

Hız (m/s)	Hız Basıncı (Pa)	Hız (m/s)	Hız Basıncı (Pa)	Hız (m/s)	Hız Basıncı (Pa)	Hız (m/s)	Hız Basıncı (Pa)	Hız (m/s)	Hız Basıncı (Pa)
1.0	0.6	10.0	60	19.0	217	28.0	472	37.0	824
1.2	0.9	10.2	63	19.2	222	28.2	479	37.2	833
1.4	1.2	10.4	65	19.4	227	28.4	486	37.4	842
1.6	1.5	10.6	68	19.6	231	28.6	493	37.6	851
1.8	2.0	10.8	70	19.8	236	28.8	499	37.8	860
2.0	2.4	11.0	73	20.0	241	29.0	506	38.0	870
2.2	2.9	11.2	76	20.2	246	29.2	513	38.2	879
2.4	3.5	11.4	78	20.4	251	29.4	521	38.4	888
2.6	4.1	11.6	81	20.6	256	29.6	528	38.6	897
2.8	4.7	11.8	84	20.8	261	29.8	535	38.8	907
3.0	5.4	12.0	87	21.0	266	30.0	542	39.0	916
3.2	6.2	12.2	90	21.2	271	30.2	549	39.2	925
3.4	7.0	12.4	93	21.4	276	30.4	557	39.4	936
3.6	7.8	12.6	96	21.6	281	30.6	564	39.6	944
3.8	8.7	12.8	99	21.8	286	30.8	571	39.8	954
4.0	9.6	13.0	102	22.0	291	31.0	579	40.0	963
4.2	10.6	13.2	105	22.2	297	31.2	586	40.2	973
4.4	11.7	13.4	108	22.4	302	31.4	594	40.4	983
4.6	12.7	13.6	111	22.6	308	31.6	601	40.6	993
4.8	13.9	13.8	115	22.8	313	31.8	609	40.8	1002
5.0	15.1	14.0	118	23.0	319	32.0	617	41.0	1012
5.2	16.3	14.2	121	23.2	324	32.2	624	41.2	1022
5.4	17.6	14.4	125	23.4	330	32.4	632	41.4	1032
5.6	18.9	14.6	128	23.6	335	32.6	640	41.6	1042
5.8	20.3	14.8	132	23.8	341	32.8	648	41.8	1052
6.0	21.7	15.0	135	24.0	347	33.0	656	42.0	1062
6.2	23.1	15.2	139	24.2	353	33.2	664	42.2	1072
6.4	24.7	15.4	143	24.4	359	33.4	672	42.4	1083
6.6	26.2	15.6	147	24.6	364	33.6	680	42.6	1093
6.8	27.8	15.8	150	24.8	370	33.8	688	42.8	1103
7.0	29.5	16.0	154	25.0	376	34.0	696	43.0	1113
7.2	31.2	16.2	158	25.2	382	34.2	704	43.2	1124
7.4	33.0	16.4	162	25.4	389	34.4	713	43.4	1134
7.6	34.8	16.6	166	25.6	395	34.6	721	43.6	1145
7.8	36.6	16.8	170	25.8	401	34.8	729	43.8	1155
8.0	38.5	17.0	174	26.0	407	35.0	738	44.0	1166
8.2	40.5	17.2	178	26.2	413	35.2	746	44.2	1176
8.4	42.5	17.4	182	26.4	420	35.4	755	44.4	1187
8.6	44.5	17.6	187	26.6	426	35.6	763	44.6	1198
8.8	46.6	17.8	191	26.8	433	35.8	772	44.8	1209
9.0	48.8	18.0	195	27.0	439	36.0	780	45.0	1219
9.2	51.0	18.2	199	27.2	446	36.2	789	45.2	1230
9.4	53.2	18.4	204	27.4	452	36.4	798	45.4	1241
9.6	55.5	18.6	208	27.6	459	36.6	807	45.6	1252
9.8	57.8	18.8	213	27.8	465	36.8	815	45.8	1263

EK 1. Tablo 1. HIZ VE HIZ BASINCI DEĞERLERİ

Dikdörtgen Kanal Kenarı																Dikdörtgen Kanal Kenarı					
	100	125	150	175	200	225	250	275	300	350	400	450	500	550	600		650	700	750	800	900
100	109																				100
125	122	137																			125
150	133	150	164																		150
175	143	161	177	191																	175
200	152	172	189	204	219																200
225	161	181	200	216	232	246															225
250	169	190	210	228	244	259	273														250
275	176	199	220	238	256	272	287	301													275
300	183	207	229	248	266	283	299	314	328												300
350	195	222	245	267	286	305	322	339	354	383											350
400	207	235	260	283	305	325	343	361	378	409	437										400
450	217	247	274	299	321	343	363	382	400	433	464	492									450
500	227	258	287	313	337	360	381	401	420	455	488	518	547								500
550	236	269	299	326	352	375	398	419	439	477	511	543	573	601							550
600	245	279	310	339	365	390	414	436	457	496	533	567	598	628	656						600
650	253	289	321	351	378	404	429	452	474	515	553	589	622	653	683	711					650
700	261	298	331	362	391	418	443	467	490	533	573	610	644	677	708	737	765				700
750	268	306	341	373	402	430	457	482	506	550	592	630	666	700	732	763	792	820			750
800	275	314	350	383	414	442	470	496	520	567	609	649	687	722	755	787	818	847	875		800
900	289	330	367	402	435	465	494	522	548	597	643	686	726	763	799	833	866	897	927	984	900
1000	301	344	384	420	454	486	517	546	574	626	674	719	762	802	840	876	911	944	976	1037	1000
1100	313	358	399	437	473	506	538	569	598	652	703	751	795	838	878	916	953	988	1022	1086	1100
1200	324	370	413	453	490	525	558	590	620	677	731	780	827	872	914	954	993	1030	1066	1133	1200
1300	334	382	426	468	506	543	577	610	642	701	757	808	857	904	948	990	1031	1069	1107	1177	1300
1400	344	394	439	482	522	559	595	629	662	724	781	835	886	934	980	1024	1066	1107	1146	1220	1400
1500	353	404	452	495	536	575	612	648	681	745	805	860	913	963	1011	1057	1100	1143	1183	1260	1500
1600	362	415	463	508	551	591	629	665	700	766	827	885	939	991	1041	1088	1133	1177	1219	1298	1600
1700	371	425	475	521	564	605	644	682	718	785	849	908	964	1018	1069	1118	1164	1209	1253	1335	1700
1800	379	434	485	533	577	619	660	698	735	804	869	930	988	1043	1096	1146	1195	1241	1286	1371	1800
1900	387	444	496	544	590	633	674	713	751	823	889	952	1012	1068	1122	1174	1224	1271	1318	1405	1900
2000	395	453	506	555	602	646	688	728	767	840	908	973	1034	1092	1147	1200	1252	1301	1348	1438	2000
2100	402	461	516	566	614	659	702	743	782	857	927	993	1055	1115	1172	1226	1279	1329	1378	1470	2100
2200	410	470	525	577	625	671	715	757	797	874	945	1013	1076	1137	1195	1251	1305	1356	1406	1501	2200
2300	417	478	534	587	636	683	728	771	812	890	963	1031	1097	1159	1218	1275	1330	1383	1434	1532	2300
2400	424	486	543	597	647	695	740	784	826	905	980	1050	1116	1180	1241	1299	1355	1409	1461	1561	2400
2500	430	494	552	606	658	706	753	797	840	920	996	1068	1136	1200	1262	1322	1379	1434	1488	1589	2500
2600	437	501	560	616	668	717	764	810	853	935	1012	1085	1154	1220	1283	1344	1402	1459	1513	1617	2600
2700	443	509	569	625	678	728	776	822	866	950	1028	1102	1173	1240	1304	1366	1425	1483	1538	1644	2700
2800	450	516	577	634	688	738	787	834	879	964	1043	1119	1190	1259	1324	1387	1447	1506	1562	1670	2800
2900	456	523	585	643	697	749	798	845	891	977	1058	1135	1208	1277	1344	1408	1469	1529	1586	1696	2900
Dikdörtgen Kanal Kenarı	100	125	150	175	200	225	250	275	300	350	400	450	500	550	600	650	700	750	800	900	Dikdörtgen Kanal Kenarı

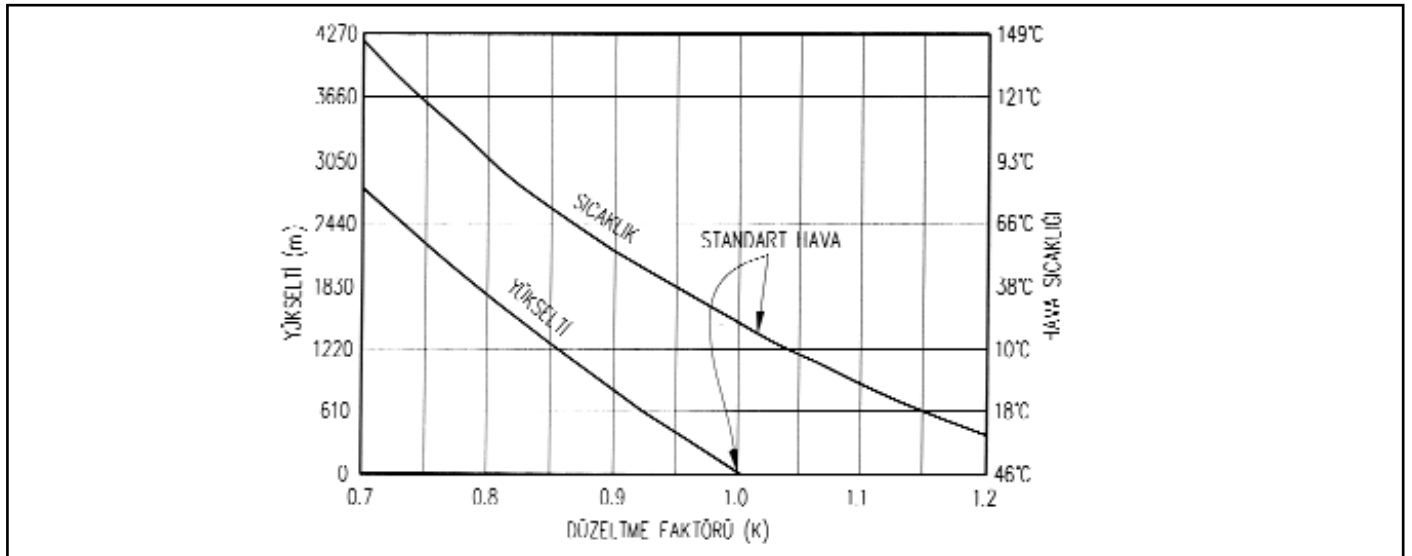
EK 1. Tablo 2. EŞDEĞER SÜRTÜNME VE KAPASİTE İÇİN, DİKDÖRTGEN KESİTLİ KANALLARA EŞDEĞER YUVARLAK KANALLAR (Ölçüler mm. cinsindedir.)

