0.25	0.0	0.10	0.07	0.05	0.05	0.05	0.05	0.06	0.07	0.17	0.27	0.35	0.41
0.50	0.0	0.08	0.07	0.06	0.07	0.06	0.05	0.06	0.07	0.13	0.19	0.23	0.24
1.0	0.0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
2.0	0.0	0.57	0.55	0.61	0.87	1.00	1.20	1.30	1.30	1.30	1.28	1.24	1.20
4.0	0.0	2.60	2.84	3.92	5.72	7.20	8.32	9.28	9.92	10.24	10.24	10.24	10.24
6.0	0.0	6.57	6.75	10.62	15.84	18.90	22.50	25.74	27.90	28.44	28.44	28.35	28.26
10.0	0.0	17.25	18.75	30.00	45.00	53.00	63.50	75.00	84.00	89.00	89.00	88.50	88.00
16.0	0.0	42.75	48.13	77.57	116.74	136.45	164.10	196.86	224.26	241.92	241.92	240.38	238.59

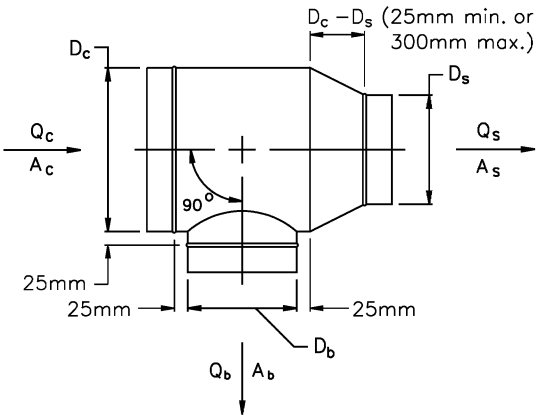
SD5-1 Wye, 45 Degree, Diverging



	C_b Values								
	Q_b/Q_c								
A_b/A_c	0.1	0.2	0.3	0.4	0.5	0.6	0.7	0.8	0.9
0.1	0.38	0.38	0.48	0.45	0.40	0.36	0.32	0.29	0.26
0.2	2.25	0.38	0.31	0.38	0.47	0.48	0.47	0.45	0.42
0.3	6.29	1.02	0.38	0.30	0.33	0.38	0.45	0.48	0.48
0.4	12.41	2.25	0.74	0.38	0.30	0.31	0.35	0.38	0.44
0.5	20.58	4.01	1.37	0.62	0.38	0.30	0.30	0.32	0.36
0.6	30.78	6.29	2.25	1.02	0.56	0.38	0.31	0.30	0.31
0.7	43.02	9.10	3.36	1.57	0.85	0.52	0.38	0.31	0.30
0.8	57.29	12.41	4.71	2.25	1.22	0.74	0.50	0.38	0.32
0.9	73.59	16.24	6.29	3.06	1.69	1.02	0.67	0.48	0.38
1.0	91.92	20.58	8.11	4.01	2.25	1.37	0.90	0.62	0.47

	C_s Values								
	Q_s/Q_c								
A_s/A_c	0.1	0.2	0.3	0.4	0.5	0.6	0.7	0.8	0.9
0.1	0.13	0.24	0.57	0.74	0.74	0.70	0.65	0.60	0.56
0.2	0.20	0.13	0.15	0.16	0.28	0.57	0.69	0.74	0.75
0.3	0.90	0.14	0.13	0.14	0.15	0.16	0.20	0.42	0.57
0.4	2.88	0.20	0.14	0.13	0.14	0.15	0.15	0.16	0.34
0.5	6.25	0.38	0.17	0.14	0.13	0.14	0.14	0.15	0.15
0.6	11.88	0.90	0.20	0.14	0.14	0.13	0.14	0.14	0.15
0.7	18.62	1.72	0.33	0.18	0.16	0.14	0.13	0.15	0.14
0.8	26.88	2.88	0.50	0.20	0.15	0.14	0.13	0.13	0.14
0.9	36.45	4.46	0.90	0.30	0.19	0.16	0.15	0.14	0.13
1.0	45.00	6.25	1.44	0.38	0.20	0.17	0.12	0.13	0.14

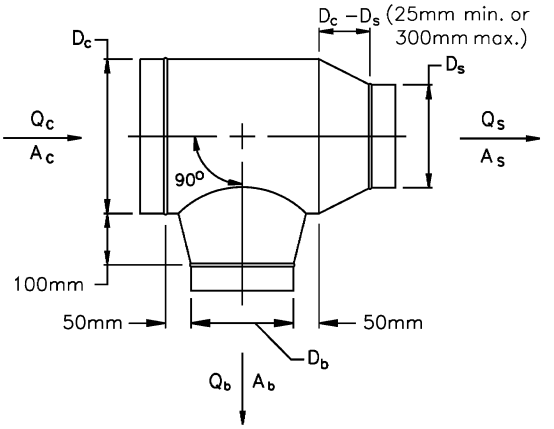
SD5-9 Tee, Diverging



	C_b Values								
	Q_b/Q_c								
A_b/A_c	0.1	0.2	0.3	0.4	0.5	0.6	0.7	0.8	0.9
0.1	1.20	0.62	0.80	1.28	1.99	2.92	4.07	5.44	7.02
0.2	4.10	1.20	0.72	0.62	0.66	0.80	1.01	1.28	1.60
0.3	8.99	2.40	1.20	0.81	0.66	0.62	0.64	0.70	0.80
0.4	15.89	4.10	1.94	1.20	0.88	0.72	0.64	0.62	0.63
0.5	24.80	6.29	2.91	1.74	1.20	0.92	0.77	0.68	0.63
0.6	35.73	8.99	4.10	2.40	1.62	1.20	0.96	0.81	0.72
0.7	48.67	12.19	5.51	3.19	2.12	1.55	1.20	0.99	0.85
0.8	63.63	15.89	7.14	4.10	2.70	1.94	1.49	1.20	1.01
0.9	80.60	20.10	8.99	5.13	3.36	2.40	1.83	1.46	1.20
1.0	99.60	24.80	11.07	6.29	4.10	2.91	2. 20	1.74	1.43

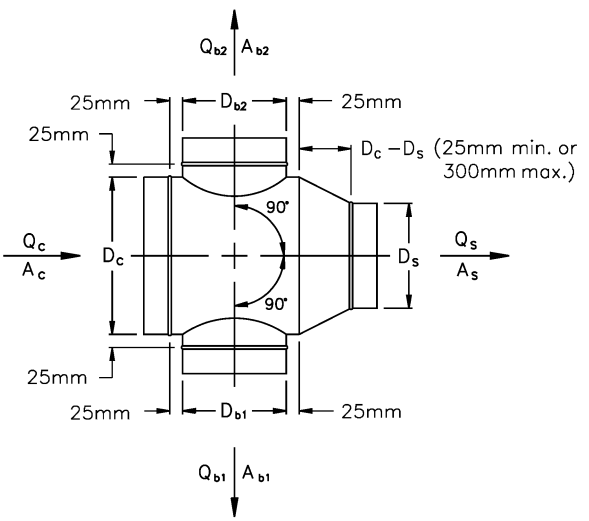
	C_s Values								
	Q_s/Q_c								
A_s/A_c	0.1	0.2	0.3	0.4	0.5	0.6	0.7	0.8	0.9
0.1	0.13	0.24	0.57	0.74	0.74	0.70	0.65	0.60	0.56
0.2	0.20	0.13	0.15	0.16	0.28	0.57	0.69	0.74	0.75
0.3	0.90	0.14	0.13	0.14	0.15	0.16	0.20	0.42	0.57
0.4	2.88	0.20	0.14	0.13	0.14	0.15	0.15	0.16	0.34
0.5	6.25	0.38	0.17	0.14	0.13	0.14	0.14	0.15	0.15
0.6	11.88	0.90	0.20	0.14	0.14	0.13	0.14	0.14	0.15
0.7	18.62	1.72	0.33	0.18	0.16	0.14	0.13	0.15	0.14
0.8	26.88	2.88	0.50	0.20	0.15	0.14	0.13	0.13	0.14
0.9	36.45	4.46	0.90	0.30	0.19	0.16	0.15	0.14	0.13
1.0	45.00	6.25	1.44	0.38	0.20	0.17	0.12	0.13	0.14

SD5-10 Tee, Conical Branch Tapered into Body, Diverging



	C_b Values								
	Q_b/Q_c								
A_b/A_c	0.1	0.2	0.3	0.4	0.5	0.6	0.7	0.8	0.9
0.1	0.65	0.24	0.15	0.11	0.09	0.07	0.06	0.05	0.05
0.2	2.98	0.65	0.33	0.24	0.18	0.15	0.13	0.11	0.10
0.3	7.36	1.56	0.65	0.39	0.29	0.24	0.20	0.17	0.15
0.4	13.78	2.98	1.20	0.65	0.43	0.33	0.27	0.24	0.21
0.5	22.24	4.92	1.98	1.04	0.65	0.47	0.36	0.31	0.27
0.6	32.73	7.36	2.98	1.56	0.96	0.65	0.49	0.39	0.33
0.7	45.26	10.32	4.21	2.21	1.34	0.90	0.65	0.51	0.42
0.8	59.82	13.78	5.67	2.98	1.80	1.20	0.86	0.65	0.52
0.9	76.41	17.75	7.36	3.88	2.35	1.56	1.11	0.83	0.65
1.0	95.04	22.24	9.27	4.92	2.98	1.98	1.40	1.04	0.81
	C_s Values								
	Q_s/Q_c								
A_s/A_c	0.1	0.2	0.3	0.4	0.5	0.6	0.7	0.8	0.9
0.1	0.13	0.24	0.57	0.74	0.74	0.70	0.65	0.60	0.56
0.2	0.20	0.13	0.15	0.16	0.28	0.57	0.69	0.74	0.75
0.3	0.90	0.14	0.13	0.14	0.15	0.16	0.20	0.42	0.57
0.4	2.88	0.20	0.14	0.13	0.14	0.15	0.15	0.16	0.34
0.5	6.25	0.38	0.17	0.14	0.13	0.14	0.14	0.15	0.15
0.6	11.88	0.90	0.20	0.14	0.14	0.13	0.14	0.14	0.15
0.7	18.62	1.72	0.33	0.18	0.16	0.14	0.13	0.15	0.14
0.8	26.88	2.88	0.50	0.20	0.15	0.14	0.13	0.13	0.14
0.9	36.45	4.46	0.90	0.30	0.19	0.16	0.15	0.14	0.13
1.0	45.00	6.25	1.44	0.38	0.20	0.17	0.12	0.13	0.14

SD5-24 Cross, Diverging



		C_{b1} Values								
		Q_{b1}/Q_c								
A_s/A_c	A_{b1}/A_c	0.1	0.2	0.3	0.4	0.5	0.6	0.7	0.8	0.9
0.20	0.1	2.07	2.08	1.62	1.30	1.99	2.92	4.07	5.44	7.02
	0.2	4.10	2.07	2.31	2.08	1.83	1.62	1.44	1.30	1.60
	0.3	8.99	2.40	2.07	2.34	2.24	2.08	1.91	1.76	1.62
	0.4	15.89	4.10	1.94	2.07	2.32	2.31	2.21	2.08	1.95
	0.5	24.80	6.29	2.91	1.74	2.07	2.30	2.33	2.27	2.18
	0.6	35.73	8.99	4.10	2.40	1.62	2.07	2.29	2.34	2.31
	0.7	48.67	12.19	5.51	3.19	2.12	1.60	2.07	2.27	2.33
	0.8	63.63	15.89	7.14	4.10	2.70	1.94	1.68	2.07	2.25
	0.9	80.60	20.10	8.99	5.13	3.36	2.40	1.83	1.74	2.07
	1.0	99.60	24.80	11.07	6.29	4.10	2.91	2.20	1.74	1.78
0.35	0.1	1.20	3.25	3.11	2.69	2.32	2.92	4.07	5.44	7.02
	0.2	4.10	1.20	2.44	3.25	3.28	3.11	2.90	2.69	2.49
	0.3	8.99	2.40	1.20	1.69	2.88	3.25	3.31	3.23	3.11
	0.4	15.89	4.10	1.94	1.20	1.12	2.44	3.02	3.25	3.31
	0.5	24.80	6.29	2.91	1.74	1.20	0.92	2.04	2.73	3.09
	0.6	35.73	8.99	4.10	2.40	1.62	1.20	0.96	1.69	2.44
	0.7	48.67	12.19	5.51	3.19	2.12	1.55	1.20	0.99	1.38
	0.8	63.63	15.89	7.14	4.10	2.70	1.94	1.49	1.20	1.01
	0.9	80.60	20.10	8.99	5.13	3.36	2.40	1.83	1.46	1.20
	1.0	99.60	24.80	11.07	6.29	4.10	2.91	2.20	1.74	1.43
0.55	0.1	1.20	0.62	0.80	1.28	1.99	2.92	4.07	5.44	7.02
	0.2	4.10	1.20	0.72	0.62	0.66	0.80	1.01	1.28	1.60
	0.3	8.99	2.40	1.20	0.81	0.66	0.62	0.64	0.70	0.80
	0.4	15.89	4.10	1.94	1.20	0.88	0.72	0.64	0.62	0.63
	0.5	24.80	6.29	2.91	1.74	1.20	0.92	0.77	0.68	0.63
	0.6	35.73	8.99	4.10	2.40	1.62	1.20	0.96	0.81	0.72
	0.7	48.67	12.19	5.51	3.19	2.12	1.55	1.20	0.99	0.85
	0.8	63.63	15.89	7.14	4.10	2.70	1.94	1.49	1.20	1.01
	0.9	80.60	20.10	8.99	5.13	3.36	2.40	1.83	1.46	1.20
	1.0	99.60	24.80	11.07	6.29	4.10	2.91	2.20	1.74	1.43

