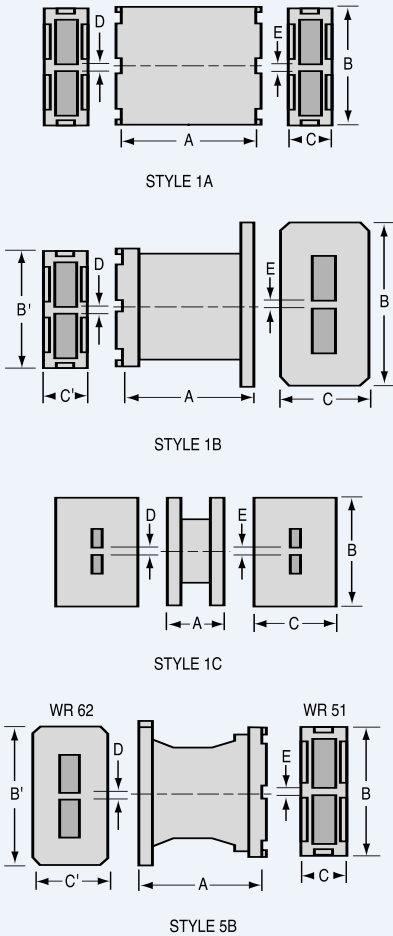


Sidewall Couplers – 3dB

SIDEWALL COUPLERS



W/G Size	Frequency GHz	Style	Model Number	Dimensions (inches)				
				A	B	C	D	E
WR10	91.75-95.75 ^X	1C ²	10HS12B ³	.440	1.00	.75	.040	.040
WR22	43.5-45.5	1A	22HS12	.440	.648	.280	.040	.040
WR28	26.5-29.5	1A	28HS42	.550	.77	.30	.040	.040
	26.0-30.0 [▲]							
	27.5-31.2	1A	28HSA22	.550	.77	.30	.040	.040
	30.0-34.0	1A	28HS52	.550	.76	.30	.040	.040
	34.0-36.0	1A	28HS32	.550	.77	.30	.040	.040
	33.5-37.0 [▲]							
	36.0-40.0	1A	28HS62*	.550	.77	.30	.040	.040
WR42	17.6-20.0	1A	42HS42	.900	1.11	.31	.090	.090
	17.6-20.0	1B ¹	42HS14	.900	1.39B 11.1B	.87C .32C	.090	.090
	17.6-20.0	1C ¹	42HS24	.900	1.39	.87	.090	.090
	19.3-22.0	1A	42HS32	.900	1.11	.29	.090	.090
	23.0-25.5	1A	42HS12	.900	1.09	.33	.040	.090
	22.5-26.0 [▲]							
	23.0-25.0	2A	42HS22	.500(R)	1.07	.31	.040	.090
WR51	15.5-17.5	1A	51HS62	1.375	1.33	.47	.090	.090
	16.0-17.0 [■]	1A	51HS22	1.375	1.33	.47	.090	.090
	17.35-19.65	1A	51HS12	1.125	1.22	.42	.040	.040
	17.35-19.65	1A	51HS32	1.125	1.27	.42	.090	.090
	15.5-16.5	5B ⁵	51HS42	1.250	1.27B 1.75B'	.42C 1.31C'	.040	.090
WR51 Tapered to								
WR62	15.5-16.5	5B ⁷	51HS52	1.250	1.27B 1.75B'	.42C 1.31C'	.040	.090
WR62	12.4-14.0	1A	62HS22	1.110	1.45	.48	.040	.040
	12.4-14.0	1A	62HS132	1.110	1.50	.48	.090	.090

Except as Noted Output power Unbalance (dBmax.) ± 0.25 Isolation (db min.) 30

Notes: ^X Unbalance $\pm .50$ dB max. Isolation 25 dB min. ^{*} Isolation 28 dB min.

[■] Unbalance $\pm .15$ dB max.

[▲] These models have been tested and exhibit reasonable electrical characteristics over extended frequency range. Specific data available on request.

¹ Dual flat flange with four .116 dia. cleared holes 42FS32

² Dual flat flange with six .120 dia. cleared holes 10FS22

³ Material BECU only

⁵ Dual sidewall flat flange four 0.144 dia. holes 62FS52

⁷ Dual choke pressure flange 62FS12 four 0.144 dia. holes

NOTE: All hybrids corrals mate with standard W/G (WR size noted in the table on Page 51) having a common wall of the thickness shown by dimensions D and E.