Dikdörtgen Kanal Kenarı																Dikdörtgen Kanal Kenarı					
	1000	1100	1200	1300	1400	1500	1600	1700	1800	1900	2000	2100	2200	2300	2400		2500	2600	2700	2800	2900
1000	1093															1000					
1100	1146 1202															1100					
1200	1196 1256 1312															1200					
1300	1244 1306 1365 1421															1300					
1400	1289 1354 1416 1475 1530															1400					
1500	1332 1400 1464 1526 1584					1640										1500					
1600	1373 1444 1511 1574 1635					1693 1749										1600					
1700	1413 1486 1555 1621 1684					1745 1803 1858										1700					
1800	1451 1527 1598 1667 1732					1794 1854 1912 1968										1800					
1900	1488 1566 1640 1710 1778					1842 1904 1964 2021 2077										1900					
2000	1523 1604 1680 1753 1822					1889 1952 2014 2073 2131					2186					2000					
2100	1558 1640 1719 1793 1865					1933 1999 2063 2124 2183					2240 2296					2100					
2200	1591 1676 1756 1833 1906					1977 2044 2110 2173 2233					2292 2350 2405					2200					
2300	1623 1710 1793 1871 1947					2019 2088 2155 2220 2283					2343 2402 2459 2514					2300					
2400	1655 1744 1828 1909 1986					2060 2131 2200 2266 2330					2393 2453 2511 2568 2624					2400					
2500	1685 1776 1862 1945 2024					2100 2173 2243 2311 2377					2441 2502 2562 2621 2678					2500					
2600	1715 1808 1896 1980 2061					2139 2213 2285 2355 2422					2487 2551 2612 2672 2730					2600					
2700	1744 1839 1929 2015 2097					2177 2253 2327 2398 2466					2533 2598 2661 2722 2782					2700					
2800	1772 1869 1961 2048 2133					2214 2292 2367 2439 2510					2578 2644 2708 2771 2832					2800					
2900	1800 1898 1992 2081 2167					2250 2329 2406 2480 2552					2621 2689 2755 2819 2881					2900					
	1000	1100	1200	1300	1400	1500	1600	1700	1800	1900	2000	2100	2200	2300	2400	2500	2600	2700	2800	2900	
Dikdörtgen Kanal Kenarı																					Dikdörtgen Kanal Kenarı

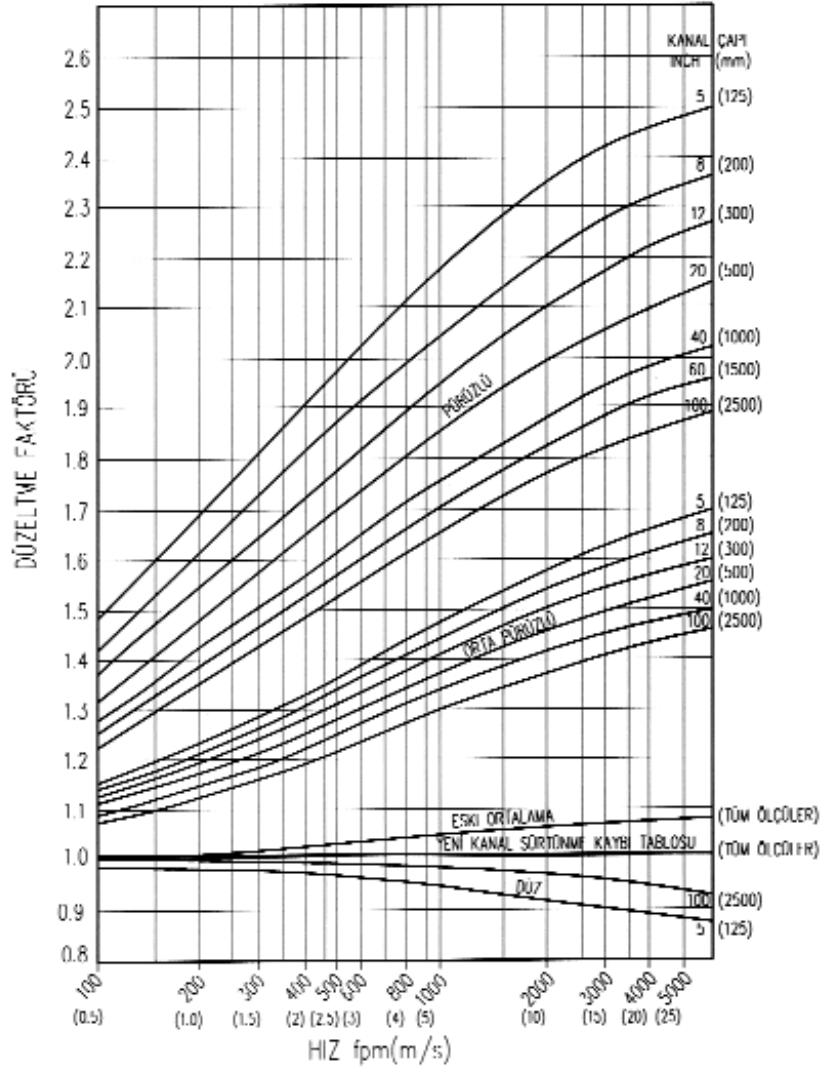
Eşdeğer yuvarlak kanal formülü:

$$D_e = 1.30 \left[\frac{(a \cdot b)^{0.625}}{(a+b)^{0.250}} \right]$$

EK 1. Tablo 2 Devam. EŞDEĞER SÜRTÜNME VE KAPASİTE İÇİN, DİKDÖRTGEN KESİTLİ KANALLARA EŞDEĞER YUVARLAK KANALLAR (Ölçüler mm. cinsindedir.)



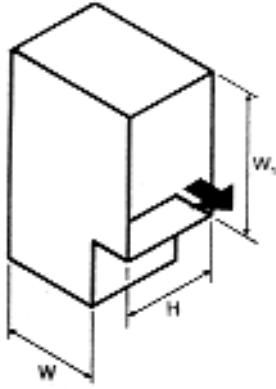
EK 1. Şekil 5. HAVA YOĞUNLUĞU DÜZELTME FAKTÖRLERİ



EK 1. Şekil 3. KANAL SÜRTÜNME KAYBI DÜZELTME FAKTÖRLERİ

Kanal Malzemesi	Pürüzlülük Sınıfı	Mutlak Pürüzlülük, E (mm)
Boyanmamış temiz karbon çeliği (0,05 mm) PVC plastik boru (0,01 - 0,05 mm) Alüminyum (0,04 - 0,06 mm)	Düzyün	0,03
Galvaniz çelik, boyuna dikişli (1200 mm. birleşme aralı) (0,05 - 0,1 mm) Galvaniz çelik, spiral dikişli (3600 mm. birleşme aralı) (0,05 - 0,12 mm)	Orta düzyün (Yeni kanal sürtünme kaybı diyagramı)	0,09
Daldırma ile galvanizlenmiş çelik, boyuna dikişli (760 mm) birleşme (0,15 mm)	Eski Ortalama	0,15
Fiberglas kanal, rijit Fiberglas kaplama kanal (içten) (1,5 mm)	Orta Pürüzlü	0,9
Fiberglas kaplama (içten spray edilerek) (4,5 mm) Metalik esnek kanal (1,2 - 2,1 mm) tamamen uzatıldığında Esnek kanal elyafı veya telli bütün tipler tamamen uzatıldığında (1,0 - 4,6 mm) Beton (0,3 - 3,0 mm)	Pürüzlü	3,0

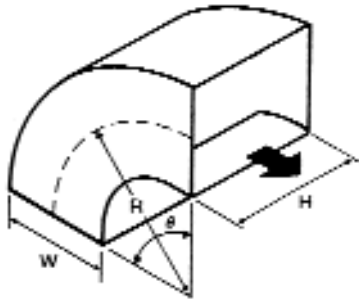
EK 1. Tablo 4. KANAL MALZEMESİ PÜRÜZSÜZLÜK FAKTÖRLERİ



C KATSAYISI						
H/W	W ₁ /W					
	0.6	0.8	1.2	1.4	1.6	2.0
0.25	1.8	1.4	1.1	1.1	1.1	1.1
1.0	1.7	1.4	1.0	0.95	0.90	0.84
4.0	1.5	1.1	0.81	0.76	0.72	0.66
X	1.5	1.0	0.69	0.63	0.60	0.55

EK 2. YEREL KAYIP KATSAYILARI

Şekil 1. DİKDÖRTGEN DİRSEK, KESKİN, GENİŞLEYEN VEYA DARALAN AKIŞTA



C KATSAYISI											
R/W	H/W										
	0.25	0.5	0.75	1.0	1.5	2.0	3.0	4.0	5.0	6.0	8.0
0.5	1.5	1.4	1.3	1.2	1.1	1.0	1.0	1.1	1.1	1.2	1.2
0.75	0.57	0.52	0.48	0.44	0.40	0.39	0.39	0.40	0.42	0.43	0.44
1.0	0.27	0.25	0.23	0.21	0.19	0.18	0.18	0.19	0.20	0.27	0.21
1.5	0.22	0.20	0.19	0.17	0.15	0.14	0.14	0.15	0.16	0.17	0.17
2.0	0.20	0.18	0.16	0.15	0.14	0.13	0.13	0.14	0.14	0.15	0.15

Re SAYISI İÇİN DÜZELTME SAYISI									
R/W	Re 10 ⁻⁴								
	1	2	3	4	6	8	10	14	≥20
0.5	1.40	1.26	1.19	1.14	1.09	1.06	1.04	1.0	1.0
≥0.75	2.0	1.77	1.64	1.56	1.46	1.38	1.30	1.15	1.0

Re = 66.4 DV

Burada :

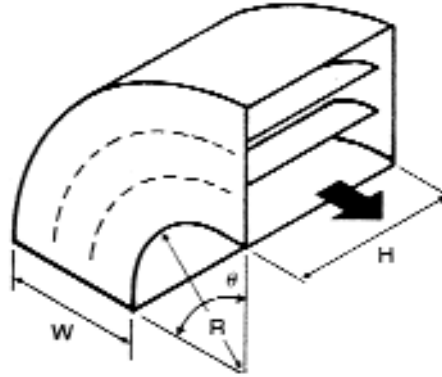
D = kanal çapı (mm)

V = kanaldaki hız (m/s)