SD5-24 Cross, Diverging (*Continued*)

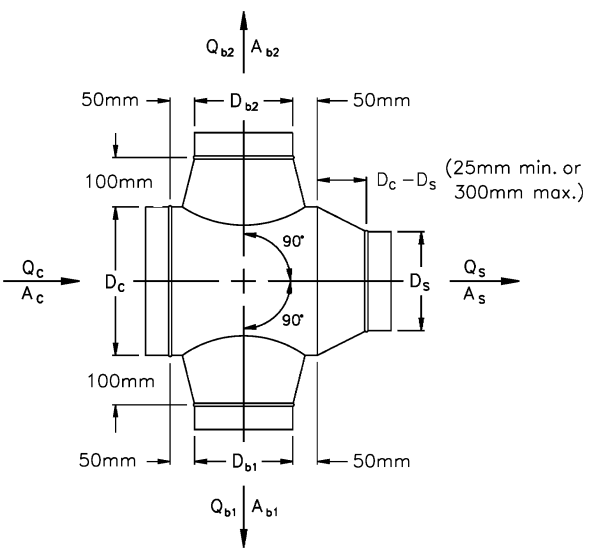
		C_{b1} Values (*Concluded*)								
		Q_{b1}/Q_c								
A_s/A_c	A_{b1}/A_c	0.1	0.2	0.3	0.4	0.5	0.6	0.7	0.8	0.9
0.80	0.1	1.20	0.62	0.80	1.28	1.99	2.92	4.07	5.44	7.02
	0.2	4.10	1.20	0.72	0.62	0.66	0.80	1.01	1.28	1.60
	0.3	8.99	2.40	1.20	0.81	0.66	0.62	0.64	0.70	0.80
	0.4	15.89	4.10	1.94	1.20	0.88	0.72	0.64	0.62	0.63
	0.5	24.80	6.29	2.91	1.74	1.20	0.92	0.77	0.68	0.63
	0.6	35.73	8.99	4.10	2.40	1.62	1.20	0.96	0.81	0.72
	0.7	48.67	12.19	5.51	3.19	2.12	1.55	1.20	0.99	0.85
	0.8	63.63	15.89	7.14	4.10	2.70	1.94	1.49	1.20	1.01
	0.9	80.60	20.10	8.99	5.13	3.36	2.40	1.83	1.46	1.20
	1.0	99.60	24.80	11.07	6.29	4.10	2.91	2.20	1.74	1.43
1.00	0.1	1.20	0.62	0.80	1.28	1.99	2.92	4.07	5.44	7.02
	0.2	4.10	1.20	0.72	0.62	0.66	0.80	1.01	1.28	1.60
	0.3	8.99	2.40	1.20	0.81	0.66	0.62	0.64	0.70	0.80
	0.4	15.89	4.10	1.94	1.20	0.88	0.72	0.64	0.62	0.63
	0.5	24.80	6.29	2.91	1.74	1.20	0.92	0.77	0.68	0.63
	0.6	35.73	8.99	4.10	2.40	1.62	1.20	0.96	0.81	0.72
	0.7	48.67	12.19	5.51	3.19	2.12	1.55	1.20	0.99	0.85
	0.8	63.63	15.89	7.14	4.10	2.70	1.94	1.49	1.20	1.01
	0.9	80.60	20.10	8.99	5.13	3.36	2.40	1.83	1.46	1.20
	1.0	99.60	24.80	11.07	6.29	4.10	2.91	2.20	1.74	1.43

	C_s Values								
	Q_s/Q_c								
A_s/A_c	0.1	0.2	0.3	0.4	0.5	0.6	0.7	0.8	0.9
0.1	0.13	0.24	0.57	0.74	0.74	0.70	0.65	0.60	0.56
0.2	0.20	0.13	0.15	0.16	0.28	0.57	0.69	0.74	0.75
0.3	0.90	0.14	0.13	0.14	0.15	0.16	0.20	0.42	0.57
0.4	2.88	0.20	0.14	0.13	0.14	0.15	0.15	0.16	0.34
0.5	6.25	0.38	0.17	0.14	0.13	0.14	0.14	0.15	0.15
0.6	11.88	0.90	0.20	0.14	0.14	0.13	0.14	0.14	0.15
0.7	18.62	1.72	0.33	0.18	0.16	0.14	0.13	0.15	0.14
0.8	26.88	2.88	0.50	0.20	0.15	0.14	0.13	0.13	0.14
0.9	36.45	4.46	0.90	0.30	0.19	0.16	0.15	0.14	0.13
1.0	45.00	6.25	1.44	0.38	0.20	0.17	0.12	0.13	0.14

For the other branch, subscripts 1 and 2 change places.

SD5-25 Cross, Conical Branches Tapered into Body, Diverging

		C_{b1} Values								
		Q_{b1}/Q_c								
A_s/A_c	A_{b1}/A_c	0.1	0.2	0.3	0.4	0.5	0.6	0.7	0.8	0.9
0.20	0.1	2.07	2.08	1.62	1.30	1.08	0.93	0.81	0.72	0.64
	0.2	2.98	2.07	2.31	2.08	1.83	1.62	1.44	1.30	1.18
	0.3	7.36	1.56	2.07	2.34	2.24	2.08	1.91	1.76	1.62
	0.4	13.78	2.98	1.20	2.07	2.32	2.31	2.21	2.08	1.95
	0.5	22.24	4.92	1.98	1.28	2.07	2.30	2.33	2.27	2.18
	0.6	32.73	7.36	2.98	1.56	1.48	2.07	2.29	2.34	2.31
	0.7	45.26	10.32	4.21	2.21	1.34	1.60	2.07	2.27	2.33
	0.8	59.82	13.78	5.67	2.98	1.80	1.20	1.68	2.07	2.25
	0.9	76.41	17.75	7.36	3.88	2.35	1.56	1.12	1.74	2.07
	1.0	95.04	22.24	9.27	4.92	2.98	1.98	1.40	1.28	1.78
0.35	0.1	0.65	3.25	3.11	2.69	2.32	2.03	1.80	1.61	1.46
	0.2	2.98	0.65	2.44	3.25	3.28	3.11	2.90	2.69	2.49
	0.3	7.36	1.56	0.65	1.69	2.88	3.25	3.31	3.23	3.11
	0.4	13.78	2.98	1.20	0.65	1.12	2.44	3.02	3.25	3.31
	0.5	22.24	4.92	1.98	1.04	0.65	0.69	2.04	2.73	3.09
	0.6	32.73	7.36	2.98	1.56	0.96	0.65	0.49	1.69	2.44
	0.7	45.26	10.32	4.21	2.21	1.34	0.90	0.65	0.51	1.38
	0.8	59.82	13.78	5.67	2.98	1.80	1.20	0.86	0.65	0.52
	0.9	76.41	17.75	7.36	3.88	2.35	1.56	1.11	0.83	0.65
	1.0	95.04	22.24	9.27	4.92	2.98	1.98	1.40	1.04	0.81
0.55	0.1	0.65	1.50	1.56	1.38	1.20	1.06	0.94	0.84	0.77
	0.2	2.98	0.65	0.89	1.50	1.60	1.56	1.47	1.38	1.28
	0.3	7.36	1.56	0.65	0.39	1.20	1.50	1.59	1.59	1.56
	0.4	13.78	2.98	1.20	0.65	0.43	0.89	1.31	1.50	1.58
	0.5	22.24	4.92	1.98	1.04	0.65	0.47	0.61	1.09	1.36
	0.6	32.73	7.36	2.98	1.56	0.96	0.65	0.49	0.39	0.89
	0.7	45.26	10.32	4.21	2.21	1.34	0.90	0.65	0.51	0.42
	0.8	59.82	13.78	5.67	2.98	1.80	1.20	0.86	0.65	0.52
	0.9	76.41	17.75	7.36	3.88	2.35	1.56	1.11	0.83	0.65
	1.0	95.04	22.24	9.27	4.92	2.98	1.98	1.40	1.04	0.81



SD5-25 Cross, Conical Branches Tapered into Body, Diverging (*Continued*)

		C_{b1} Values (*Concluded*)								
		Q_{b1}/Q_c								
A_s/A_c	A_{b1}/A_c	0.1	0.2	0.3	0.4	0.5	0.6	0.7	0.8	0.9
0.80	0.1	0.65	0.24	0.15	0.11	0.09	0.07	0.06	0.05	0.05
	0.2	2.98	0.65	0.33	0.24	0.18	0.15	0.13	0.11	0.10
	0.3	7.36	1.56	0.65	0.39	0.29	0.24	0.20	0.17	0.15
	0.4	13.78	2.98	1.20	0.65	0.43	0.33	0.27	0.24	0.21
	0.5	22.24	4.92	1.98	1.04	0.65	0.47	0.36	0.31	0.27
	0.6	32.73	7.36	2.98	1.56	0.96	0.65	0.49	0.39	0.33
	0.7	45.26	10.32	4.21	2.21	1.34	0.90	0.65	0.51	0.42
	0.8	59.82	13.78	5.67	2.98	1.80	1.20	0.86	0.65	0.52
	0.9	76.41	17.75	7.36	3.88	2.35	1.56	1.11	0.83	0.65
	1.0	95.04	22.24	9.27	4.92	2.98	1.98	1.40	1.04	0.81
1.00	0.1	0.65	0.24	0.15	0.11	0.09	0.07	0.06	0.05	0.05
	0.2	2.98	0.65	0.33	0.24	0.18	0.15	0.13	0.11	0.10
	0.3	7.36	1.56	0.65	0.39	0.29	0.24	0.20	0.17	0.15
	0.4	13.78	2.98	1.20	0.65	0.43	0.33	0.27	0.24	0.21
	0.5	22.24	4.92	1.98	1.04	0.65	0.47	0.36	0.31	0.27
	0.6	32.73	7.36	2.98	1.56	0.96	0.65	0.49	0.39	0.33
	0.7	45.26	10.32	4.21	2.21	1.34	0.90	0.65	0.51	0.42
	0.8	59.82	13.78	5.67	2.98	1.80	1.20	0.86	0.65	0.52
	0.9	76.41	17.75	7.36	3.88	2.35	1.56	1.11	0.83	0.65
	1.0	95.04	22.24	9.27	4.92	2.98	1.98	1.40	1.04	0.81

	C_s Values								
	Q_s/Q_c								
A_s/A_c	0.1	0.2	0.3	0.4	0.5	0.6	0.7	0.8	0.9
0.1	0.13	0.24	0.57	0.74	0.74	0.70	0.65	0.60	0.56
0.2	0.20	0.13	0.15	0.16	0.28	0.57	0.69	0.74	0.75
0.3	0.90	0.14	0.13	0.14	0.15	0.16	0.20	0.42	0.57
0.4	2.88	0.20	0.14	0.13	0.14	0.15	0.15	0.16	0.34
0.5	6.25	0.38	0.17	0.14	0.13	0.14	0.14	0.15	0.15
0.6	11.88	0.90	0.20	0.14	0.14	0.13	0.14	0.14	0.15
0.7	18.62	1.72	0.33	0.18	0.16	0.14	0.13	0.15	0.14
0.8	26.88	2.88	0.50	0.20	0.15	0.14	0.13	0.13	0.14
0.9	36.45	4.46	0.90	0.30	0.19	0.16	0.15	0.14	0.13
1.0	45.00	6.25	1.44	0.38	0.20	0.17	0.12	0.13	0.14

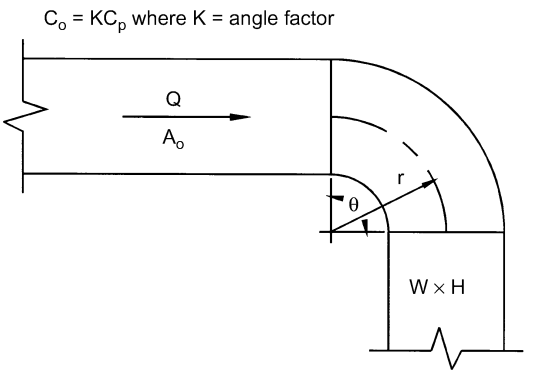
For the other branch, subscripts 1 and 2 change places