Socket dimensions & overall tolerances shown on Page 44.

Sidewall Couplers – 3dB

W/G Size	Frequency GHz	Style	Model Number	Dimensions (inches)				
				A	B	C	D	E
WR62 (cont.)	12.4-14.0	1B ⁶	62HS54	1.250	1.75B 1.46B'	1.31C .48C'	.040	.040
	13.0-15.0*	1A	62HS162	1.250	1.50	.48	.090	.090
	13.5-15.6	1A	62HS122	1.250	1.50	.48	.090	.090
	13.5-15.6	1A	62HS12	1.250	1.45	.48	.040	.040
	13.5-15.8	1B ⁶	62HS64	1.250	1.75B 1.46B'	1.31C .48C'	.040	.040
	15.0-17.0	1A	62HS32	1.110	1.45	.48	.040	.040
	15.0-17.0	1A	62HS152	1.110	1.50	.48	.090	.090
	15.5-17.5	1A	62HS112	1.110	1.53	.51	.090	.090
	15.5-17.5	1B ⁸	62HS142	1.110	1.80B 1.50B'	1.31C .48C'	.090	.090
	15.5-17.5	1B ⁹	62HS84	1.110	1.80B 1.50B'	1.31C .48C'	.090	.090
	15.5-17.5	1A	62HSA52	1.312	1.53	.50	.090	.040
	15.5-17.5	1B ^{7,11}	62HSA14	1.360 ¹⁰	1.75B 1.53B'	1.31C .50C'	.090	.040
	15.5-17.5	1B ⁵	62HSA44	1.360	1.75B 1.53B'	1.31C .50C'	.090	.040
	15.5-17.5	1A	62HSA42	1.110	1.45	.47	.040	.040
	15.5-18.0 [▲]							
	WR62 90°	15.5-17.0	2A	62HSA92	.750 (R)	1.61	.58	.040
WR62.138 HGT	12.6-14.2	1A	B62HS12	1.110	1.43	.28	.040	.040
	12.6-14.2	1D	B62HS22	1.110	1.36	.22	.040	.040
WR75	10.1-11.6	1A	75HS32	1.375	1.75	.58	.050	.050
	10.5-12.0	1A	75HS12	1.375	1.75	.58	.050	.050
	11.6-13.4	1A	75HS22	1.500	1.75	.58	.050	.050
	11.7-14.3*+	1A	75HS42	1.500	1.75	.58	.050	.050
	13.0-15.0	1A	75HS52	1.375	1.75	.58	.050	.050
WR75 .200 HGT	10.0-10.5	1A	A75HS12	1.375	1.75	.40	.050	.050
WR90	8.10-9.30	1A	90HS342	1.735	2.13	.61	.120	.120
	8.10-9.30	1B ³	90HS94	1.735	2.58B 2.13B'	1.62C .61C'	.120	.120

Except as Noted Output power Unbalance (dBmax.) ±0.25 Isolation (db min.) 30

Notes: * Isolation 28 dB min. + Unbalance ±.50 dB.

⁵ Dual sidewall flat flange four 0.144 dia. holes 62FS52

⁶ Dual S/W blank flange (no holes)

⁷ Dual choke pressure flange 62FS12 four 0.144 dia. holes

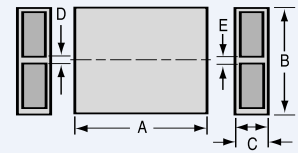
⁸ Dual S/W flat flange four 0.144 dia. holes 62FS92

⁹ Dual S/W pressure flange six 0.144 dia. holes

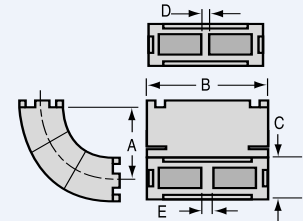
NOTE: All hybrids corrals mate with standard W/G (WR size noted in the table on Page 51) having a common wall of the thickness shown by dimensions D and E.

Socket dimensions & overall tolerances shown on Page 44.