Dikdörtgen kanallar için:

$$D = \frac{2 HW}{H + W}$$

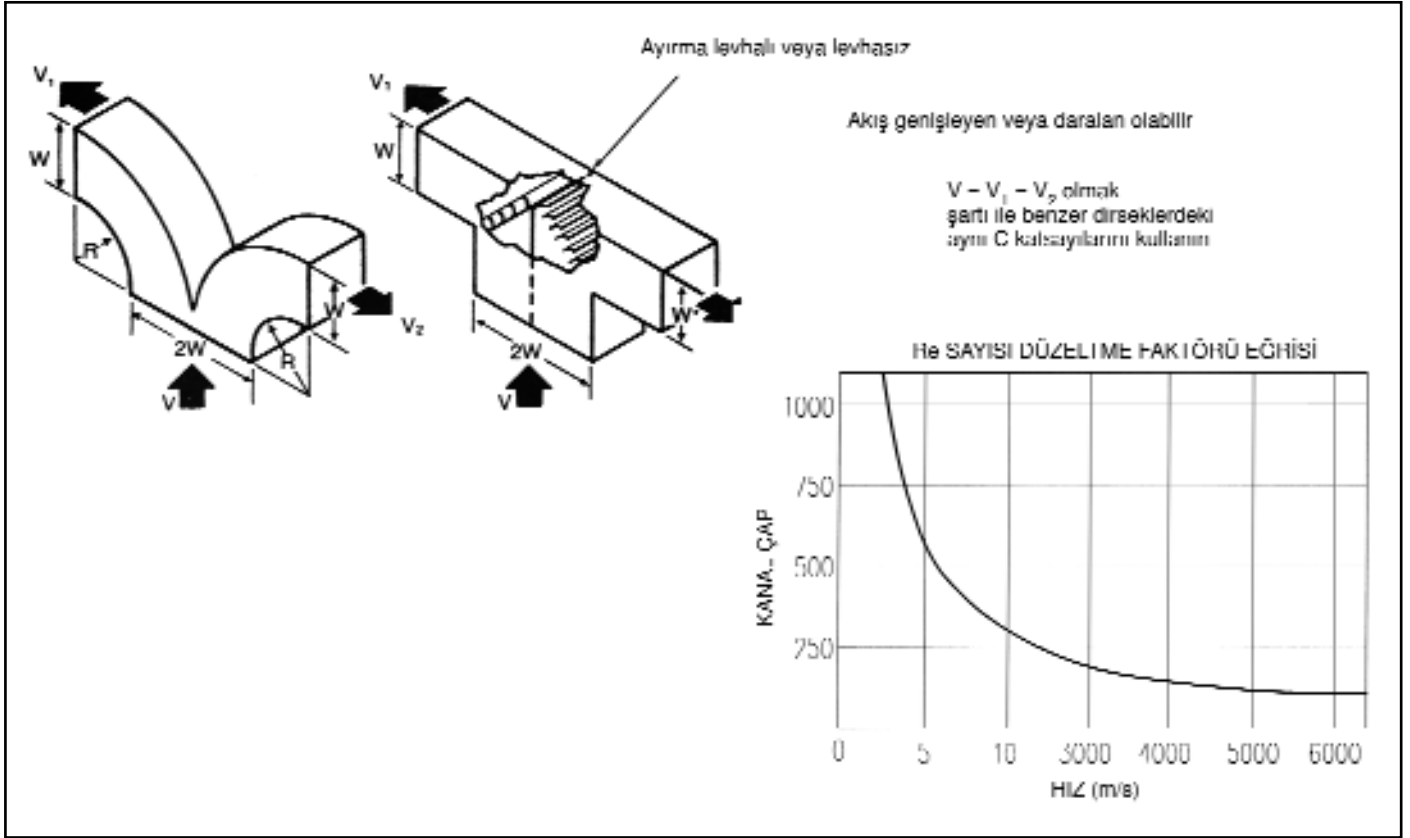
EK 2. Şekil 2. DİKDÖRTGEN DİRSEK, KANATSIZ GENİŞ AÇILI



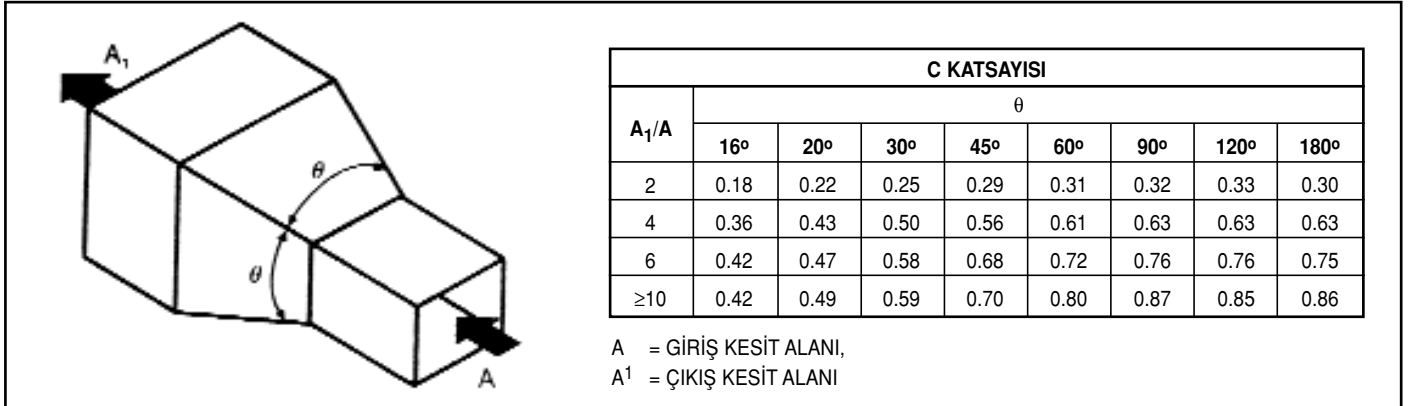
C KATSAYISI

	R/W	CR	H/W										
			0.25	0.5	1.0	1.5	2.0	3.0	4.0	5.0	6.0	7.0	8.0
1 KANATLI	0.05	0.218	0.52	0.40	0.43	0.49	0.55	0.66	0.75	0.84	0.93	1.0	1.1
	0.10	0.302	0.36	0.27	0.25	0.28	0.30	0.35	0.39	0.42	0.46	0.49	0.52
	0.15	0.361	0.28	0.21	0.18	0.19	0.20	0.22	0.25	0.26	0.28	0.30	0.32
	0.20	0.408	0.22	0.16	0.14	0.14	0.15	0.16	0.17	0.18	0.19	0.20	0.21
	0.25	0.447	0.18	0.13	0.11	0.11	0.11	0.12	0.13	0.14	0.14	0.15	0.15
	0.30	0.480	0.15	0.11	0.09	0.09	0.09	0.09	0.10	0.10	0.11	0.11	0.12
	0.35	0.509	0.13	0.09	0.08	0.07	0.07	0.08	0.08	0.08	0.08	0.09	0.09
	0.40	0.535	0.11	0.08	0.07	0.06	0.06	0.06	0.06	0.07	0.07	0.07	0.07
	0.45	0.557	0.10	0.07	0.06	0.05	0.05	0.05	0.05	0.05	0.06	0.06	0.06
0.50	0.577	0.09	0.06	0.06	0.05	0.04	0.04	0.04	0.05	0.05	0.05	0.05	
2 KANATLI	0.05	0.362	0.26	0.20	0.22	0.25	0.28	0.33	0.37	0.41	0.45	0.48	0.51
	0.10	0.450	0.17	0.13	0.11	0.12	0.13	0.15	0.16	0.17	0.19	0.20	0.21
	0.15	0.507	0.12	0.09	0.08	0.08	0.08	0.09	0.10	0.10	0.11	0.11	0.11
	0.20	0.550	0.09	0.07	0.06	0.05	0.06	0.06	0.06	0.06	0.07	0.07	0.07
	0.25	0.585	0.08	0.05	0.04	0.04	0.04	0.04	0.05	0.05	0.05	0.05	0.05
	0.30	0.613	0.06	0.04	0.03	0.03	0.03	0.03	0.03	0.03	0.04	0.04	0.04
	0.35	0.638	0.05	0.04	0.03	0.03	0.03	0.03	0.03	0.03	0.03	0.03	0.03
	0.40	0.659	0.05	0.03	0.03	0.02	0.02	0.02	0.02	0.02	0.02	0.02	0.02
	0.45	0.677	0.04	0.02	0.02	0.02	0.02	0.02	0.02	0.02	0.02	0.02	0.02
	0.50	0.693	0.03	0.02	0.02	0.02	0.02	0.02	0.01	0.01	0.01	0.01	0.01
3 KANATLI	0.05	0.476	0.11	0.10	0.12	0.13	0.14	0.16	0.18	0.19	0.21	0.22	0.23
	0.10	0.549	0.07	0.05	0.06	0.06	0.06	0.07	0.07	0.08	0.08	0.08	0.09
	0.15	0.601	0.05	0.04	0.04	0.04	0.04	0.04	0.04	0.04	0.04	0.05	0.05
	0.20	0.639	0.03	0.03	0.03	0.03	0.03	0.03	0.03	0.03	0.03	0.03	0.03
	0.25	0.669	0.03	0.02	0.02	0.02	0.02	0.02	0.02	0.02	0.02	0.02	0.02
	0.30	0.693	0.03	0.02	0.02	0.02	0.02	0.01	0.01	0.01	0.01	0.01	0.01
	0.35	0.714	0.02	0.02	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01
	0.40	0.731	0.02	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01
	0.45	0.746	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01
	0.50	0.760	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01

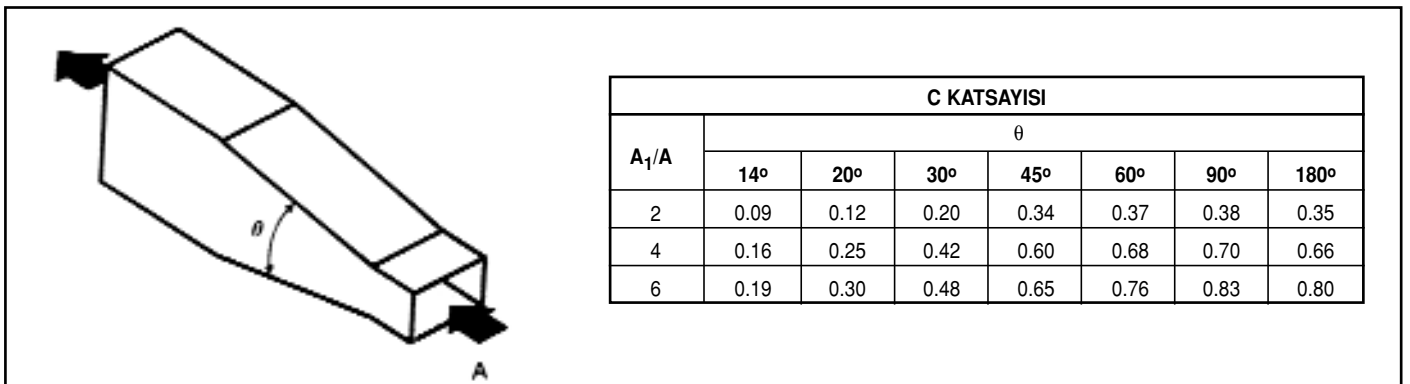
EK 2. Şekil 3. DİKDÖRTGEN DİRSEK, KANATSIZ GENİŞ AÇILI