RECTANGULAR FITTINGS

CR3-1 Elbow, Smooth Radius, Without Vanes

	C_p Values										
	H/W										
r/W	0.25	0.50	0.75	1.0	1.50	2.0	3.0	4.0	5.0	6.0	8.0
0.50	1.53	1.38	1.29	1.18	1.06	1.00	1.00	1.06	1.12	1.16	1.18
0.75	0.57	0.52	0.48	0.44	0.40	0.39	0.39	0.40	0.42	0.43	0.44
1.00	0.27	0.25	0.23	0.21	0.19	0.18	0.18	0.19	0.20	0.21	0.21
1.50	0.22	0.20	0.19	0.17	0.15	0.14	0.14	0.15	0.16	0.17	0.17
2.00	0.20	0.18	0.16	0.15	0.14	0.13	0.13	0.14	0.14	0.15	0.15

Angle Factor K											
θ	0	20	30	45	60	75	90	110	130	150	180
K	0.00	0.31	0.45	0.60	0.78	0.90	1.00	1.13	1.20	1.28	1.40



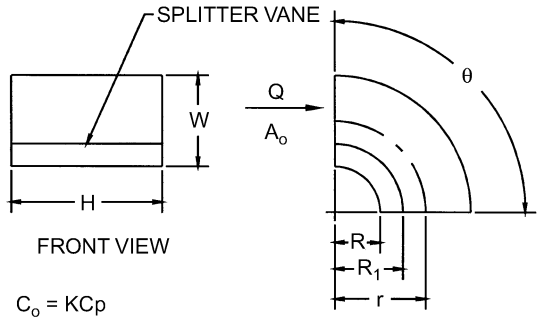
CR3-3 Elbow, Smooth Radius, One Splitter Vane

	C_p Values										
	H/*W*										
r*/*W	**0.25**	**0.50**	**1.0**	**1.50**	**2.0**	**3.0**	**4.0**	**5.0**	**6.0**	**7.0**	**8.0**
0.55	0.52	0.40	0.43	0.49	0.55	0.66	0.75	0.84	0.93	1.01	1.09
0.60	0.36	0.27	0.25	0.28	0.30	0.35	0.39	0.42	0.46	0.49	0.52
0.65	0.28	0.21	0.18	0.19	0.20	0.22	0.25	0.26	0.28	0.30	0.32
0.70	0.22	0.16	0.14	0.14	0.15	0.16	0.17	0.18	0.19	0.20	0.21
0.75	0.18	0.13	0.11	0.11	0.11	0.12	0.13	0.14	0.14	0.15	0.15
0.80	0.15	0.11	0.09	0.09	0.09	0.09	0.10	0.10	0.11	0.11	0.12
0.85	0.13	0.09	0.08	0.07	0.07	0.08	0.08	0.08	0.08	0.09	0.09
0.90	0.11	0.08	0.07	0.06	0.06	0.06	0.06	0.07	0.07	0.07	0.07
0.95	0.10	0.07	0.06	0.05	0.05	0.05	0.05	0.05	0.06	0.06	0.06
1.00	0.09	0.06	0.05	0.05	0.04	0.04	0.04	0.05	0.05	0.05	0.05

Angle Factor *K*					
θ	**0**	**30**	**45**	**60**	**90**
K	0.00	0.45	0.60	0.78	1.00

Curve Ratio CR										
r*/*W	**0.55**	**0.60**	**0.65**	**0.70**	**0.75**	**0.80**	**0.85**	**0.90**	**0.95**	**1.0**
CR	0.218	0.302	0.361	0.408	0.447	0.480	0.509	0.535	0.557	0.577

Throat Radius/Width Ratio (*R*/*W*)										
r*/*W	**0.55**	**0.60**	**0.65**	**0.70**	**0.75**	**0.80**	**0.85**	**0.90**	**0.95**	**1.0**
R/*W*	0.05	0.10	0.15	0.20	0.25	0.30	0.35	0.40	0.45	0.50



$C_o = KCp$

$R_1 = R/CR$

where

R = throat radius

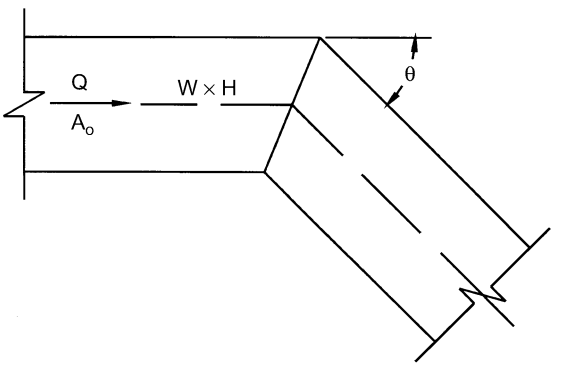
R_1 = splitter vane radius

CR = curve ratio

K = angle factor

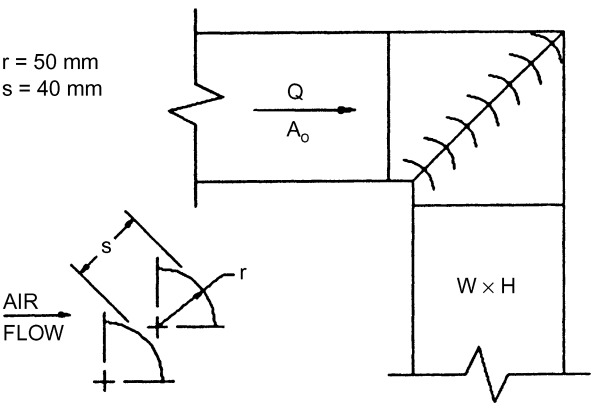
CR3-6 Elbow, Mitered

	C_o Values										
	H/*W*										
θ	**0.25**	**0.50**	**0.75**	**1.00**	**1.50**	**2.0**	**3.0**	**4.0**	**5.0**	**6.0**	**8.0**
20	0.08	0.08	0.08	0.07	0.07	0.07	0.06	0.06	0.05	0.05	0.05
30	0.18	0.17	0.17	0.16	0.15	0.15	0.13	0.13	0.12	0.12	0.11
45	0.38	0.37	0.36	0.34	0.33	0.31	0.28	0.27	0.26	0.25	0.24
60	0.60	0.59	0.57	0.55	0.52	0.49	0.46	0.43	0.41	0.39	0.38
75	0.89	0.87	0.84	0.81	0.77	0.73	0.67	0.63	0.61	0.58	0.57
90	1.30	1.27	1.23	1.18	1.13	1.07	0.98	0.92	0.89	0.85	0.83



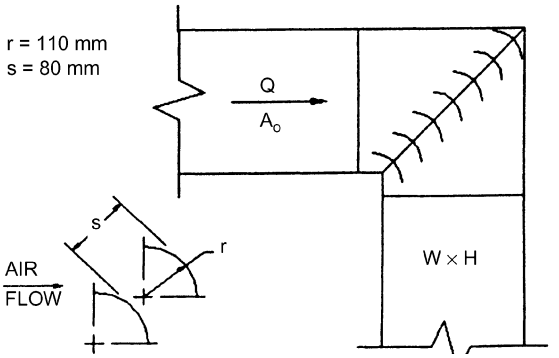
CR3-9 Elbow, Mitered, 90 Degree, Single-Thickness Vanes (40 mm Vane Spacing)

$C_o = 0.11$



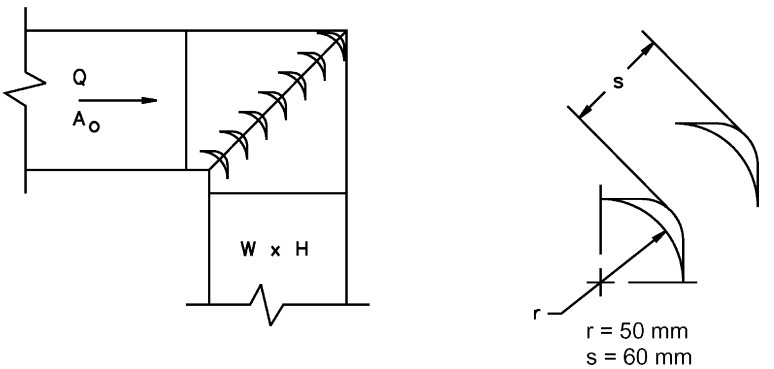
CR3-12 Elbow, Mitered, 90 Degree, Single-Thickness Vanes (80 mm Vane Spacing)

$C_o = 0.33$



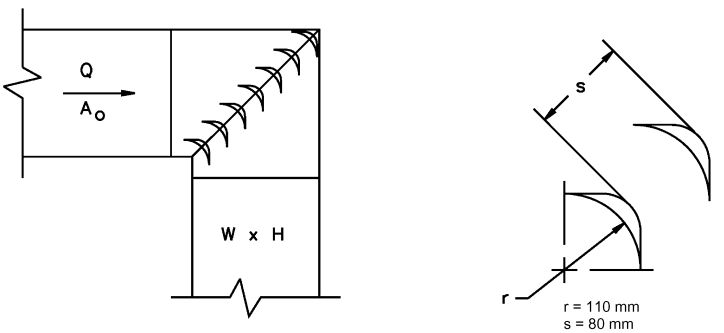
CR3-15 Elbow, Mitered, 90 Degree, Double-Thickness Vanes (60 mm Vane Spacing)

$C_o = 0.25$



CR3-16 Elbow, Mitered, 90 Degree, Double-Thickness Vanes (80 mm Vane Spacing)

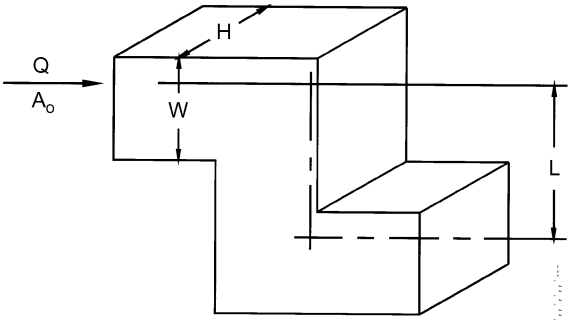
$C_o = 0.41$



CR3-17 Elbow, Z-Shaped

	C_p Values												
	L/W												
H/W	**0.0**	**0.4**	**0.6**	**0.8**	**1.0**	**1.2**	**1.4**	**1.6**	**1.8**	**2.0**	**4.0**	**8.0**	**10.0**
0.25	0.0	0. 68	0.99	1.77	2.89	3.97	4.41	4.60	4.64	4.60	3.39	3.03	2.70
0.50	0.0	0.66	0.96	1.72	2.81	3.86	4.29	4.47	4.52	4.47	3.30	2.94	2.62
0.75	0.0	0.64	0.94	1.67	2.74	3.75	4.17	4.35	4.39	4.35	3.20	2.86	2.55
1.0	0.0	0.62	0.90	1.61	2.63	3.61	4.01	4.18	4.22	4.18	3.08	2.75	2.45
1.5	0.0	0.59	0.86	1.53	2.50	3.43	3.81	3.97	4.01	3.97	2.93	2.61	2.33
2.0	0.0	0.56	0.81	1.45	2.37	3.25	3.61	3.76	3.80	3.76	2.77	2.48	2.21
3.0	0.0	0.51	0.75	1.34	2.18	3.00	3.33	3.47	3.50	3.47	2.56	2.28	2.03
4.0	0.0	0.48	0.70	1.26	2.05	2.82	3.13	3.26	3.29	3.26	2.40	2.15	1.91
6.0	0.0	0.45	0.65	1.16	1.89	2.60	2.89	3.01	3.04	3.01	2.22	1.98	1.76
8.0	0.0	0.43	0.63	1.13	1.84	2.53	2.81	2.93	2.95	2.93	2.16	1.93	1.72

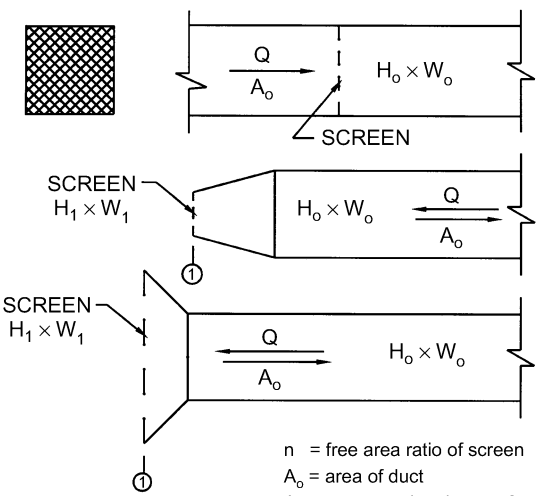
Reynolds Number Correction Factor K_r									
Re/1000	**10**	**20**	**30**	**40**	**60**	**80**	**100**	**140**	**500**
K_r	1.40	1.26	1.19	1.14	1.09	1.06	1.04	1.00	1.00