SIDEWALL COUPLERS



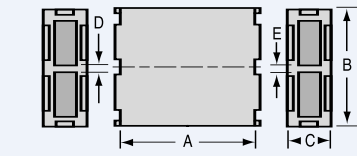
STYLE 1D



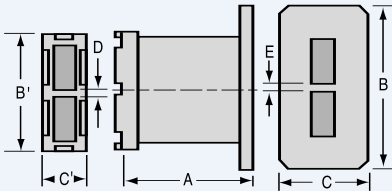
STYLE 2A

Sidewall Couplers – 3dB

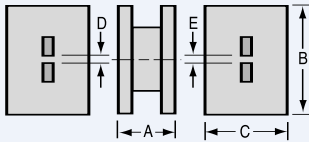
SIDEWALL COUPLERS



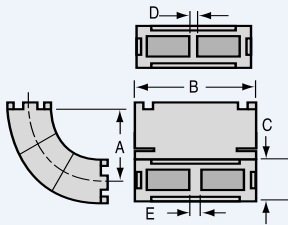
STYLE 1A



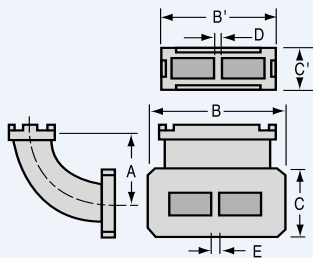
STYLE 1B



STYLE 1C



STYLE 2A



STYLE 2B

W/G Size	Frequency GHz	Style	Model Number	Dimensions (inches)				
				A	B	C	D	E
WR90 (cont.)	8.5-9.7	1B ³	90HS84	1.735	2.58B 2.13B'	1.62C .61C'	.120	.120
	8.5-9.6	1A ¹	90HS52	1.235	2.00	.56	.050	.050
	8.4-9.6	1A	90HS272	1.735	2.06	.59	.050	.050
	8.5-9.7	1A	90HSA232	1.735	2.13	.61	.120	.120
	8.5-9.6	1A	90HS322	1.735	2.12B 2.05B'	.60	.050	.120
	8.5-9.7	1B ^{4B}	90HS54	1.875	2.58B 2.14B'	1.63C .61C'	.120	.050
	8.5-9.7	1B ^{4A}	90HS24	1.875	2.58B 2.14B'	1.63C .61C'	.120	.050
	8.6-10.0	1A	90HS92	2.000	2.14	.61	.120	.120
	8.8-10.0	1A	90HSA242	1.485	2.06	.60	.050	.050
	9.10-10.20	1A	90HS152	1.735	2.13	.61	.120	.120
	9.10-10.20	1B ³	90HS74	1.735	2.58B 2.13B'	1.62C .61C'	.120	.120
	9.0-10.0	1A	90HS112	1.875	2.14	.61	.050	.120
	9.0-10.0	1B ^{4A}	90HS144	1.875	2.58B 2.14B'	1.63C .61C'	.120	.050
	9.4-10.8	1A	90HS82	2.000	2.13	.61	.120	.120
	9.6-10.25	1A	90HSA252	1.485	2.03	.59	.050	.050
10.5-11.9	1A	90HS42	1.735	2.13	.61	.120	.120	
10.5-11.9	1C ²	90HS44	1.735	2.80	1.27	.120	.120	
WR90 60°	8.4-9.7	4B ²	90HS114	1.680(R)	2.84B 2.03B'	1.38C .58C'	.050	.050
	8.5-9.6	2A	90HS12	1.125(R)	2.04	.60	.050	.050
WR90 90°	8.5-9.6	2A	90HS292	1.125(R)	2.12	.61	.120	.120
	8.8-10.0	2A	90HS332	1.125(R)	2.10	.60	.050	.050
	9.6-10.7	2A	90HS22	1.125(R)	2.13	.61	.120	.120
	9.6-10.7	2B ³	90HS64	1.125(R)	2.54B 2.12B'	1.62C .61C'	.120	.120
	8.5-9.6	3A	90HS102	1.100(D)	2.15	.70	.050	.050
WR90 180°	8.4-9.6	3A	90HS142	1.095(D)	2.22	.70	.120	.120
	8.5-9.6	5A	90HS62	2.187	2.11B 2.62B'	.60C .72C'	.120	.120
WR90 Tapered to WR112	8.5-9.6	6A	90HS132	1.312(R)	2.13B 2.60B'	.62C .71C'	.120	.150
WR90 Tapered to WR112 90°	8.2-9.3	1A	A90HS12	1.735	2.12	.40	.120	.120
	8.5-9.6	1A	A90HS22	1.735	2.12	.40	.120	.120
	9.4-10.8	1A	A90HS32	1.735	2.12	.40	.120	.120
WR90 .200 HGT	8.5-9.6	1A	B90HS22	1.735	2.14B 2.14B'	.63C .53C'	.120	.120
	8.5-9.6	1A	B90HS22	1.735	2.14B 2.14B'	.63C .53C'	.120	.120

Except as Noted Output power Unbalance (dBmax.) ±.25 Isolation (db min.) 30

Notes: • Isolation 27 dB min.