EK 2. Şekil 4. 90° DİKDÖRTGEN DİRSEK, W VEYA T AYRILMA



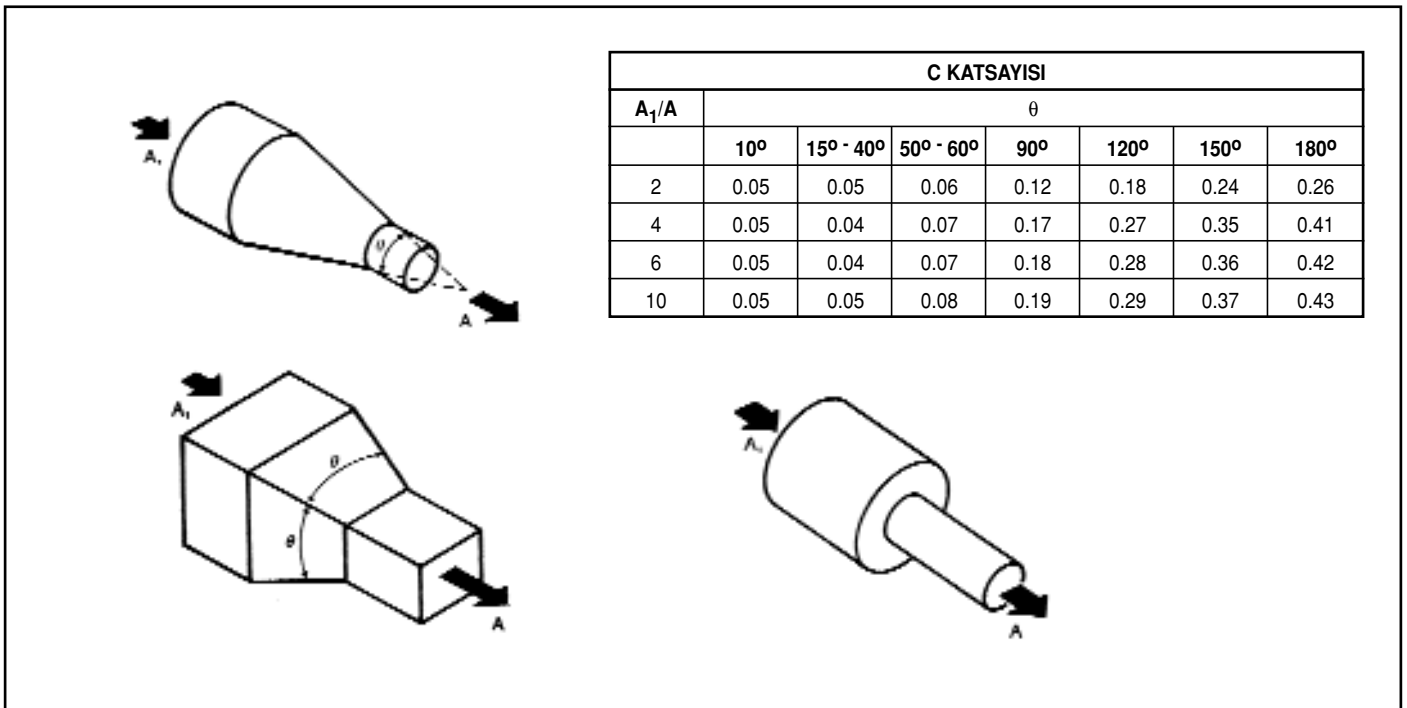
EK 2. Şekil 5. DİKDÖRTGEN KANAL GEÇİŞ



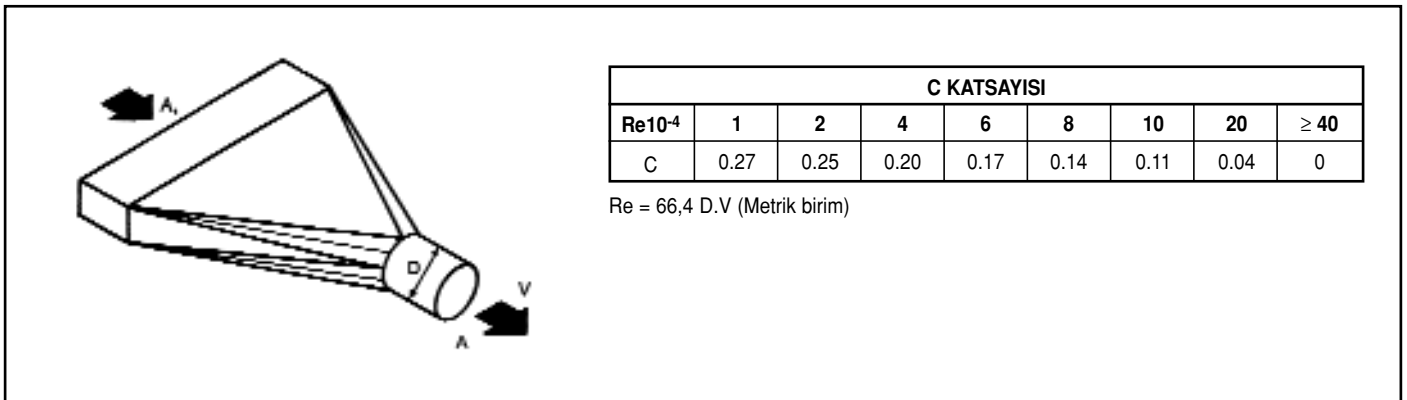
EK 2. Şekil 6. KENARLAR DÜZ DİKDÖRTGEN KANAL GENİŞ PARÇASI



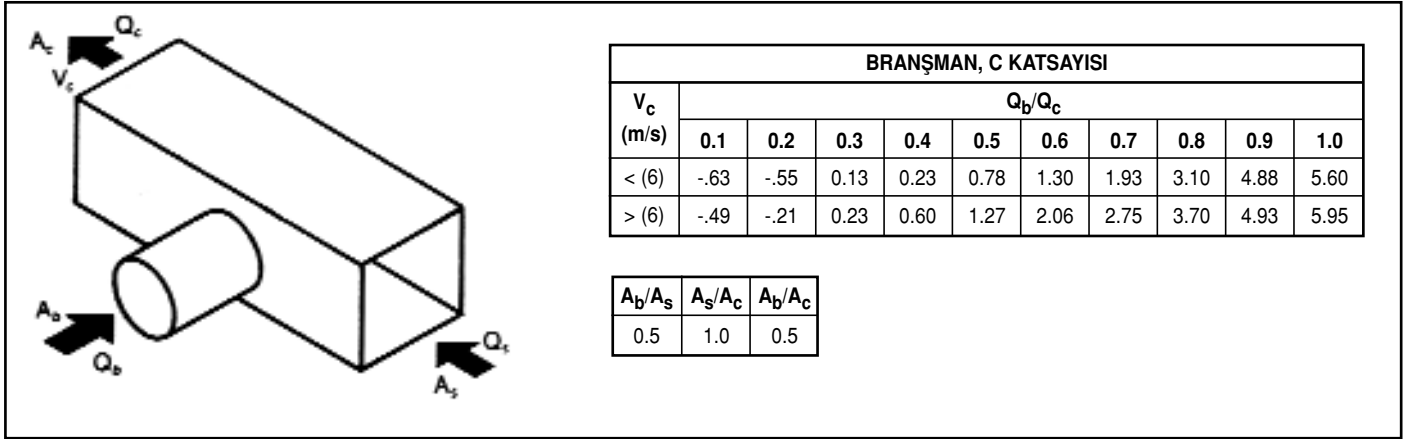
EK 2. Şekil 7. FANA GÖRE SİMETRİK, KENARLAR DÜZ GEÇİŞ PARÇASI



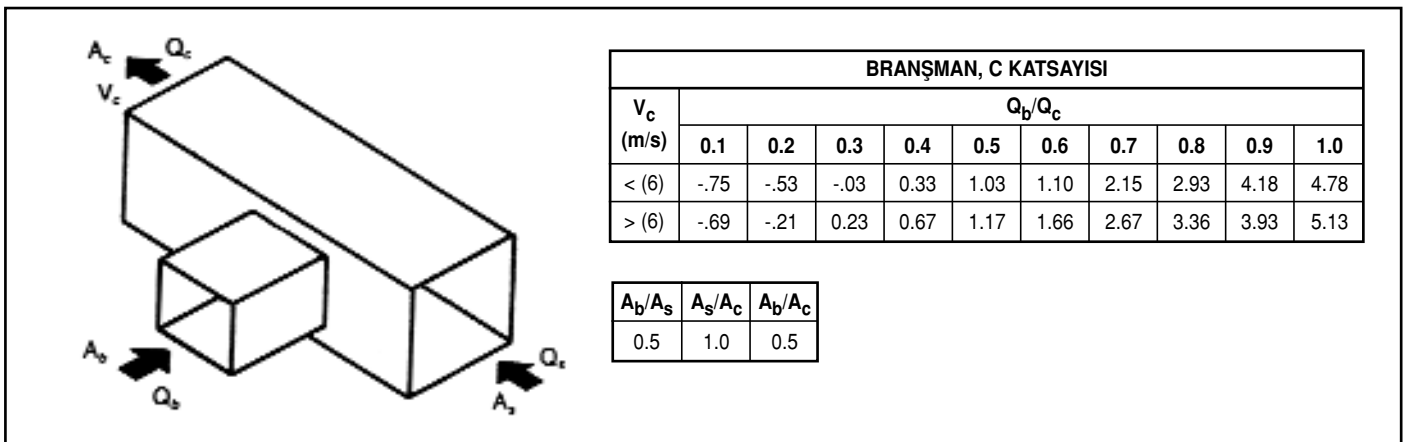
EK 2. Şekil 8. YUVARLAK VEYA DİKDÖRTGEN REDÜKSİYON



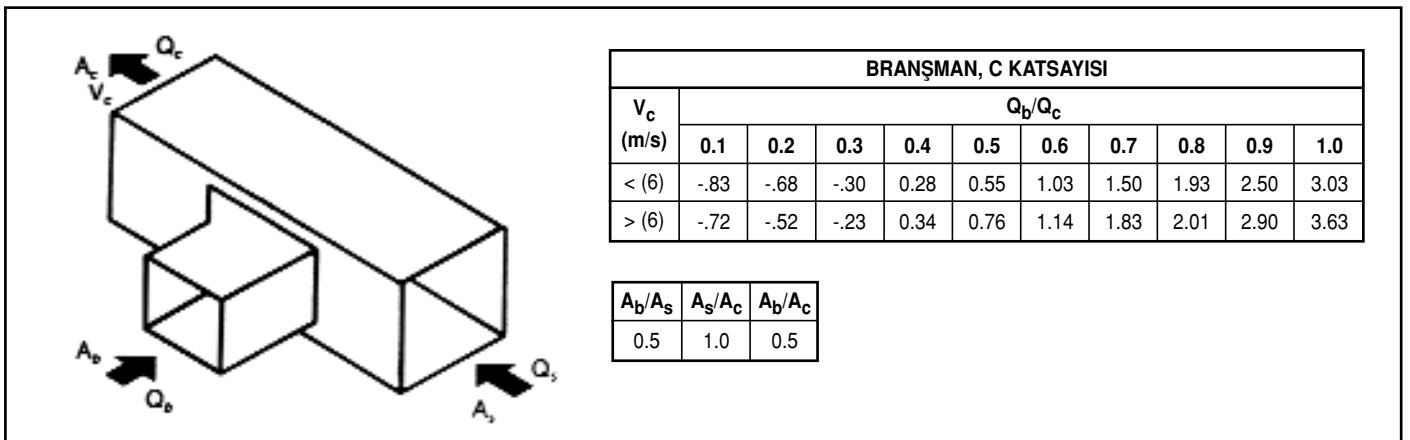
EK 2. Şekil 9. DİKDÖRTGENDEN YUVARLAK KESİTE REDÜKSİYON