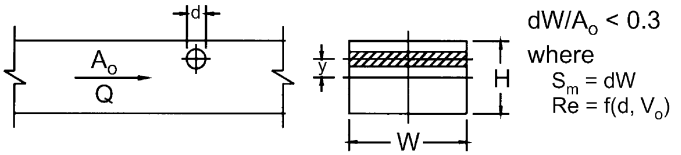
$C_o = K_r C_p$
where K_r = Reynolds number correction factor

CR6-1 Screen (Only)

	C_o Values												
	n												
A_1/A_o	**0.30**	**0.35**	**0.40**	**0.45**	**0.50**	**0.55**	**0.60**	**0.65**	**0.70**	**0.75**	**0.80**	**0.90**	**1.0**
0.2	155.0	103.0	75.00	55.00	41.25	31.50	24.25	18.75	14.50	11.00	8.00	3.50	0.0
0.3	68.89	45.56	33.33	24.44	18.33	14.00	10.78	8.33	6.44	4.89	3.56	1.56	0.0
0.4	38.75	25.63	18.75	13.75	10.31	7.88	6.06	4.69	3.63	2.75	2.00	0.88	0.0
0.5	24.80	16.40	12.00	8.80	6.60	5.04	3.88	3.00	2.32	1.76	1.28	0.56	0.0
0.6	17.22	11.39	8.33	6.11	4.58	3.50	2.69	2.08	1.61	1.22	0.89	0.39	0.0
0.7	12.65	8.37	6.12	4.49	3.37	2.57	1.98	1.53	1.18	0.90	0.65	0.29	0.0
0.8	9.69	6.40	4.69	3.44	2.58	1.97	1.52	1.17	0.91	0.69	0.50	0.22	0.0
0.9	7.65	5.06	3.70	2.72	2.04	1.56	1.20	0.93	0.72	0.54	0.40	0.17	0.0
1.0	6.20	4.10	3.00	2.20	1.65	1.26	0.97	0.75	0.58	0.44	0.32	0.14	0.0
1.2	4.31	2.85	2.08	1.53	1.15	0.88	0.67	0.52	0.40	0.31	0.22	0.10	0.0
1.4	3.16	2.09	1.53	1.12	0.84	0.64	0.49	0.38	0.30	0.22	0.16	0.07	0.0
1.6	2.42	1.60	1.17	0.86	0.64	0.49	0.38	0.29	0.23	0.17	0.13	0.05	0.0
1.8	1.91	1.27	0.93	0.68	0.51	0.39	0.30	0.23	0.18	0.14	0.10	0.04	0.0
2.0	1.55	1.03	0.75	0.55	0.41	0.32	0.24	0.19	0.15	0.11	0.08	0.04	0.0
2.5	0.99	0.66	0.48	0.35	0.26	0.20	0.16	0.12	0.09	0.07	0.05	0.02	0.0
3.0	0.69	0.46	0.33	0.24	0.18	0.14	0.11	0.08	0.06	0.05	0.04	0.02	0.0
4.0	0.39	0.26	0.19	0.14	0.10	0.08	0.06	0.05	0.04	0.03	0.02	0.01	0.0
6.0	0.17	0.11	0.08	0.06	0.05	0.04	0.03	0.02	0.02	0.01	0.01	0.00	0.0



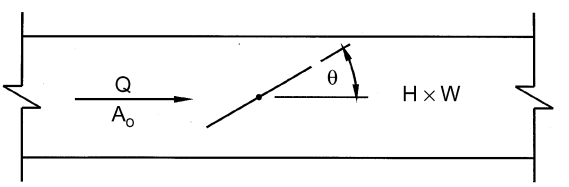
CR6-4 Obstruction, Smooth Cylinder in Rectangular Duct



		C_o Values											
		S_m/A_o							S_m/A_o				
y/H	Re/1000	0.0	0.05	0.10	0.15	0.20	y/H	Re/1000	0.0	0.05	0.10	0.15	0.20
0.00	0.1	0.0	0.10	0.21	0.35	0.47		400	0.0	0.04	0.10	0.16	0.21
	0.5	0.0	0.08	0.17	0.28	0.38		500	0.0	0.03	0.07	0.12	0.16
	200	0.0	0.08	0.17	0.28	0.38		600	0.0	0.02	0.04	0.06	0.09
	300	0.0	0.07	0.16	0.26	0.35		1000	0.0	0.02	0.04	0.07	0.09
	400	0.0	0.05	0.11	0.19	0.25							
	500	0.0	0.04	0.09	0.14	0.19	0.25	0.1	0.0	0.08	0.17	0.28	0.38
	600	0.0	0.02	0.05	0.07	0.10		0.5	0.0	0.06	0.14	0.22	0.30
	1000	0.0	0.02	0.05	0.08	0.11		200	0.0	0.06	0.14	0.22	0.30
								300	0.0	0.06	0.12	0.20	0.28
0.05	0.1	0.0	0.10	0.21	0.34	0.46		400	0.0	0.04	0.09	0.15	0.20
	0.5	0.0	0.08	0.17	0.27	0.37		500	0.0	0.03	0.07	0.11	0.15
	200	0.0	0.08	0.17	0.27	0.37		600	0.0	0.02	0.04	0.06	0.08
	300	0.0	0.07	0.15	0.25	0.34		1000	0.0	0.02	0.04	0.06	0.09
	400	0.0	0.05	0.11	0.18	0.24							
	500	0.0	0.04	0.08	0.13	0.18	0.30	0.1	0.0	0.07	0.16	0.26	0.35
	600	0.0	0.02	0.04	0.07	0.10		0.5	0.0	0.06	0.13	0.21	0.28
	1000	0.0	0.02	0.05	0.08	0.11		200	0.0	0.06	0.13	0.21	0.28
								300	0.0	0.05	0.12	0.19	0.26
0.10	0.1	0.0	0.09	0.20	0.32	0.44		400	0.0	0.04	0.08	0.14	0.19
	0.5	0.0	0.07	0.16	0.26	0.35		500	0.0	0.03	0.06	0.10	0.14
	200	0.0	0.07	0.16	0.26	0.35		600	0.0	0.02	0.03	0.05	0.07
	300	0.0	0.07	0.15	0.24	0.32		1000	0.0	0.02	0.04	0.06	0.08
	400	0.0	0.05	0.11	0.17	0.23							
	500	0.0	0.04	0.08	0.13	0.18	0.35	0.1	0.0	0.07	0.14	0.23	0.32
	600	0.0	0.02	0.04	0.07	0.09		0.5	0.0	0.05	0.11	0.19	0.25
	1000	0.0	0.02	0.05	0.08	0.10		200	0.0	0.05	0.11	0.19	0.25
								300	0.0	0.05	0.11	0.17	0.23
0.15	0.1	0.0	0.09	0.19	0.31	0.42		400	0.0	0.04	0.08	0.12	0.17
	0.5	0.0	0.07	0.15	0.25	0.34		500	0.0	0.03	0.06	0.09	0.13
	200	0.0	0.07	0.15	0.25	0.34		600	0.0	0.01	0.03	0.05	0.07
	300	0.0	0.06	0.14	0.23	0.31		1000	0.0	0.02	0.03	0.05	0.07
	400	0.0	0.05	0.10	0.17	0.22							
	500	0.0	0.04	0.08	0.12	0.17	0.40	0.1	0.0	0.06	0.13	0.20	0.28
	600	0.0	0.02	0.04	0.07	0.09		0.5	0.0	0.05	0.10	0.16	0.22
	1000	0.0	0.02	0.04	0.07	0.10		200	0.0	0.05	0.10	0.16	0.22
								300	0.0	0.04	0.09	0.15	0.20
0.20	0.1	0.0	0.08	0.18	0.29	0.40		400	0.0	0.03	0.07	0.11	0.15
	0.5	0.0	0.07	0.14	0.24	0.32		500	0.0	0.02	0.05	0.08	0.11
	200	0.0	0.07	0.14	0.24	0.32		600	0.0	0.01	0.03	0.04	0.06
	300	0.0	0.06	0.13	0.22	0.29		1000	0.0	0.01	0.03	0.05	0.06

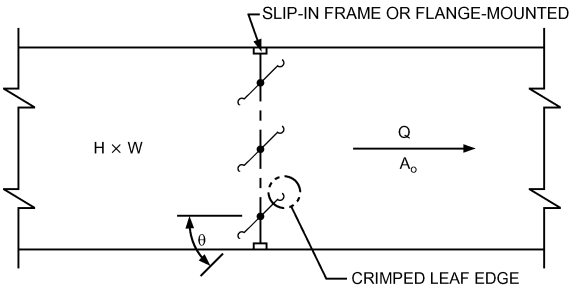
CR9-1 Damper, Butterfly

	C_o Values									
	θ									
H/W	0	10	20	30	40	50	60	65	70	90
0.10	0.04	0.30	1.10	3.0	8.0	23.0	60.	100.	190.	9999
0.50	0.04	0.30	1.10	3.0	8.0	23.0	60.	100.	190.	9999
1.0	0.04	0.30	1.10	3.0	8.0	23.0	60.	100.	190.	9999
1.5	0.04	0.35	1.25	3.6	10.0	29.0	80.	155.	230.	9999
2.0	0.04	0.35	1.25	3.6	10.0	29.0	80.	155.	230.	9999



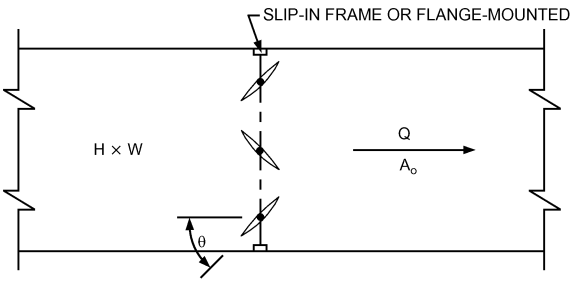
CR9-3 Damper, Parallel and Opposed 3V Blades, Open

$C_o = 0.37$



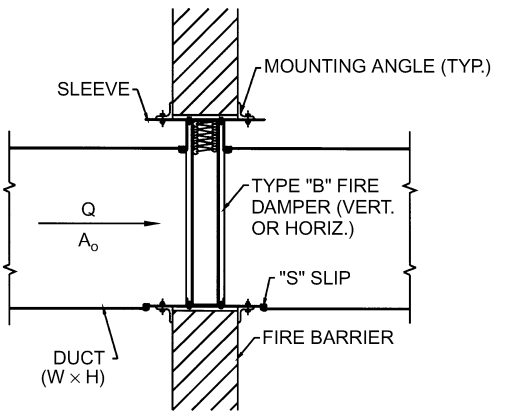
CR9-4 Damper, Parallel and Opposed Airfoil Blades, Open

$C_o = 0.18$



CR9-6 Fire Damper, Curtain Type, Type B, Horizontal Duct

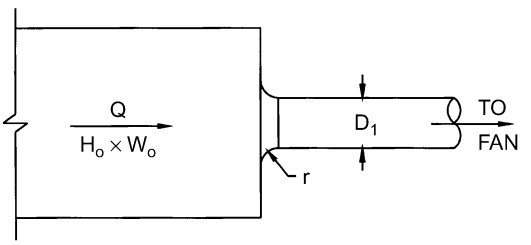
$C_o = 0.19$



ER2-1 Bellmouth, Plenum to Round, Exhaust/Return Systems

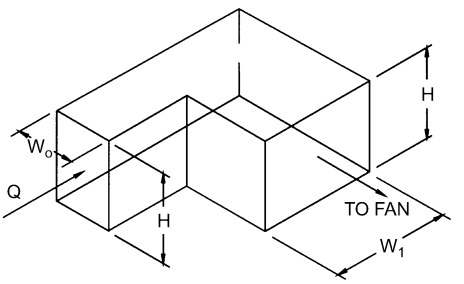
r/D_1	0.0	0.01	0.02	0.03	0.04	0.05	0.06	0.08	0.10	0.12	0.16	0.20	10.0
C_1	0.50	0.44	0.37	0.31	0.26	0.22	0.20	0.15	0.12	0.09	0.06	0.03	0.03

$$C_o = C_1\left(\frac{A_o}{A_1}\right)^2$$



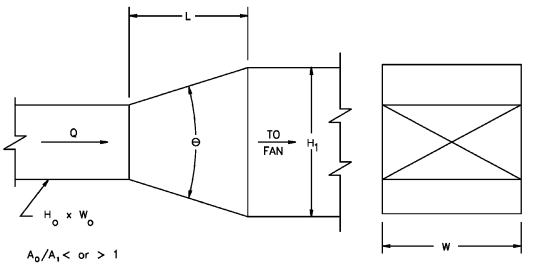
ER3-1 Elbow, 90 Degree, Variable Inlet/Outlet Areas, Exhaust/Return Systems