¹ No physical center wall .050 commonwall required by both mating components to function electrically

² Flange blank

³ Dual S/W flat flanges six .169 dia. holes 90FS112

^{4A} Dual S/W pressure flange 90FS152 six .169 dia.

^{4B} Dual S/W pressure flange 90FS162 six 8/32 threaded

NOTE: All hybrids corrals mate with standard W/G (WR size noted in the table on Page 51) having a common wall of the thickness shown by dimensions D and E.

Socket dimensions & overall tolerances shown on Page 44.

Sidewall Couplers – 3dB

W/G Size	Frequency GHz	Style	Model Number	Dimensions (inches)				
				A	B	C	D	E
WR90 Tapered to .300 HGT 90°	8.5-9.6	6A	B90HS12	1.125(R)	2.10B 2.10B'	.50C .60C'	.120	.120
	9.5-10.5	6A	B90HS42	1.124(R)	2.10B 2.10B'	.50C .60C'	.120	.120
WR90 .150 HGT	8.5-9.6	1A	C90HS12	1.580	2.07	.35	.070	.070
WR102	9.4-10.6	1A	102HS12	2.250	2.450	.77	.150	.150
	9.4-10.6	1B	102HS22	2.250	3.48B 2.45B'	1.78C .77C'	.150	.150
WR112	6.9-8.0	1A	112HS12	2.187	2.64	.73	.150	.150
	7.1-8.5**	1A	112HS32	2.187	2.64	.73	.150	.150
	7.1-8.5**	1B ⁷	112HS44	2.187	3.218 2.64	1.375 .73	.150	.150
	7.5-8.5	1A	112HS62	2.187	2.64	.73	.150	.150
	7.9-9.0	1A	112HS142	2.187	2.64	.74	.150	.150
	8.4-9.6	1B	112HS34	2.000	3.21B 2.52B'	1.37C .72C'	.064	.064
	8.4-9.8	1A	112HS72	2.000	2.53	.73	.064	.064
	8.5-9.7	1A	112HS112	2.187	2.61B 2.53B'	.72	.064	.150
	8.5-9.6	1B ⁵	112HS14	2.437	3.06B 2.53B'	1.87C .73C'	.064	.064
	8.5-9.7	1B ⁶	112HS24	2.187	3.22B 2.61B'	1.38C .72C'	.150	.064
WR112 90°	8.5-9.6	2A	112HS122	1.312(R)	2.64	.83	.064	.064
	8.5-9.6	2A	112HS102	1.312(R)	2.66	.77	.064	.150
WR112 180°	8.5-9.6	3A	112HS22	1.375(D)	2.62	.72	.150	.150
WR137	5.4-6.0	1A [*]	137HS12	2.750	3.15	.88	.150	.150
	5.4-6.0	1B ¹	137HS14	2.750	3.80B 3.14B'	1.61C .88C'	.150	.150
	5.8-6.5	1A	137HS72	2.625	3.11	.83	.150	.150
	6.0-7.0	1A	137HS52	2.625	3.09	.83	.150	.150
	6.85-7.80	1A	137HS32	2.625	3.13	.88	.150	.150
WR137 .247 HGT	7.15-8.20	1A	137HS22	2.625	3.13	.88	.150	.150
	5.4-6.0	1A	A137HS12	2.625	3.13	.48	.150	.150
WR137 .487 HGT	6.0-7.0	1B ²	B137HS14	2.625	3.80B 3.09B'	1.40C 0.69C'	.150	.150
WR159	5.4-5.9	1A	159HS22	3.250	3.56	1.02	.150	.150
	5.9-6.5	1A	159HS12	3.250	3.56	1.02	.150	.150
	5.925-6.425 [■]	1A	159HSA12	3.250	3.56	1.02	.150	.150
	5.9-6.5	1B ³	159HS14	3.250	4.20B 3.56B'	1.67C 1.02C'	.150	.150
	5.9-6.5	1C ³	159HS24	3.250	4.20	1.67	.150	.150

Except as Noted Output power Unbalance (dBmax.) ±.25 Isolation (db min.) 30

Notes: * Coralls same as Style 1B ** Isolation 28 unbalance, .35 dB min.