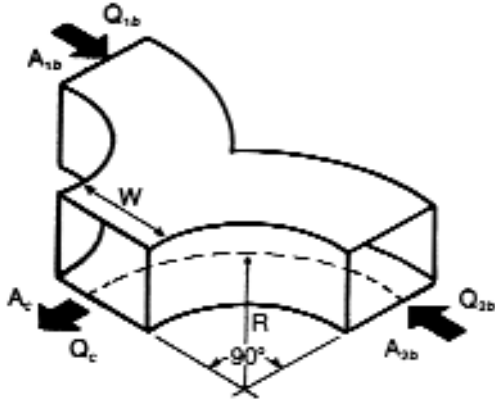
EK 2. Şekil 10. YUVARLAK BRANŞTAN DİKDÖRTGEN ANA KANALA GENİŞLEYEN T BAĞLANTI



EK 2. Şekil 11. DİKDÖRTGEN BRANŞTAN DİKDÖRTGEN ANA KANALA GENİŞLEYEN T BAĞLANTI



EK 2. Şekil 12. ANA KANALA 45° BRANŞ GİRİŞİ, GENİŞLEYEN T BAĞLANTI

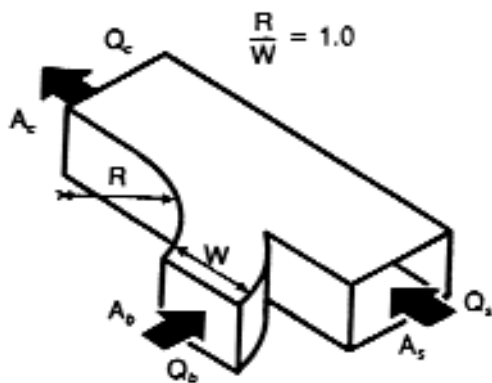


ANA KANAL, C KATSAYISI											
$\frac{A_s}{A_c}$	$\frac{A_b}{A_c}$	Q_b/Q_s									
		0.2	0.4	0.6	0.8	1.0	1.2	1.4	1.6	1.8	2.0
0.3	0.2	5.3	-0.1	2.0	1.1	0.34	-20	-61	-93	-1.2	-1.4
	0.3	5.4	3.7	2.5	1.6	1.0	0.53	0.16	-14	-38	-58
0.4	0.2	1.9	1.1	0.46	-0.7	-49	-83	-1.1	-1.3	-1.5	-1.7
	0.3	2.0	1.4	0.81	0.42	0.08	-20	-43	-62	-78	-92
	0.4	2.0	1.5	1.0	0.68	0.39	0.16	-0.4	-21	-35	-47
0.5	0.2	0.77	0.34	-0.9	-48	-81	-1.1	1.3	-1.5	-1.7	-1.8
	0.3	0.85	0.56	0.25	-0.3	-27	-48	-67	-82	-96	-1.1
	0.4	0.88	0.66	0.43	0.21	0.02	-15	-30	-42	-54	-64
	0.5	0.91	0.73	0.54	0.36	0.21	0.06	-0.6	-17	-26	-35
0.6	0.2	0.30	0	-34	-67	-96	-1.2	-1.4	-1.6	-1.8	-1.9
	0.3	0.37	0.21	-0.2	-24	-44	-63	-79	-93	-1.1	-1.2
	0.4	0.40	0.31	0.16	-0.1	-16	-30	-43	-54	-64	-73
	0.5	0.43	0.37	0.26	0.14	0.02	-0.9	-20	-29	-37	-45
	0.6	0.44	0.41	0.33	0.24	0.14	0.05	-0.3	-11	-18	-25
0.8	0.2	-0.6	-27	-57	-86	-1.1	-1.4	-1.6	-1.7	-1.9	-2.0
	0.3	0	-0.8	-25	-43	-62	-78	-93	-1.1	-1.2	-1.3
	0.4	0.04	0.02	-0.8	-21	-34	-46	-57	-67	-77	-85
	0.5	0.06	0.08	0.02	-0.6	-16	-25	-34	-42	-50	-57
	0.6	0.07	0.12	0.09	0.03	-0.4	-11	-18	-25	-31	-37
	0.7	0.08	0.15	0.14	0.10	0.05	-0.1	-0.7	-12	-17	-22
	0.8	0.09	0.17	0.18	0.16	0.11	0.07	0.02	-0.2	-0.7	-1.1
1.0	0.2	-	-39	-67	-96	-1.2	-1.5	-1.6	-1.8	-2.0	-2.1
	0.3	-	-19	-35	-54	-71	-87	-1.0	-1.2	-1.3	-1.4
	0.4	-	-10	-19	-31	-43	-55	-66	-77	-86	-94
	0.5	-	-0.4	-0.9	-17	-26	-35	-44	-52	-59	-66
	0.6	-	0	-0.2	-0.7	-14	-21	-28	-34	-40	-46
	0.8	-	0.06	0.07	0.05	0.02	-0.3	-0.7	-12	-16	-20
	1.0	-	0.09	0.13	0.13	0.11	0.08	0.06	0.03	-0.1	-0.3

C KATSAYISI		
$\frac{A_{1b}/A_c \text{ veya } A_{2b}/A_c}{C}$	0.50	1.0
C	0.23	0.07

$$\frac{R}{W} = 1.5 \quad \frac{Q_{1b}}{Q_c} = \frac{Q_{2b}}{Q_c} = 0.5$$

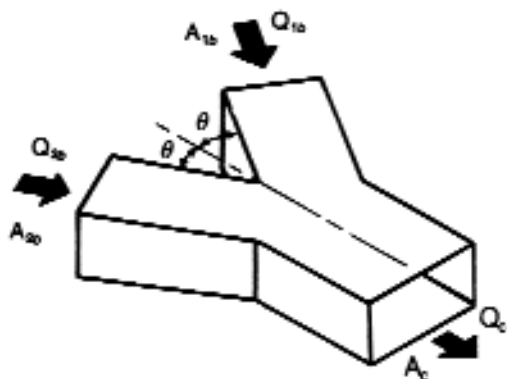
EK 2. Şekil 13. DİKDÖRTGEN SİMETRİK W (PANTALON) PARÇASI



BRANŞMAN, C KATSAYISI										
Ab/As	Ab/Ac	Qb/Qc								
		0.1	0.2	0.3	0.4	0.5	0.6	0.7	0.8	0.9
0.25	0.25	-50	0	0.50	1.2	2.2	3.7	5.8	8.4	11
0.33	0.25	-1.2	-40	0.40	1.6	3.0	4.8	6.8	8.9	11
0.5	0.5	-50	-20	0	0.25	0.45	0.70	1.0	1.5	2.0
0.67	0.5	-1.0	-60	-20	0.10	0.30	0.60	1.0	1.5	2.0
1.0	0.5	-2.2	-1.5	-95	-50	0	0.40	0.80	1.3	1.9
1.0	1.0	-60	-30	-10	-0.4	0.13	0.21	0.29	0.36	0.42
1.33	1.0	-1.2	-80	-40	-20	0	0.16	0.24	0.32	0.38
2.0	1.0	-2.1	-1.4	-90	-50	-20	0	0.20	0.25	0.30

ANA KANAL, C KATSAYISI										
As/Ac	Ab/Ac	Qb/Qc								
		0.1	0.2	0.3	0.4	0.5	0.6	0.7	0.8	0.9
0.75	0.25	0.30	0.30	0.20	-10	-45	-92	-1.5	-2.0	-2.6
1.0	0.5	0.17	0.16	0.10	0	-0.08	-18	-27	-37	-46
0.75	0.5	0.27	0.35	0.32	0.25	0.12	-0.3	-23	-42	-58
0.5	0.5	1.2	1.1	0.90	0.65	0.35	0	-40	-80	-1.3
1.0	1.0	0.18	0.24	0.27	0.26	0.23	0.18	0.10	0	-12
0.75	1.0	0.75	0.36	0.38	0.35	0.27	0.18	0.05	-0.8	-22
0.5	1.0	0.80	0.87	0.80	0.68	0.55	0.40	0.25	0.08	-10

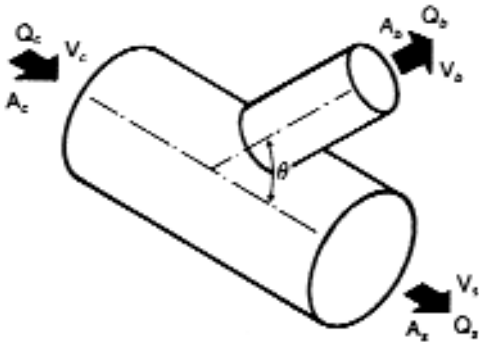
EK 2. Şekil 14. GENİŞLEYEN W, DİKDÖRTGEN



C KATSAYISI											
θ	Q1b/Qc or Q2b/Qc										
	0	0.10	0.20	0.30	0.40	0.50	0.60	0.70	0.80	0.90	1.0
15°	-2.6	-1.9	-1.3	-77	-30	0.10	0.41	0.67	0.85	0.97	1.0
30°	-2.1	-1.5	-1.0	-53	-10	0.28	0.69	0.91	1.1	1.4	1.6
45°	-1.3	-93	-55	-16	0.20	0.56	0.92	1.26	1.6	2.0	2.3

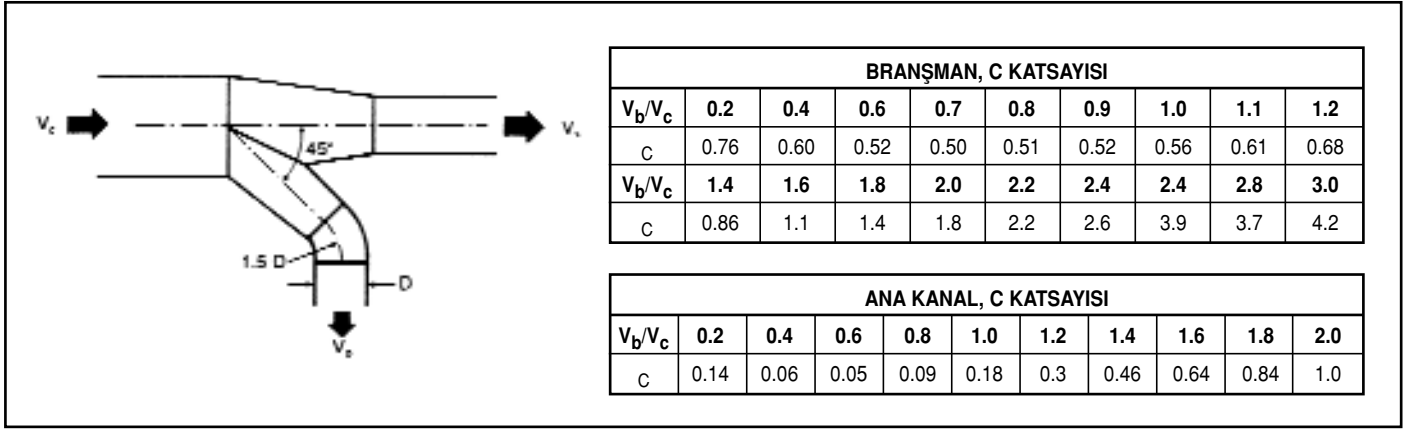
$A_{1b} = A_{2b}$
 $A_c = A_{1b} + A_{2b}$
 olduğu durumda