	C_o Values						
	W_1/W_o						
H/W_o	0.6	0.8	1.0	1.2	1.4	1.6	2.0
0.25	1.76	1.43	1.24	1.14	1.09	1.06	1.06
1.00	1.70	1.36	1.15	1.02	0.95	0.90	0.84
4.00	1.46	1.10	0.90	0.81	0.76	0.72	0.66
100.00	1.50	1.04	0.79	0.69	0.63	0.60	0.55



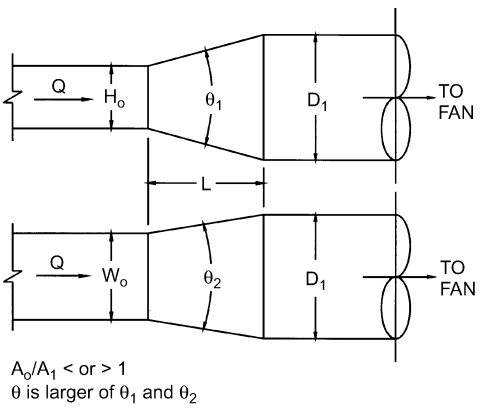
ER4-1 Transition, Rectangular, Two Sides Parallel, Symmetrical, Exhaust/Return Systems

	C_o Values												
	θ												
A_o/A_1	0	3	5	10	15	20	30	45	60	90	120	150	180
0.063	0.0	0.44	0.27	0.25	0.27	0.36	0.56	0.71	0.86	0.99	0.99	0.98	0.98
0.10	0.0	0.41	0.27	0.23	0.25	0.34	0.53	0.69	0.83	0.94	0.94	0.92	0.91
0.167	0.0	0.34	0.28	0.21	0.23	0.30	0.48	0.65	0.76	0.83	0.83	0.82	0.80
0.25	0.0	0.26	0.29	0.17	0.19	0.25	0.42	0.60	0.68	0.70	0.70	0.68	0.66
0.50	0.0	0.16	0.24	0.14	0.13	0.15	0.24	0.35	0.37	0.38	0.37	0.36	0.35
1.00	0.0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
2.00	0.0	0.30	0.38	0.25	0.17	0.17	0.17	0.23	0.29	0.49	0.66	0.81	0.88
4.00	0.0	1.66	1.25	0.77	0.70	0.70	0.70	0.90	1.09	2.84	4.36	5.69	6.57
6.00	0.0	4.05	3.14	1.76	1.58	1.58	1.58	2.12	2.66	6.71	10.11	13.13	15.20
10.00	0.0	12.01	9.39	5.33	5.00	5.00	5.00	6.45	7.93	19.10	28.60	36.79	42.79



ER4-3 Transition, Rectangular to Round, Exhaust/Return Systems

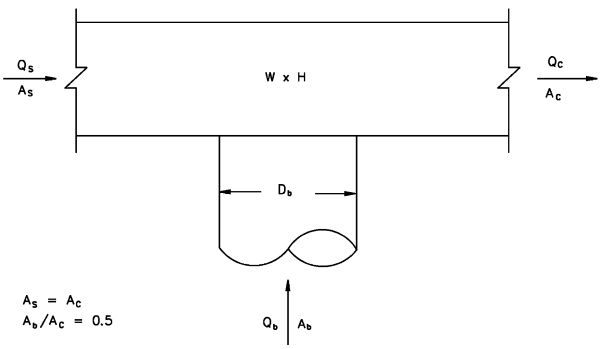
	C_o Values												
	θ												
A_o/A_1	0	3	5	10	15	20	30	45	60	90	120	150	180
0.063	0.0	0.17	0.19	0.30	0.46	0.53	0.64	0.77	0.88	0.95	0.95	0.94	0.93
0.10	0.0	0.17	0.19	0.30	0.45	0.53	0.64	0.75	0.84	0.89	0.89	0.89	0.88
0.167	0.0	0.18	0.19	0.30	0.44	0.53	0.63	0.72	0.78	0.79	0.79	0.79	0.79
0.25	0.0	0.16	0.18	0.25	0.36	0.45	0.52	0.58	0.62	0.64	0.64	0.64	0.64
0.50	0.0	0.14	0.14	0.15	0.22	0.25	0.30	0.33	0.33	0.33	0.32	0.31	0.30
1.00	0.0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
2.00	0.0	0.30	0.27	0.26	0.28	0.25	0.19	0.23	0.27	0.52	0.75	0.91	0.95
4.00	0.0	1.60	1.14	0.84	0.85	0.86	0.76	0.90	1.09	2.78	4.30	5.65	6.55
6.00	0.0	3.89	3.04	1.84	1.77	1.78	1.73	2.18	2.67	6.67	10.07	13.09	15.18
10.00	0.0	11.80	9.31	5.40	5.18	5.15	5.05	6.44	7.94	19.06	28.55	36.75	42.75



ER5-2 Tee, Round Tap to Rectangular Main, Converging

Q_b/Q_c	0.1	0.2	0.3	0.4	0.5	0.6	0.7	0.8	0.9	1.0
C_b	–14.00	–2.38	0.50	0.65	1.03	1.17	1.19	1.33	1.51	1.44

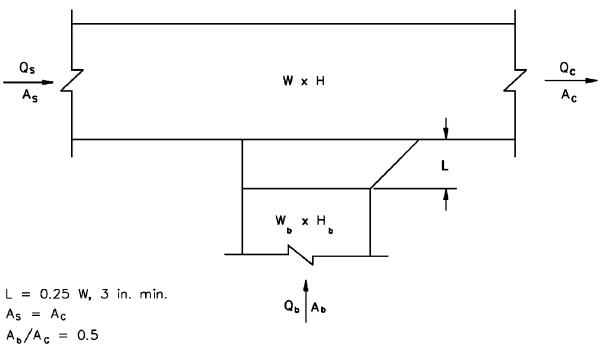
Q_s/Q_c	0.1	0.2	0.3	0.4	0.5	0.6	0.7	0.8	0.9	1.0
C_s	22.15	11.91	6.54	3.74	2.23	1.33	0.76	0.38	0.10	0.0



ER5-3 Tee, 45 Degree Entry Branch, Converging

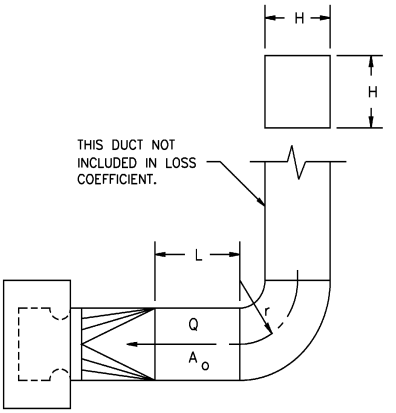
Q_b/Q_c	0.1	0.2	0.3	0.4	0.5	0.6	0.7	0.8	0.9	1.0
C_b	–19.38	–3.75	–0.74	0.48	0.66	0.75	0.85	0.77	0.83	0.83

Q_s/Q_c	0.1	0.2	0.3	0.4	0.5	0.6	0.7	0.8	0.9	1.0
C_s	22.15	11.91	6.54	3.74	2.23	1.33	0.76	0.38	0.10	0.0



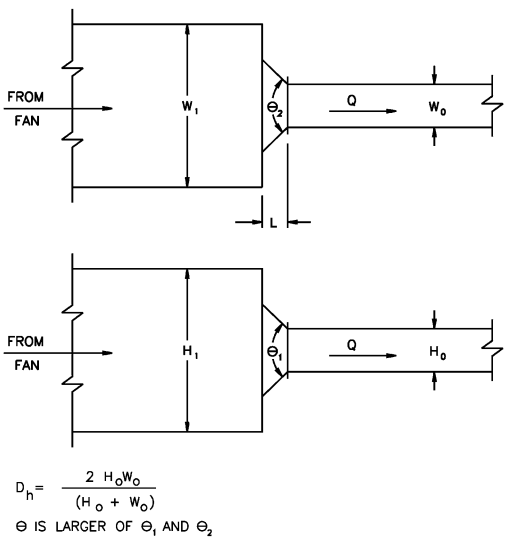
ER7-1 Fan Inlet, Centrifugal, SWSI, 90 Degree Smooth Radius Elbow (Square)

	C_o Values			
	L/H			
r/H	0.0	2.0	5.0	10.0
0.50	2.50	1.60	0.80	0.80
0.75	2.00	1.20	0.67	0.67
1.00	1.20	0.67	0.33	0.33
1.50	1.00	0.57	0.30	0.30
2.00	0.80	0.47	0.26	0.26



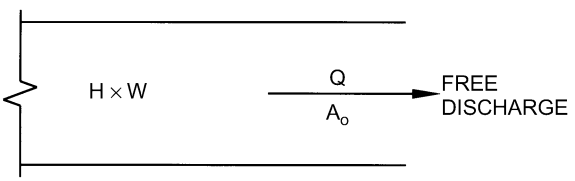
SR1-1 Conical Bellmouth/Sudden Contraction, Plenum to Rectangular, Supply Air Systems

	C_o Values								
	θ								
L/D_h	0	10	20	30	40	60	100	140	180
0.000	0.50	0.50	0.50	0.50	0.50	0.50	0.50	0.50	0.50
0.025	0.50	0.47	0.45	0.43	0.41	0.40	0.42	0.45	0.50
0.050	0.50	0.45	0.41	0.36	0.33	0.30	0.35	0.42	0.50
0.075	0.50	0.42	0.35	0.30	0.26	0.23	0.30	0.40	0.50
0.100	0.50	0.39	0.32	0.25	0.22	0.18	0.27	0.38	0.50
0.150	0.50	0.37	0.27	0.20	0.16	0.15	0.25	0.37	0.50
0.600	0.50	0.27	0.18	0.13	0.11	0.12	0.23	0.36	0.50

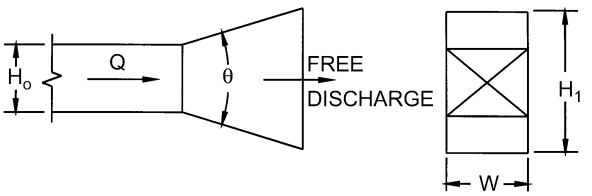


SR2-1 Abrupt Exit

Laminar Flow										
H/W	0.1	0.2	0.9	0.999	1.0	1.001	1.1	4.0	5.0	10.0
C_o	1.55	1.55	1.55	1.55	2.00	1.555	1.55	1.55	1.55	1.55
Turbulent Flow										
C_o = 1.0										

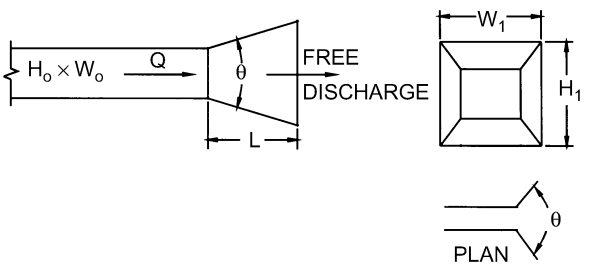


SR2-3 Plain Diffuser (Two Sides Parallel), Free Discharge



		C_o Values									
		θ									
A_1/A_o	Re/1000	4	8	10	14	20	30	45	60	90	120
1	50	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
	100	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
	200	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
	400	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
	2000	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
2	50	0.51	0.50	0.51	0.56	0.63	0.80	0.96	1.04	1.09	1.09
	100	0.48	0.48	0.50	0.56	0.63	0.80	0.96	1.04	1.09	1.09
	200	0.42	0.44	0.47	0.53	0.63	0.74	0.93	1.02	1.08	1.08
	400	0.38	0.40	0.42	0.50	0.62	0.74	0.93	1.02	1.08	1.08
	2000	0.38	0.40	0.42	0.50	0.62	0.74	0.93	1.02	1.08	1.08
4	50	0.35	0.34	0.38	0.48	0.63	0.76	0.91	1.03	1.07	1.07
	100	0.31	0.31	0.36	0.45	0.59	0.72	0.88	1.02	1.07	1.07
	200	0.27	0.26	0.31	0.41	0.53	0.67	0.83	0.96	1.06	1.06
	400	0.21	0.22	0.27	0.39	0.53	0.67	0.83	0.96	1.06	1.06
	2000	0.21	0.22	0.27	0.39	0.53	0.67	0.83	0.96	1.06	1.06
6	50	0.36	0.32	0.34	0.41	0.56	0.70	0.84	0.96	1.08	1.08
	100	0.32	0.27	0.30	0.41	0.56	0.70	0.84	0.96	1.08	1.08
	200	0.26	0.24	0.27	0.36	0.52	0.67	0.81	0.94	1.06	1.06
	400	0.21	0.20	0.24	0.36	0.52	0.67	0.81	0.94	1.06	1.06
	2000	9.21	0.18	0.24	0.34	0.50	0.67	0.81	0.94	1.05	1.05

SR2-5 Pyramidal Diffuser, Free Discharge

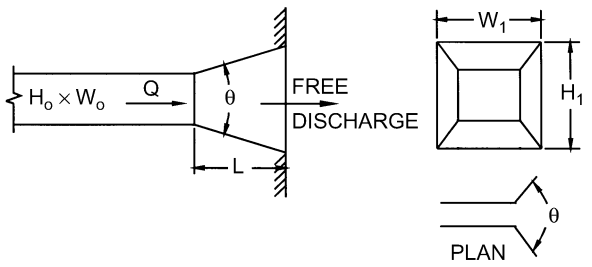


		C_o Values									
		θ									
A_1/A_o	Re/1000	4	8	10	14	20	30	45	60	90	120
1	50	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
	100	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
	200	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
	400	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
	2000	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
2	50	0.55	0.65	0.68	0.74	0.82	0.92	1.05	1.10	1.08	1.08
	100	0.51	0.61	0.66	0.73	0.81	0.90	1.04	1.09	1.08	1.08
	200	0.47	0.57	0.61	0.70	0.79	0.89	1.04	1.09	1.08	1.08
	400	0.42	0.50	0.56	0.64	0.76	0.88	1.02	1.07	1.08	1.08
	2000	0.42	0.50	0.56	0.64	0.76	0.88	1.02	1.07	1.08	1.08
4	50	0.38	0.53	0.60	0.69	0.78	0.90	1.02	1.07	1.09	1.09
	100	0.33	0.49	0.55	0.66	0.78	0.90	1.02	1.07	1.09	1.09
	200	0.27	0.42	0.50	0.62	0.74	0.87	1.00	1.06	1.08	1.08
	400	0.22	0.36	0.44	0.56	0.70	0.84	0.99	1.06	1.08	1.08
	2000	0.22	0.36	0.44	0.56	0.70	0.84	0.99	1.06	1.08	1.08
6	50	0.34	0.50	0.57	0.66	0.77	0.91	1.02	1.07	1.08	1.08
	100	0.30	0.47	0.54	0.63	0.76	0.98	1.02	1.07	1.08	1.08
	200	0.24	0.42	0.48	0.60	0.73	0.88	1.00	1.06	1.08	1.08
	400	0.18	0.34	0.44	0.56	0.73	0.86	0.98	1.06	1.08	1.08
	2000	0.18	0.34	0.44	0.56	0.73	0.86	0.98	1.06	1.08	1.08
10	50	0.30	0.45	0.53	0.64	0.74	0.85	0.97	1.10	1.12	1.12
	100	0.25	0.40	0.48	0.62	0.73	0.85	0.97	1.10	1.12	1.12
	200	0.20	0.34	0.44	0.56	0.69	0.82	0.95	1.10	1.11	1.11
	400	0.16	0.28	0.40	0.55	0.67	0.80	0.93	1.09	1.11	1.11
	2000	0.16	0.28	0.40	0.55	0.67	0.80	0.93	1.09	1.11	1.11

SR2-6 Pyramidal Diffuser, with Wall

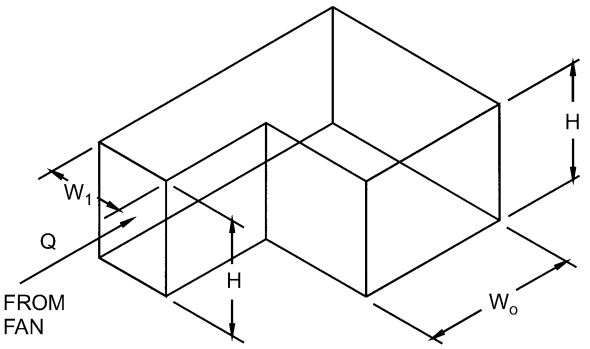
L/D_h	0.5	1.0	2.0	3.0	4.0	5.0	6.0	8.0	10.0	12.0	14.0
C_o	0.49	0.40	0.30	0.26	0.23	0.21	0.19	0.17	0.16	0.15	0.14
θ	26	19	13	11	9	8	7	6	6	5	5

θ is the optimum angle.

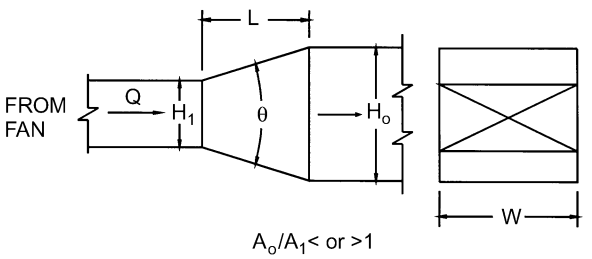


SR3-1 Elbow, 90 Degree, Variable Inlet/Outlet Areas, Supply Air Systems

	C_o Values						
	W_o/W_1						
H/W_1	0.6	0.8	1.0	1.2	1.4	1.6	2.0
0.25	0.63	0.92	1.24	1.64	2.14	2.71	4.24
1.00	0.61	0.87	1.15	1.47	1.86	2.30	3.36
4.00	0.53	0.70	0.90	1.17	1.49	1.84	2.64
100.	0.54	0.67	0.79	0.99	1.23	1.54	2.20

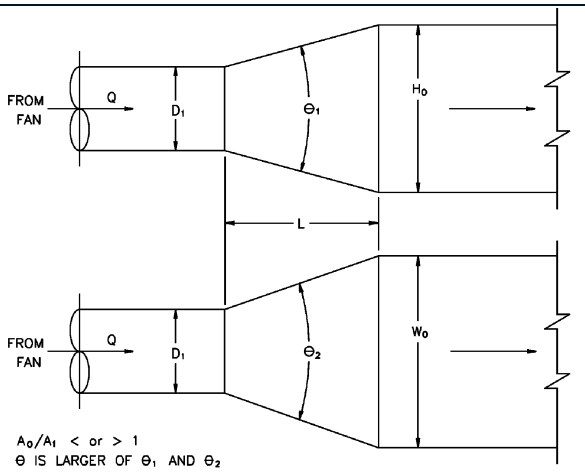


SR4-1 Transition, Rectangular, Two Sides Parallel, Symmetrical, Supply Air Systems



	C_o Values												
	θ												
A_o/A_1	0	3	5	10	15	20	30	45	60	90	120	150	180
0.10	0.0	0.12	0.09	0.05	0.05	0.05	0.05	0.06	0.08	0.19	0.29	0.37	0.43
0.167	0.0	0.11	0.09	0.05	0.04	0.04	0.04	0.06	0.07	0.19	0.28	0.36	0.42
0.25	0.0	0.10	0.08	0.05	0.04	0.04	0.04	0.06	0.07	0.18	0.27	0.36	0.41
0.50	0.0	0.08	0.09	0.06	0.04	0.04	0.04	0.06	0.07	0.12	0.17	0.20	0.27
1.00	0.0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	1.00
2.00	0.0	0.64	0.96	0.54	0.52	0.62	0.94	1.40	1.48	1.52	1.48	1.44	1.40
4.00	0.0	4.16	4.64	2.72	3.09	4.00	6.72	9.60	10.88	11.20	11.20	10.88	10.56
6.00	0.0	12.24	10.08	7.38	8.10	10.80	17.28	23.40	27.36	29.88	29.88	29.34	28.80
10.00	0.0	40.50	27.20	23.30	25.10	34.00	52.84	69.00	82.50	93.50	93.50	92.40	91.30
16.00	0.0	112.64	68.35	63.74	67.84	92.93	142.13	182.53	220.16	254.21	254.21	251.90	249.60

SR4-3 Transition, Round to Rectangular, Supply Air Systems

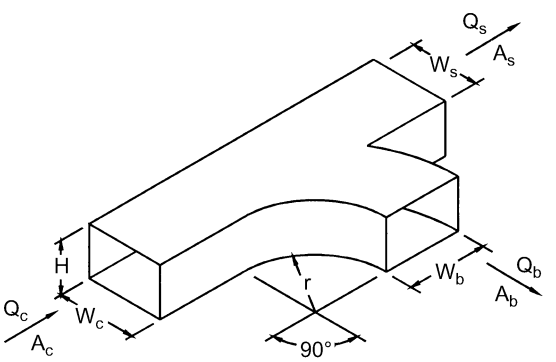


	C_o Values												
	θ												
A_o/A_1	0	3	5	10	15	20	30	45	60	90	120	150	180
0.10	0.0	0.12	0.09	0.05	0.05	0.05	0.05	0.06	0.08	0.19	0.29	0.37	0.43
0.167	0.0	0.11	0.08	0.05	0.05	0.05	0.05	0.06	0.07	0.19	0.28	0.37	0.42
0.25	0.0	0.10	0.07	0.05	0.05	0.05	0.05	0.06	0.07	0.17	0.27	0.35	0.41
0.50	0.0	0.08	0.07	0.06	0.07	0.06	0.05	0.06	0.07	0.13	0.19	0.23	0.24
1.00	0.0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
2.00	0.0	0.57	0.55	0.61	0.87	1.00	1.20	1.30	1.30	1.30	1.28	1.24	1.20
4.00	0.0	2.60	2.84	3.92	5.72	7.20	8.32	9.28	9.92	10.24	10.24	10.24	10.24
6.00	0.0	6.57	6.75	10.62	15.84	18.90	22.50	25.74	27.90	28.44	28.44	28.35	28.26
10.00	0.0	17.25	18.75	30.00	45.00	53.00	63.50	75.00	84.0	89.00	89.00	88.50	88.00
16.00	0.0	42.75	48.13	77.57	116.74	136.45	164.10	196.86	224.26	241.92	241.92	240.38	238.59

SR5-1 Smooth Wye of Type $A_s + A_b \geq A_c$, Branch 90° to Main, Diverging

		C_b Values								
		Q_b/Q_c								
A_s/A_c	A_b/A_c	0.1	0.2	0.3	0.4	0.5	0.6	0.7	0.8	0.9
0.50	0.25	2.25	0.48	0.25	0.18	0.17	0.16	0.17	0.17	0.17
	0.50	11.00	2.38	1.06	0.64	0.52	0.47	0.47	0.47	0.48
	1.00	60.00	13.00	4.78	2.06	0.96	0.47	0.31	0.27	0.26
0.75	0.25	2.19	0.55	0.35	0.31	0.33	0.35	0.36	0.37	0.39
	0.50	13.00	2.50	0.89	0.47	0.34	0.31	0.32	0.36	0.43
	1.00	70.00	15.00	5.67	2.63	1.36	0.78	0.53	0.41	0.36
1.00	0.25	3.44	0.78	0.42	0.33	0.30	0.31	0.40	0.42	0.46
	0.50	15.50	3.00	1.11	0.63	0.48	0.42	0.40	0.42	0.46
	1.00	67.00	13.75	5.11	2.31	1.28	0.81	0.59	0.47	0.46

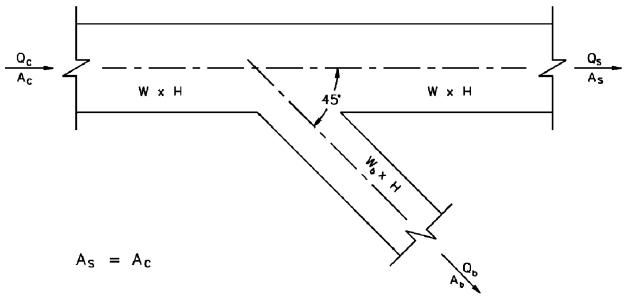
		C_s Values								
		Q_s/Q_c								
A_s/A_c	A_b/A_c	0.1	0.2	0.3	0.4	0.5	0.6	0.7	0.8	0.9
0.50	0.25	8.65	1.12	0.21	0.05	0.06	0.10	0.15	0.19	0.24
	0.50	7.50	0.98	0.19	0.06	0.06	0.10	0.14	0.18	0.22
	1.00	5.21	0.68	0.15	0.06	0.07	0.10	0.13	0.16	0.19
0.75	0.25	19.62	3.25	0.86	0.23	0.05	0.02	0.00	0.00	0.05
	0.50	20.62	3.24	0.76	0.14	–0.03	–0.07	–0.05	–0.01	0.03
	1.00	17.01	2.55	0.55	0.07	–0.05	–0.05	–0.02	0.02	0.06
1.00	0.25	46.00	9.50	3.22	1.31	0.52	0.14	–0.02	–0.05	–0.01
	0.50	35.34	6.49	1.98	0.69	0.22	0.00	–0.04	–0.05	–0.05
	1.00	38.95	7.10	2.15	0.74	0.23	0.03	–0.04	–0.05	–0.04