EK 2. Şekil 15. YUVARLAK VEYA DİKDÖRTGEN W (PANTALON) PARÇA

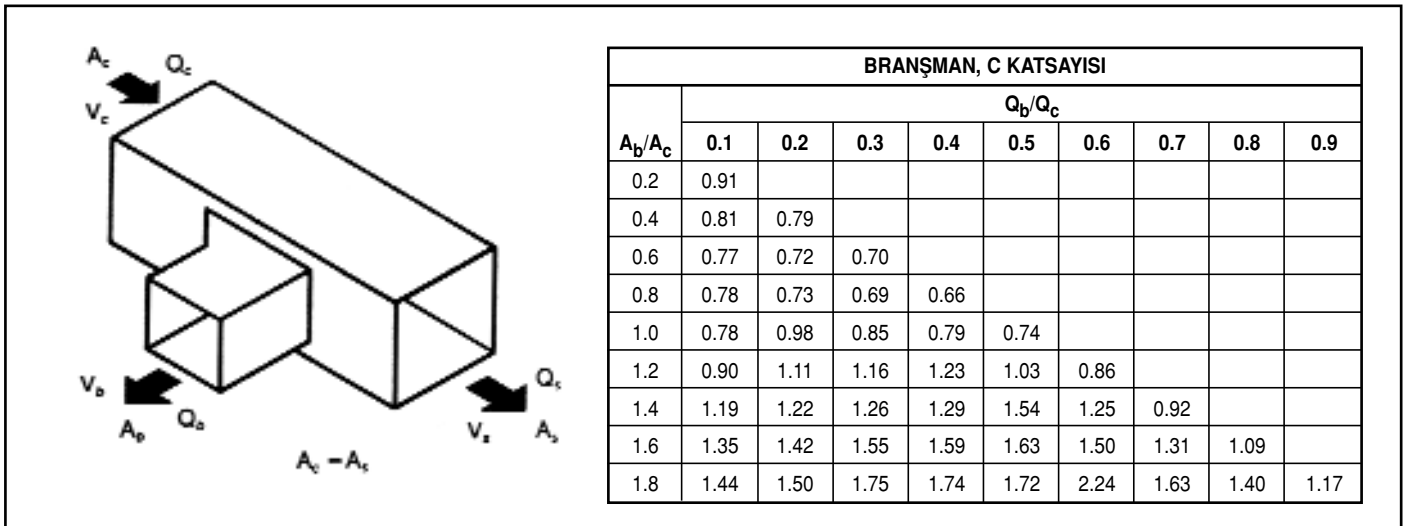


ANA KANAL, C KATSAYISI									
V_b/V_c	0	0.1	0.2	0.3	0.4	0.5	0.6	0.8	1.0
C	0.35	0.28	0.22	0.17	0.13	0.09	0.06	0.02	0
W $\theta = 30^\circ$: BRANŞMAN, C KATSAYISI									
A_b/A_c	Q_b/Q_c								
	0.1	0.2	0.3	0.4	0.5	0.6	0.7	0.8	0.9
0.8	0.75	0.55	0.40	0.28	0.21	0.16	0.15	0.16	0.19
0.7	0.72	0.51	0.36	0.25	0.18	0.16	0.16	0.20	0.26
0.6	0.69	0.46	0.31	0.21	0.17	0.16	0.20	0.28	0.39
0.5	0.65	0.41	0.26	0.19	0.18	0.22	0.32	0.47	0.67
0.4	0.59	0.33	0.21	0.20	0.27	0.40	0.62	0.92	1.3
0.3	0.55	0.28	0.24	0.38	0.76	1.3	2.0	—	—
0.2	0.40	0.26	0.58	1.3	2.5	—	—	—	—
0.1	0.28	1.5	—	—	—	—	—	—	—
W $\theta = 45^\circ$: BRANŞMAN, C KATSAYISI									
A_b/A_c	Q_b/Q_c								
	0.1	0.2	0.3	0.4	0.5	0.6	0.7	0.8	0.9
0.8	0.78	0.62	0.49	0.40	0.34	0.31	0.32	0.35	0.40
0.7	0.77	0.59	0.47	0.38	0.34	0.32	0.35	0.41	0.50
0.6	0.74	0.56	0.44	0.37	0.35	0.36	0.43	0.54	0.68
0.5	0.71	0.52	0.41	0.38	0.40	0.45	0.59	0.78	1.0
0.4	0.66	0.47	0.40	0.38	0.40	0.45	0.59	0.78	1.0
0.3	0.66	0.48	0.52	0.73	1.2	1.8	2.7	—	—
0.2	0.56	0.56	1.0	1.8	—	—	—	—	—
0.1	0.60	2.1	—	—	—	—	—	—	—
W $\theta = 60^\circ$: BRANŞMAN, C KATSAYISI									
A_b/A_c	Q_b/Q_c								
	0.1	0.2	0.3	0.4	0.5	0.6	0.7	0.8	0.9
0.8	0.83	0.71	0.62	0.56	0.50	0.50	0.53	0.60	0.68
0.7	0.82	0.69	0.61	0.56	0.54	0.54	0.60	0.70	0.82
0.6	0.81	0.68	0.60	0.58	0.61	0.61	0.72	0.87	1.1
0.5	0.79	0.66	0.61	0.62	0.76	0.76	0.94	1.2	1.5
0.4	0.76	0.65	0.65	0.74	1.1	1.1	1.4	1.8	2.3
0.3	0.80	0.75	0.89	1.2	2.6	2.6	3.5	—	—
0.2	0.77	0.96	1.6	2.5	—	—	—	—	—
0.1	1.0	2.9	—	—	—	—	—	—	—
T $\theta = 90^\circ$: BRANŞMAN, C KATSAYISI									
A_b/A_c	Q_b/Q_c								
	0.1	0.2	0.3	0.4	0.5	0.6	0.7	0.8	0.9
0.8	0.95	0.92	0.92	0.93	0.94	0.95	1.1	1.2	1.4
0.7	0.95	0.94	0.95	0.98	1.0	1.1	1.2	1.4	1.6
0.6	0.96	0.97	1.0	1.1	1.1	1.2	1.4	1.7	2.0
0.5	0.97	1.0	1.1	1.2	1.4	1.5	1.8	2.1	2.5
0.4	0.99	1.1	1.3	1.5	1.7	2.0	2.4	—	—
0.3	1.1	1.4	1.8	2.3	—	—	—	—	—
0.2	1.3	1.9	2.9	—	—	—	—	—	—
0.1	2.1	—	—	—	—	—	—	—	—

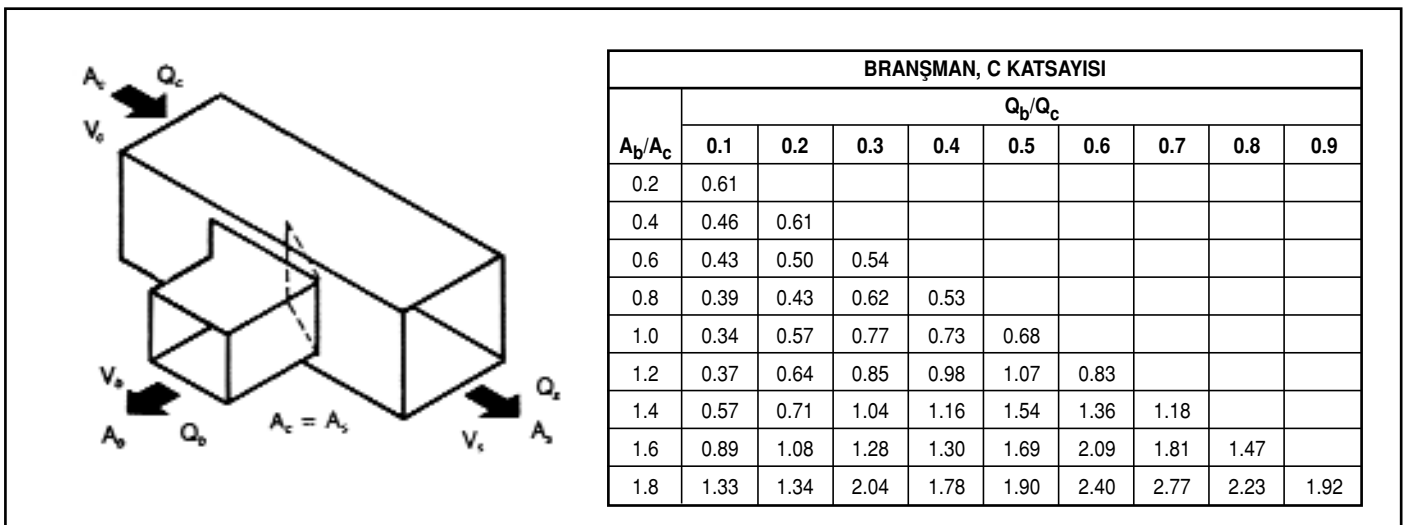
EK 2. Şekil 16. YUVARLAK T VEYA W PARÇA, 30 - 90°



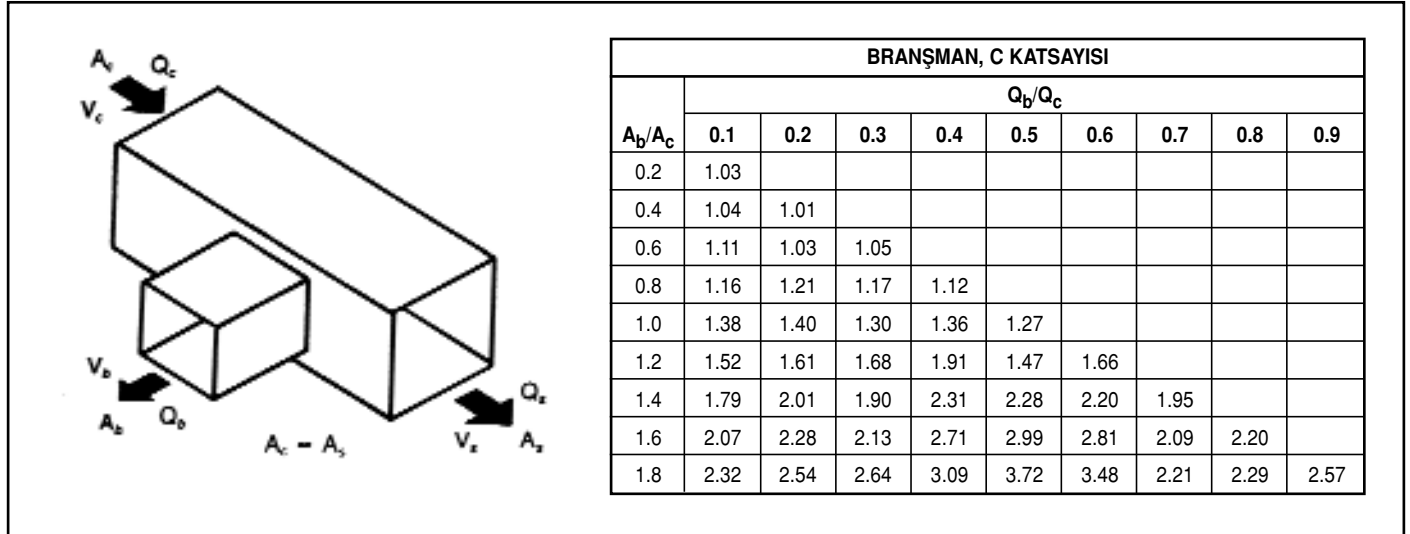
EK 2. Şekil 17. 45° W, KONİK ANA KANAL VE 45° DİRSEKLİ BRANŞMAN ANA KANALA 90°



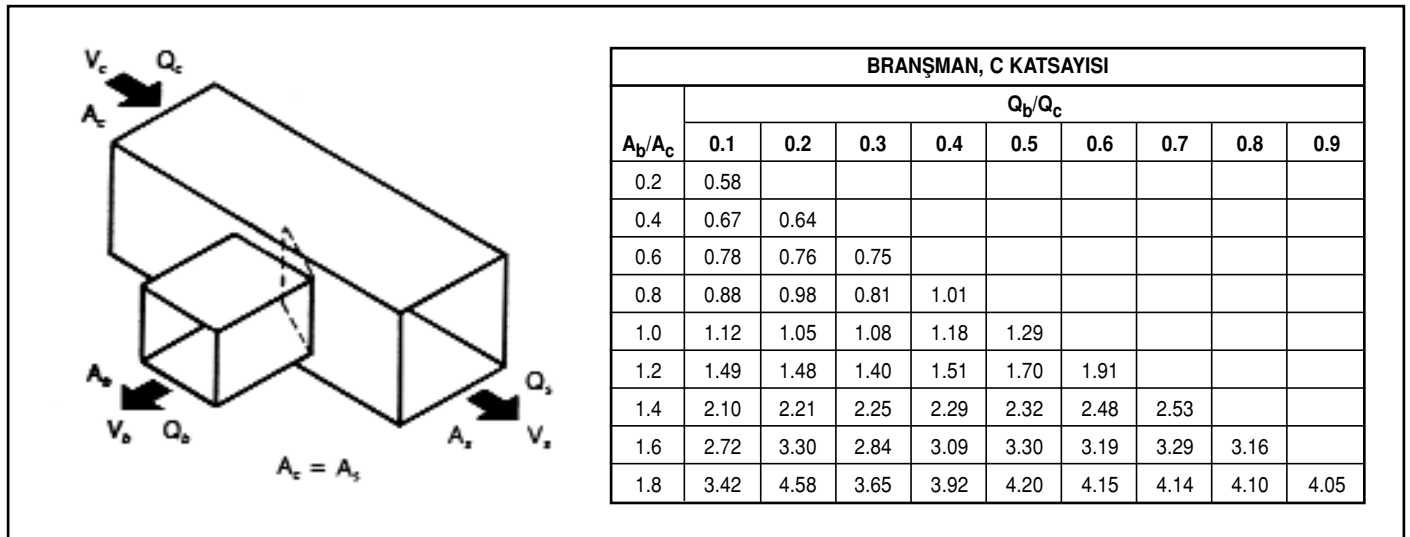
EK 2. Şekil 18. T PARÇA, 45° GİRİŞ, BRANŞMAN VE ANA KANAL DİKDÖRTGEN



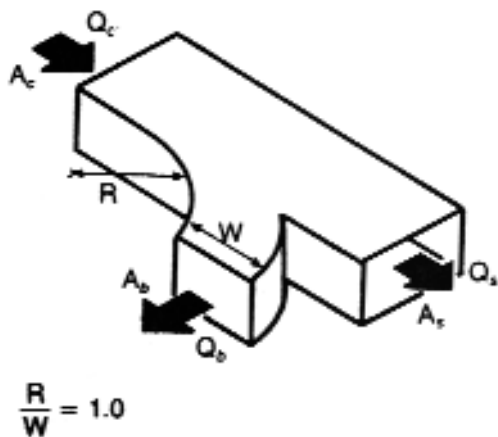
EK 2. Şekil 19. T PARÇA, 45° GİRİŞ, DİKDÖRTGEN ANA KANAL VE DAMPERLİ BRANŞMAN



EK 2. Şekil 20. T PARÇA, BRANŞMAN VE ANA KANAL DİKDÖRTGEN



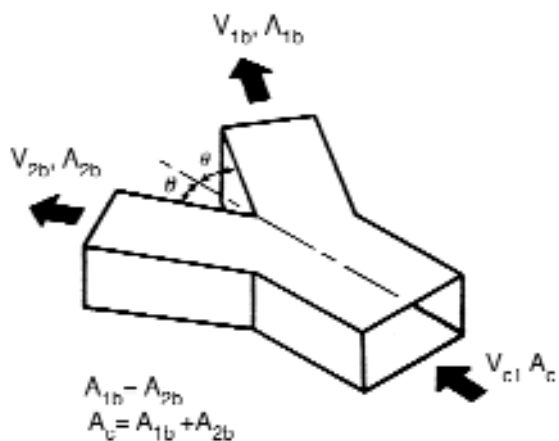
EK 2. Şekil 21. T PARÇA, DAMPERLİ BRANŞMAN VE ANA KANAL DİKDÖRTGEN



		BRANŞMAN, C KATSAYISI									
A_b/A_s	A_b/A_c	Q_b/Q_c									
		0.1	0.2	0.3	0.4	0.5	0.6	0.7	0.8	0.9	
0.25	0.25	0.55	0.50	0.60	0.85	1.2	1.8	3.1	4.4	6.0	
0.33	0.25	0.35	0.35	0.50	0.80	1.3	2.0	2.8	3.8	5.0	
0.5	0.5	0.62	0.48	0.40	0.40	0.48	0.60	0.78	1.1	1.5	
0.67	0.5	0.52	0.40	0.32	0.30	0.34	0.44	0.62	0.92	1.4	
1.0	0.5	0.44	0.38	0.38	0.41	0.52	0.68	0.92	1.2	1.6	
1.0	1.0	0.67	0.55	0.46	0.37	0.32	0.29	0.29	0.30	0.37	
1.33	1.0	0.70	0.60	0.51	0.42	0.34	0.28	0.26	0.26	0.29	
2.0	1.0	0.60	0.52	0.43	0.33	0.24	0.17	0.15	0.17	0.21	

		BRANŞMAN, C KATSAYISI									
A_b/A_s	A_b/A_c	Q_b/Q_c									
		0.1	0.2	0.3	0.4	0.5	0.6	0.7	0.8	0.9	
0.25	0.25	-0.1	-0.03	-0.01	0.05	0.13	0.21	0.29	0.38	0.46	
0.33	0.25	0.08	0	-0.02	-0.01	0.02	0.08	0.16	0.24	0.34	
0.5	0.5	-0.03	-0.06	-0.05	0	0.06	0.12	0.19	0.27	0.35	
0.67	0.5	0.04	-0.02	-0.04	-0.03	-0.01	0.04	0.12	0.23	0.37	
1.0	0.5	0.72	0.48	0.28	0.13	0.05	0.04	0.09	0.18	0.30	
1.0	1.0	-0.02	-0.04	-0.04	-0.01	0.06	0.13	0.22	0.30	0.38	
1.33	1.0	0.10	0	0.01	-0.03	-0.01	0.03	0.10	0.20	0.30	
2.0	1.0	0.62	0.38	0.23	0.13	0.08	0.05	0.06	0.10	0.20	

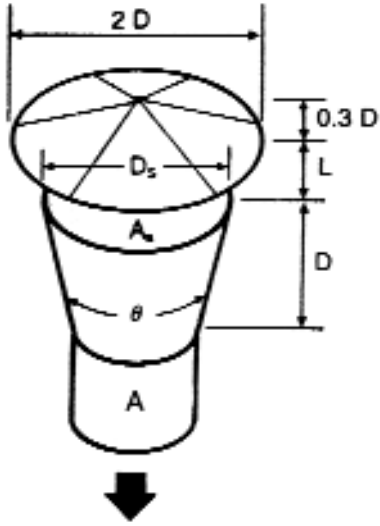
EK 2. Şekil 22. W PARÇA, DİKDÖRTGEN KESİTLİ



		C KATSAYISI						
θ		V_{1b}/V_c veya V_{2b}/V_c						
		0.1	0.2	0.3	0.4	0.5	0.6	0.8
15°		0.81	0.65	0.51	0.38	0.28	0.20	0.11
30°		0.84	0.69	0.56	0.44	0.34	0.26	0.19
45°		0.87	0.74	0.63	0.54	0.45	0.38	0.29
60°		0.90	0.82	0.79	0.66	0.59	0.53	0.43
90°		1.0	1.0	1.0	1.0	1.0	1.0	1.0

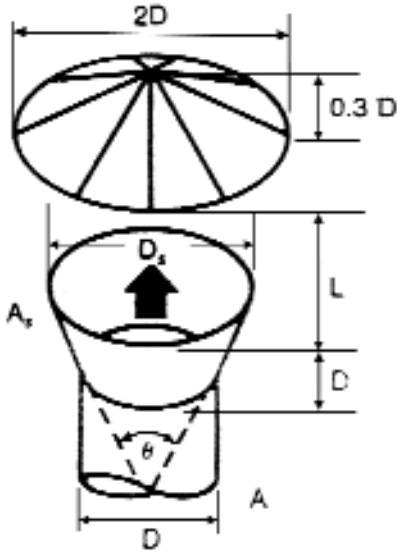
		C KATSAYISI					
θ		V_{1b}/V_c veya V_{2b}/V_c					
		1.0	1.2	1.4	1.6	1.8	2.0
15°		0.06	0.14	0.30	0.51	0.76	1.0
30°		0.15	0.15	0.30	0.51	0.76	1.0
45°		0.24	0.23	0.30	0.51	0.76	1.0
60°		0.36	0.33	0.39	0.51	0.76	1.0
90°		1.0	1.0	1.0	1.0	1.0	1.0