$A_s = A_b \geq A_c$

$r/W_b = 1.0$

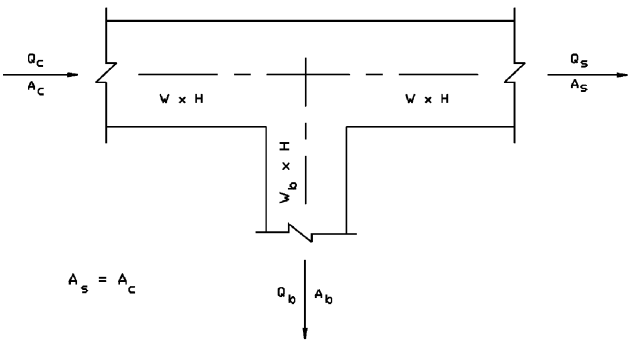
SR5-3 Wye of the Type $A_s + A_b > A_c$, $A_s = A_c$, 45 Degree, Diverging



	C_b Values								
	Q_b/Q_c								
A_b/A_c	0.1	0.2	0.3	0.4	0.5	0.6	0.7	0.8	0.9
0.1	0.60	0.52	0.57	0.58	0.64	0.67	0.70	0.71	0.73
0.2	2.24	0.56	0.44	0.45	0.51	0.54	0.58	0.60	0.62
0.3	5.93	1.08	0.52	0.41	0.43	0.46	0.49	0.52	0.54
0.4	10.61	1.89	0.72	0.43	0.34	0.31	0.31	0.33	0.34
0.5	17.70	3.23	1.14	0.59	0.40	0.31	0.30	0.30	0.31
0.6	26.66	5.01	1.75	0.84	0.50	0.36	0.31	0.30	0.30
0.7	37.49	7.22	2.53	1.17	0.66	0.43	0.35	0.32	0.30
0.8	50.20	9.87	3.49	1.61	0.88	0.54	0.41	0.35	0.32
0.9	64.77	12.95	4.63	2.13	1.14	0.69	0.50	0.40	0.35

Q_s/Q_c	0.1	0.2	0.3	0.4	0.5	0.6	0.7	0.8	0.9
C_s	32.40	6.40	2.18	0.90	0.40	0.18	0.07	0.03	0.00

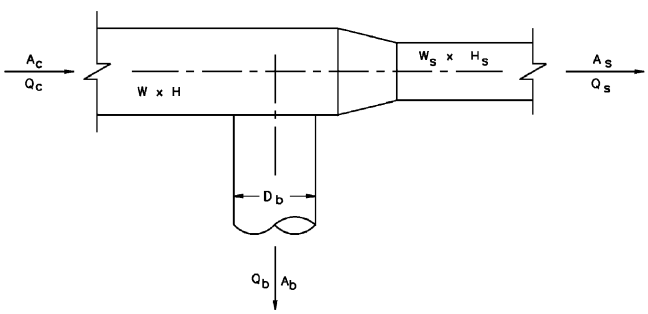
SR5-5 Tee of the Type $A_s + A_b > A_c$, $A_s = A_c$, Diverging



	C_b Values								
	Q_b/Q_c								
A_b/A_c	0.1	0.2	0.3	0.4	0.5	0.6	0.7	0.8	0.9
0.1	2.06	1.20	0.99	0.87	0.88	0.87	0.87	0.86	0.86
0.2	5.15	1.92	1.29	1.03	0.99	0.94	0.92	0.90	0.89
0.3	10.30	3.12	1.78	1.28	1.16	1.06	1.01	0.97	0.94
0.4	15.90	4.35	2.24	1.48	1.11	0.88	0.80	0.75	0.72
0.5	24.31	6.31	3.04	1.90	1.35	1.03	0.91	0.83	0.78
0.6	34.60	8.70	4.03	2.41	1.65	1.22	1.04	0.94	0.87
0.7	46.75	11.53	5.19	3.01	2.00	1.44	1.20	1.06	0.96
0.8	60.78	14.79	6.53	3.70	2.40	1.69	1.38	1.20	1.07
0.9	76.67	18.49	8.05	4.49	2.86	1.98	1.59	1.36	1.20

Q_s/Q_c	0.1	0.2	0.3	0.4	0.5	0.6	0.7	0.8	1.0
C_s	32.40	6.40	2.18	0.90	0.40	0.18	0.07	0.03	0.00

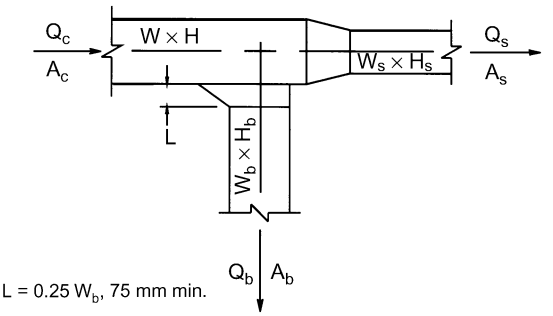
SR5-11 Tee, Rectangular Main to Round Tap, Diverging



	C_b Values								
	Q_b/Q_c								
A_b/A_c	0.1	0.2	0.3	0.4	0.5	0.6	0.7	0.8	0.9
0.1	1.58	0.94	0.83	0.79	0.77	0.76	0.76	0.76	0.75
0.2	4.20	1.58	1.10	0.94	0.87	0.83	0.80	0.79	0.78
0.3	8.63	2.67	1.58	1.20	1.03	0.91	0.88	0.85	0.83
0.4	14.85	4.20	2.25	1.58	1.27	1.10	1.00	0.94	0.90
0.5	22.87	6.19	3.13	2.07	1.58	1.32	1.16	1.06	0.99
0.6	32.68	8.63	4.20	2.67	1.96	1.58	1.35	1.20	1.10
0.7	44.30	11.51	5.48	3.38	2.41	1.89	1.58	1.38	1.24
0.8	57.71	14.85	6.95	4.20	2.94	2.25	1.84	1.58	1.40
0.9	72.92	18.63	8.63	5.14	3.53	2.67	2.14	1.81	1.58

	C_s Values								
	Q_s/Q_c								
A_s/A_c	0.1	0.2	0.3	0.4	0.5	0.6	0.7	0.8	0.9
0.1	0.04	0.01	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.2	0.98	0.04	0.01	0.00	0.00	0.00	0.00	0.00	0.00
0.3	3.48	0.31	0.04	0.01	0.00	0.00	0.00	0.00	0.00
0.4	7.55	0.98	0.18	0.04	0.02	0.00	0.00	0.00	0.00
0.5	13.18	2.03	0.49	0.13	0.04	0.00	0.01	0.00	0.00
0.6	20.38	3.48	0.98	0.31	0.10	0.04	0.02	0.01	0.00
0.7	29.15	5.32	1.64	0.60	0.23	0.09	0.04	0.02	0.01
0.8	39.48	7.55	2.47	0.98	0.42	0.18	0.08	0.04	0.02
0.9	51.37	10.17	3.48	1.46	0.67	0.31	0.15	0.07	0.04

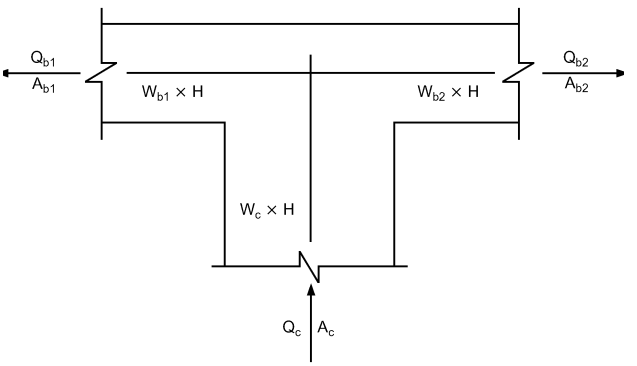
SR5-13 Tee, 45 Degree Entry Branch, Diverging



	C_b Values								
	Q_b/Q_c								
A_b/A_c	0.1	0.2	0.3	0.4	0.5	0.6	0.7	0.8	0.9
0.1	0.32	0.33	0.32	0.34	0.32	0.37	0.38	0.39	0.40
0.2	0.31	0.32	0.41	0.34	0.32	0.32	0.33	0.34	0.35
0.3	1.86	1.65	0.73	0.47	0.37	0.34	0.32	0.32	0.32
0.4	3.56	3.10	1.28	0.73	0.51	0.41	0.36	0.34	0.32
0.5	5.74	4.93	2.07	1.12	0.73	0.54	0.44	0.38	0.35
0.6	8.48	7.24	3.10	1.65	1.03	0.73	0.56	0.47	0.41
0.7	11.75	10.00	4.32	3.31	1.42	0.98	0.73	0.58	0.49
0.8	15.57	13.22	5.74	3.10	1.90	1.28	0.94	0.73	0.60
0.9	19.92	16.90	7.38	4.02	2.46	1.65	1.19	0.91	0.73

	C_s Values								
	Q_s/Q_c								
A_s/A_c	0.1	0.2	0.3	0.4	0.5	0.6	0.7	0.8	0.9
0.1	0.04	0.01	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.2	0.98	0.04	0.01	0.00	0.00	0.00	0.00	0.00	0.00
0.3	3.48	0.31	0.04	0.01	0.00	0.00	0.00	0.00	0.00
0.4	7.55	0.98	0.18	0.04	0.02	0.00	0.00	0.00	0.00
0.5	13.18	2.03	0.49	0.13	0.04	0.00	0.01	0.00	0.00
0.6	20.38	3.48	0.98	0.31	0.10	0.04	0.02	0.01	0.00
0.7	29.15	5.32	1.64	0.60	0.23	0.09	0.04	0.02	0.01
0.8	39.48	7.55	2.47	0.98	0.42	0.18	0.08	0.04	0.02
0.9	51.37	10.17	3.48	1.46	0.67	0.31	0.15	0.07	0.04

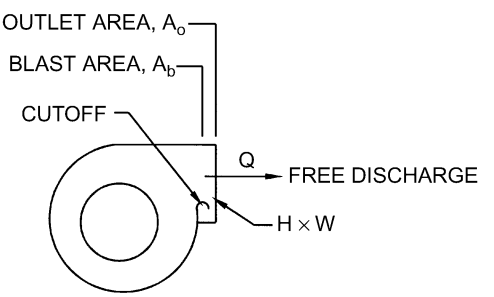
SR5-15 Bullhead Tee Without Vanes, Diverging



	C_{b1} *Values*								
	Q_{b1}/Q_c								
A_{b1}/A_c	0.1	0.2	0.3	0.4	0.5	0.6	0.7	0.8	0.9
0.1	1.34	0.53	0.37	0.30	0.29	0.28	0.27	0.27	0.27
0.2	4.43	1.25	0.66	0.45	0.39	0.35	0.32	0.31	0.30
0.3	9.58	2.45	1.16	0.71	0.56	0.47	0.41	0.37	0.35
0.4	16.87	4.17	1.88	1.09	0.73	0.53	0.38	0.33	0.30
0.5	26.19	6.35	2.79	1.56	1.01	0.71	0.49	0.41	0.37
0.6	37.57	9.02	3.89	2.14	1.35	0.92	0.62	0.52	0.45
0.7	51.03	12.17	5.20	2.82	1.75	1.18	0.78	0.64	0.54
0.8	66.55	15.81	6.71	3.61	2.22	1.48	0.96	0.78	0.65
0.9	84.15	19.93	8.42	4.50	2.74	1.81	1.17	0.94	0.78

For other branch, subscripts 1 and 2 change places.