EK 2. Şekil 23. W PARÇA, DİKDÖRTGEN VEYA YUVARLAK



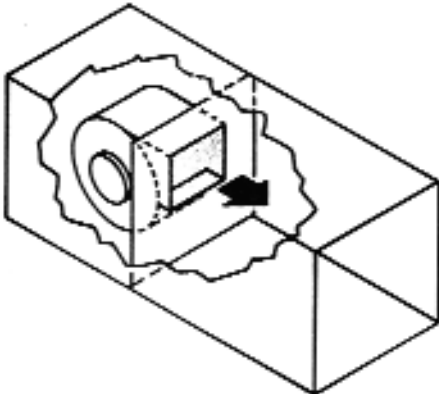
C KATSAYISI								
θ	L/D							
	0.2	0.3	0.4	0.5	0.6	0.7	0.8	0.9
0°	1.8	1.5	1.4	1.3	1.2	1.2	1.1	1.1
15°	0.77	0.60	0.48	0.41	0.30	0.29	0.28	0.25

EK 2. Şekil 24. EMİŞ AĞZI



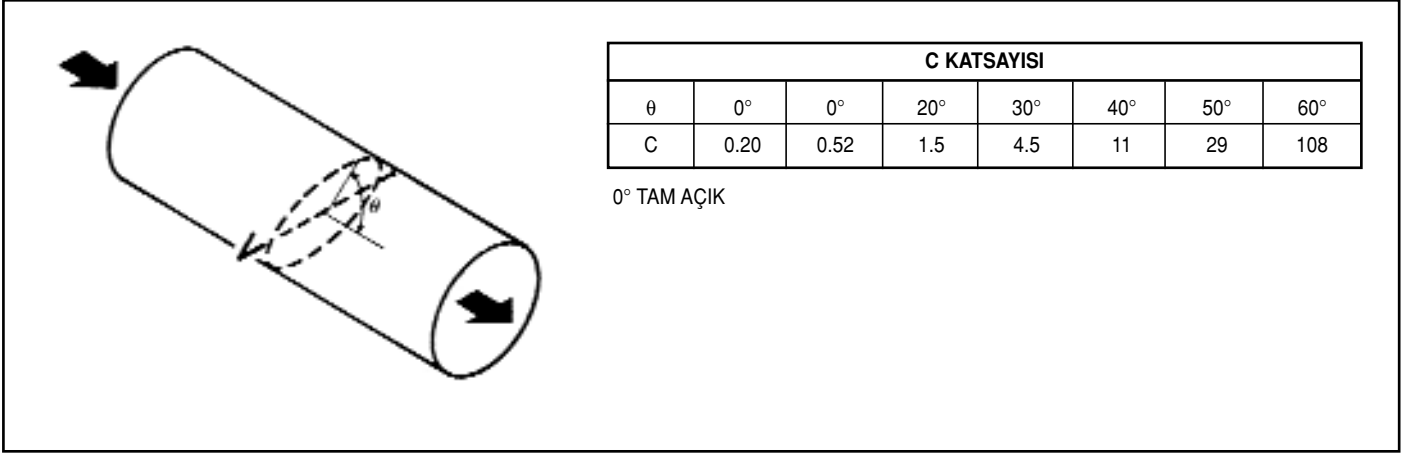
C KATSAYISI										
θ	L/D									
	0.1	0.2	0.25	0.3	0.35	0.4	0.5	0.6	0.8	1.0
0°	4.0	2.3	1.9	1.6	1.4	1.3	1.2	1.1	1.0	1.0
15°	2.6	1.2	1.0	0.80	0.70	0.65	0.60	0.60	0.60	0.60

EK 2. Şekil 25. EGZOZ ÇIKIŞI

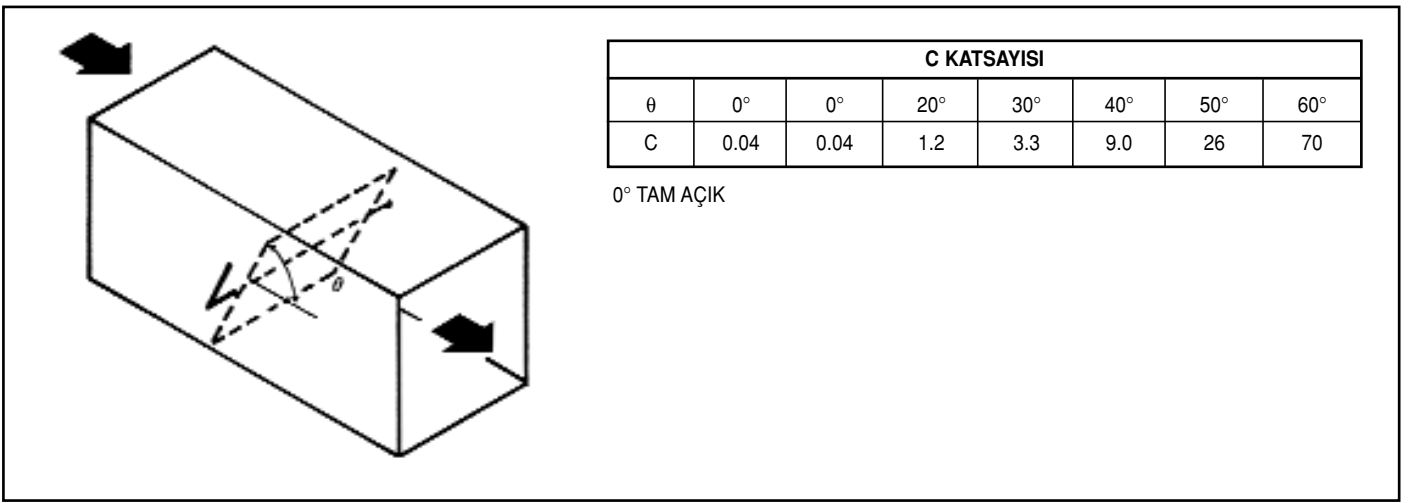


- C - 1.0 (İHOİL KANATLI - GERİYE KIVRIK)
- C - 1.5 (GERİYE KIVRIK KANATLI)
- C - 1.8 (ÖNE KIVRIK KANATLI)

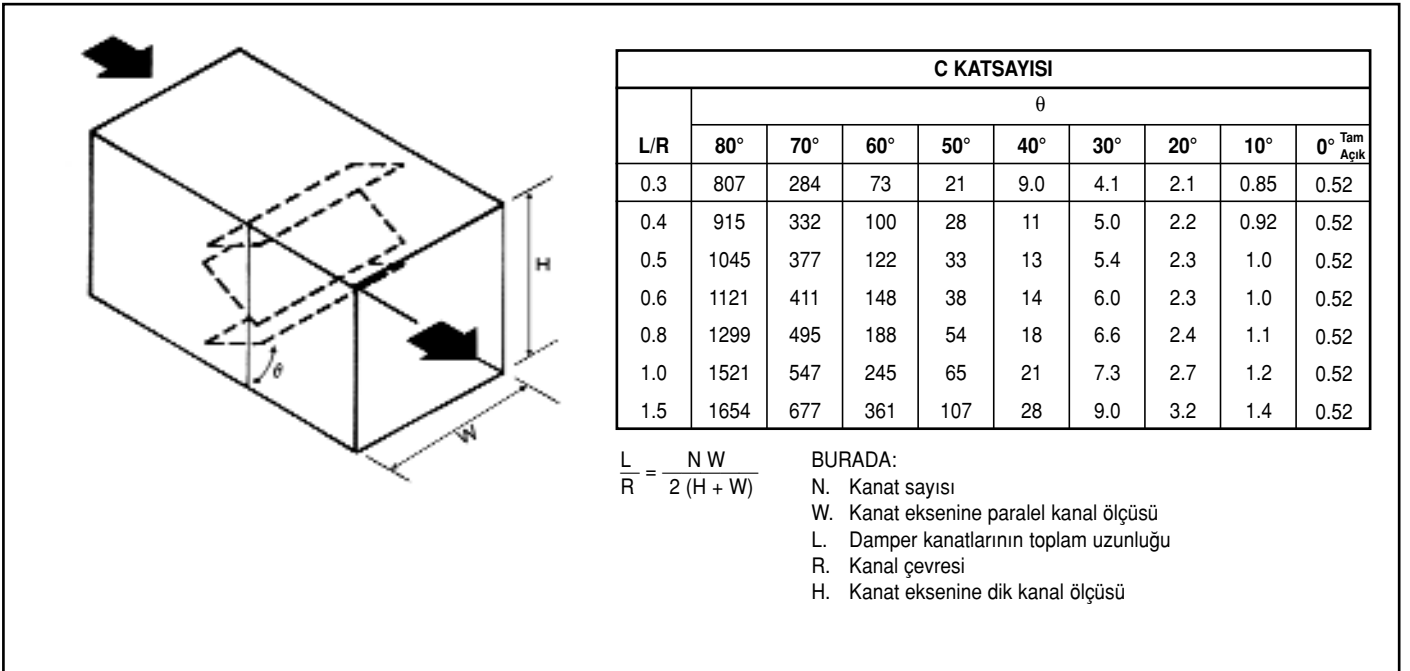
EK 2. Şekil 26. FAN, PLENUMA SERBEST ATIŞLI



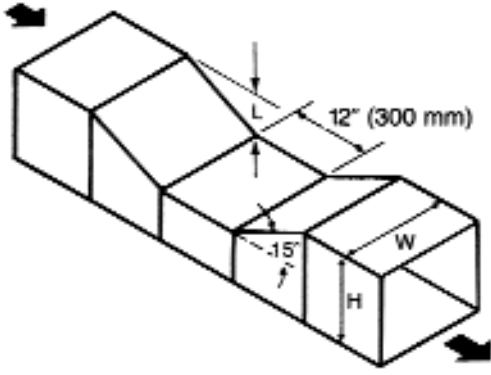
EK 2. Şekil 27. KELEBEK DAMPER, İNCE LEVHALI, YUVARLAK



EK 2. Şekil 28. KELEBEK DAMPER, İNCE LEVHALI, DİKDÖRTGEN

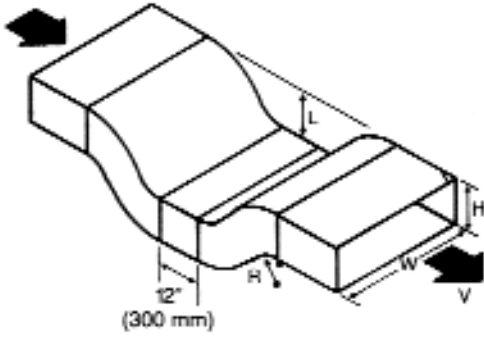


EK 2. Şekil 29. DAMPER, ÇOK KANATLI DİKDÖRTGEN



C KATSAYISI				
W/H	L/H			
	0.125	0.15	0.25	0.30
1.0	0.26	0.30	0.33	0.35
4.0	0.10	0.14	0.22	0.30

EK 2. Şekil 30. DİKDÖRTGEN KANAL, ENGEL GEÇİŞİ



C KATSAYISI					
Hız (m/s)	L/H				
	(4)	(6)	(8)	(10)	(12)
C	0.18	0.22	0.24	0.25	0.26

EK 2. Şekil 31. DİKDÖRTGEN KANAL, 4 ADET 45° GENİŞ AÇILI DİRSEKLE ENGEL GEÇİŞİ