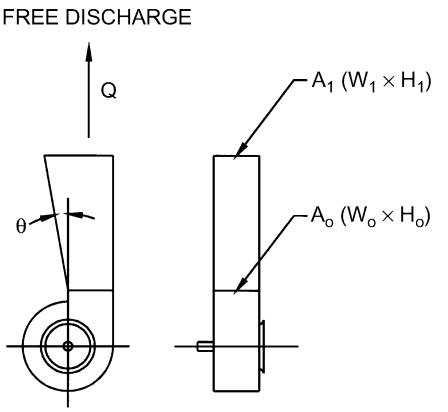
SR7-1 Fan, Centrifugal, Without Outlet Diffuser, Free Discharge



A_b/A_o	0.4	0.5	0.6	0.7	0.8	0.9	1.0
C_o	2.00	2.00	1.00	0.80	0.47	0.22	0.00

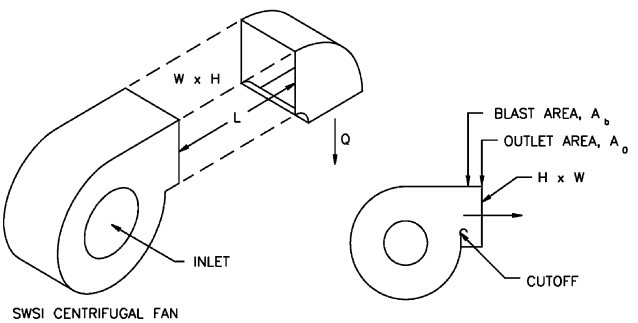
SR7-2 Plane Asymmetric Diffuser at Centrifugal Fan Outlet, Free Discharge

	C_o Values					
	A_1/A_o					
θ	1.5	2.0	2.5	3.0	3.5	4.0
10	0.51	0.34	0.25	0.21	0.18	0.17
15	0.54	0.36	0.27	0.24	0.22	0.20
20	0.55	0.38	0.31	0.27	0.25	0.24
25	0.59	0.43	0.37	0.35	0.33	0.33
30	0.63	0.50	0.46	0.44	0.43	0.42
35	0.65	0.56	0.53	0.52	0.51	0.50



SR7-5 Fan Outlet, Centrifugal, SWSI, with Elbow (Position A)

	C_o Values					
	L/L_e					
A_b/A_o	0.00	0.12	0.25	0.50	1.0	10.0
0.4	3.20	2.50	1.80	0.80	0.0	0.0
0.5	2.20	1.80	1.20	0.53	0.0	0.0
0.6	1.60	1.40	0.80	0.40	0.0	0.0
0.7	1.00	0.80	0.53	0.26	0.0	0.0
0.8	0.80	0.67	0.47	0.18	0.0	0.0
0.9	0.53	0.47	0.33	0.18	0.0	0.0
1.0	0.53	0.47	0.33	0.18	0.0	0.0



$$V_o > 13 \text{ m/s:} \quad L_e = \frac{V_o\sqrt{A_o}}{4500}$$

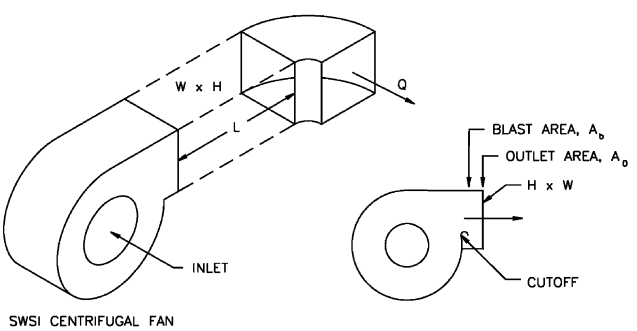
$$V_o \le 13 \text{ m/s:} \quad L_e = \frac{\sqrt{A_o}}{350}$$

where:

V_O = duct velocity, m/s
L_e = effective duct length, m
A_o = duct area, mm^2

SR7-6 Fan Outlet, Centrifugal, SWSI, with Elbow (Position B)

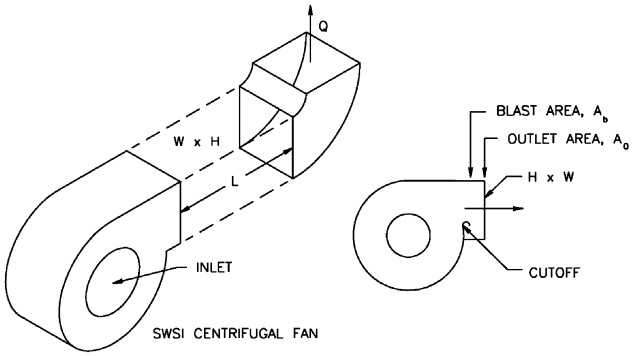
	C_o Values					
	L/L_e					
A_b/A_o	0.00	0.12	0.25	0.50	1.0	10.0
0.4	3.80	3.20	2.20	1.00	0.0	0.0
0.5	2.90	2.20	1.60	0.67	0.0	0.0
0.6	2.00	1.60	1.20	0.53	0.0	0.0
0.7	1.40	1.00	0.67	0.33	0.0	0.0
0.8	1.00	0.80	0.53	0.26	0.0	0.0
0.9	0.80	0.67	0.47	0.18	0.0	0.0
1.0	0.67	0.53	0.40	0.18	0.0	0.0



To calculate L_e, see Fitting SR7-5.

SR7-7 Fan Outlet, Centrifugal, SWSI, with Elbow (Position C)

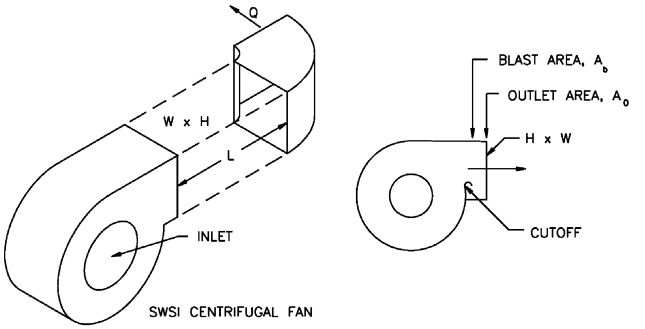
	C_o Values					
	L/L_e					
A_b/A_o	0.00	0.12	0.25	0.50	1.0	10.0
0.4	5.50	4.50	3.20	1.60	0.0	0.0
0.5	3.80	3.20	2.20	1.00	0.0	0.0
0.6	2.90	2.50	1.60	0.80	0.0	0.0
0.7	2.00	1.60	1.00	0.53	0.0	0.0
0.8	1.40	1.20	0.80	0.33	0.0	0.0
0.9	1.20	0.80	0.67	0.26	0.0	0.0
1.0	1.00	0.80	0.53	0.26	0.0	0.0



To calculate L_e, see Fitting SR7-5.

SR7-8 Fan Outlet, Centrifugal, SWSI, with Elbow (Position D)

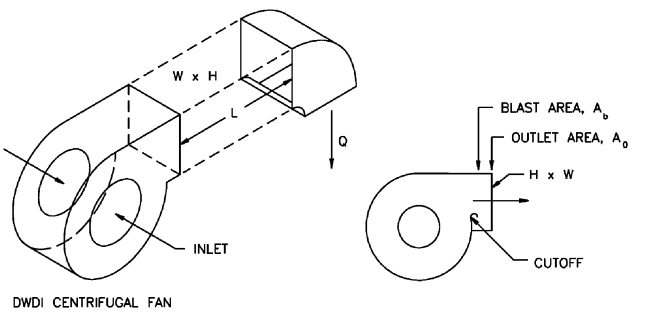
	C_o Values					
	L/L_e					
A_b/A_o	0.00	0.12	0.25	0.50	1.0	10.0
0.4	5.50	4.50	3.20	1.60	0.0	0.0
0.5	3.80	3.20	2.20	1.00	0.0	0.0
0.6	2.90	2.50	1.60	0.80	0.0	0.0
0.7	2.00	1.60	1.00	0.53	0.0	0.0
0.8	1.40	1.20	0.80	0.33	0.0	0.0
0.9	1.20	0.80	0.67	0.26	0.0	0.0
1.0	1.00	0.80	0.53	0.26	0.0	0.0



To calculate L_e, see Fitting SR7-5.

SR7-9 Fan Outlet, Centrifugal, DWDI, with Elbow (Position A)

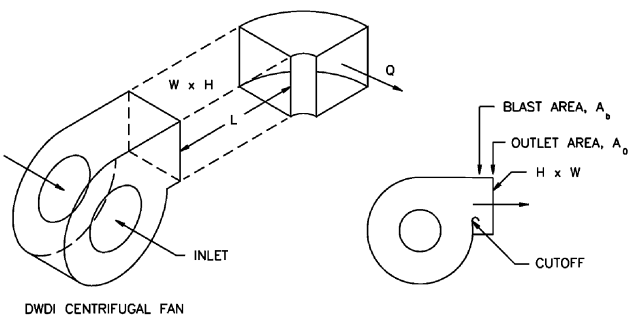
	C_o Values					
	L/L_e					
A_b/A_o	0.00	0.12	0.25	0.50	1.0	10.0
0.4	3.20	2.50	1.80	0.80	0.0	0.0
0.5	2.20	1.80	1.20	0.53	0.0	0.0
0.6	1.60	1.40	0.80	0.40	0.0	0.0
0.7	1.00	0.80	0.53	0.26	0.0	0.0
0.8	0.80	0.67	0.47	0.18	0.0	0.0
0.9	0.53	0.47	0.33	0.18	0.0	0.0
1.0	0.53	0.47	0.33	0.18	0.0	0.0



To calculate L_e, see Fitting SR7-5.

SR7-10 Fan Outlet, Centrifugal, DWDI, with Elbow (Position B)

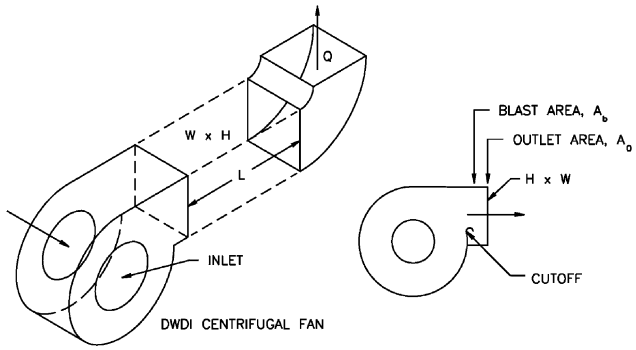
	C_o Values					
	L/L_e					
A_b/A_o	0.00	0.12	0.25	0.50	1.0	10.0
0.4	4.80	4.00	2.90	1.30	0.0	0.0
0.5	3.60	2.90	2.00	0.84	0.0	0.0
0.6	2.50	2.00	1.50	0.66	0.0	0.0
0.7	1.80	1.30	0.84	0.41	0.0	0.0
0.8	1.25	1.00	0.66	0.33	0.0	0.0
0.9	1.00	0.84	0.59	0.23	0.0	0.0
1.0	0.84	0.66	0.50	0.23	0.0	0.0



To calculate L_e, see Fitting SR7-5.

SR7-11 Fan Outlet, Centrifugal, DWDI, with Elbow (Position C)

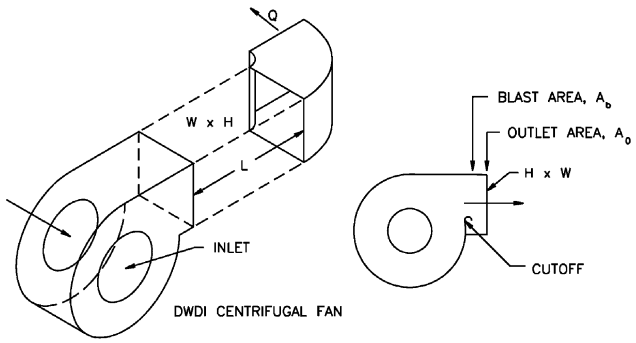
	C_o Values					
	L/L_e					
A_b/A_o	0.00	0.12	0.25	0.50	1.0	10.0
0.4	5.50	4.50	3.20	1.60	0.0	0.0
0.5	3.80	3.20	2.20	1.00	0.0	0.0
0.6	2.90	2.50	1.60	0.80	0.0	0.0
0.7	2.00	1.60	1.00	0.53	0.0	0.0
0.8	1.40	1.20	0.80	0.33	0.0	0.0
0.9	1.20	0.80	0.67	0.26	0.0	0.0
1.0	1.00	0.80	0.53	0.26	0.0	0.0



To calculate L_e, see Fitting SR7-5.

SR7-12 Fan Outlet, Centrifugal, DWDI, with Elbow (Position D)

	C_o Values					
	L/L_e					
A_b/A_o	0.00	0.12	0.25	0.50	1.0	10.0
0.4	4.70	3.80	2.70	1.40	0.0	0.0
0.5	3.20	2.70	1.90	0.85	0.0	0.0
0.6	2.50	2.10	1.40	0.68	0.0	0.0
0.7	1.70	1.40	0.85	0.45	0.0	0.0
0.8	1.20	1.00	0.68	0.26	0.0	0.0
0.9	1.00	0.68	0.57	0.22	0.0	0.0
1.0	0.85	0.68	0.45	0.22	0.0	0.0

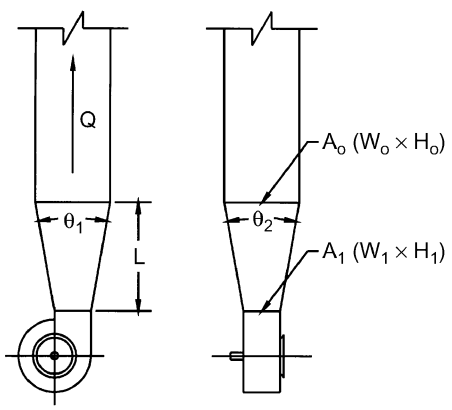


To calculate L_e, see Fitting SR7-5.

SR7-17 Pyramidal Diffuser at Centrifugal Fan Outlet with Ductwork

	C_1 Values						
	A_o/A_1						
θ	1.0	1.5	2.0	2.5	3.0	3.5	4.0
0	0.00	0.00	0.00	0.00	0.00	0.00	0.00
10	0.00	0.10	0.18	0.21	0.23	0.24	0.25
15	0.00	0.23	0.33	0.38	0.40	0.42	0.44
20	0.00	0.31	0.43	0.48	0.53	0.56	0.58
25	0.00	0.36	0.49	0.55	0.58	0.62	0.64
30	0.00	0.42	0.53	0.59	0.64	0.67	0.69

$$C_o = C_1\left(\frac{A_o}{A_1}\right)^2$$



θ is larger of θ_1 and θ_2