■ Unbalance ±.15 dB max. Isolation 35 dB min.

¹ Dual S/W flat flange 137FS32

² Dual S/W flat flange B 137FS12

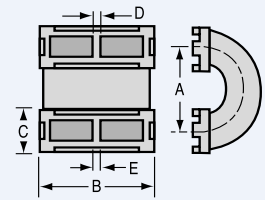
⁵ Dual S/W pressurized choke flange six 0.169 dia. holes 112FS22

⁶ Dual S/W pressure flat flange ten 0.167 dia. holes 112FS102

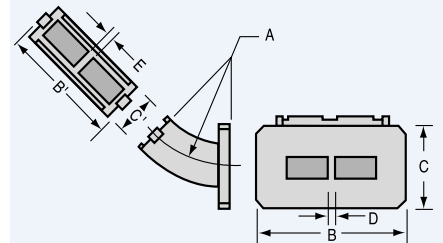
⁷ Dual S/W flat flange ten 0.169 dia. holes 112FS82

NOTE: All hybrids coralls mate with standard W/G (WR size noted in the table on Page 51) having a common wall of the thickness shown by dimensions D and E. Socket dimensions & overall tolerances shown on Page 44.

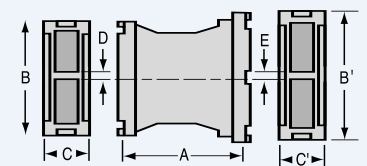
SIDEWALL COUPLERS



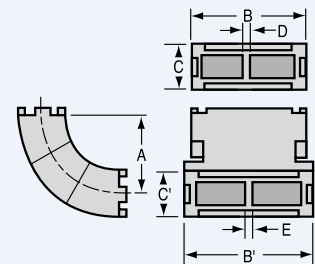
STYLE 3A



STYLE 4B

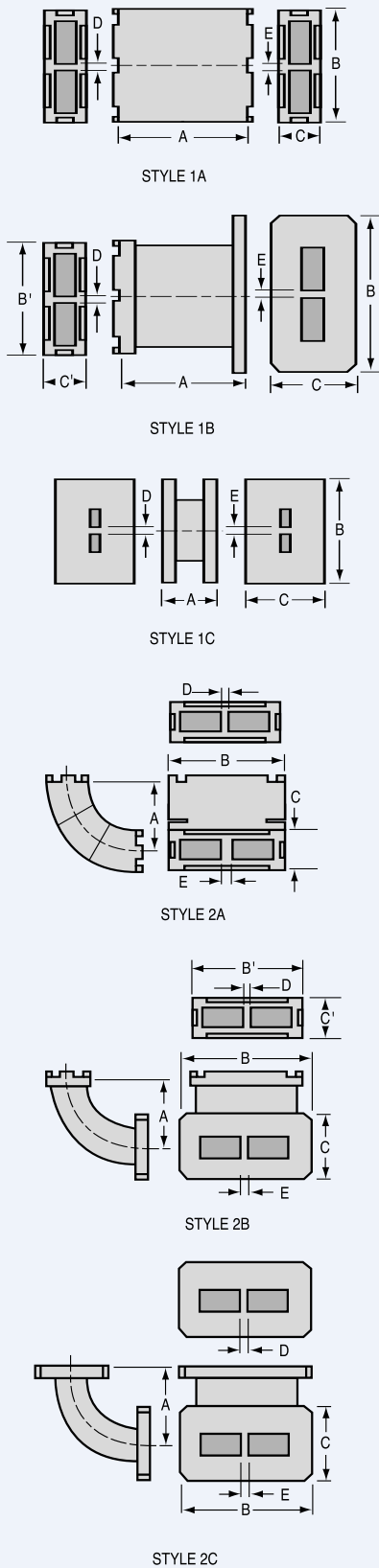


STYLE 5A



STYLE 6A

Sidewall Couplers – 3dB



W/G Size	Frequency GHz	Style	Model Number	Dimensions (inches)				
				A	B	C	D	E
WR187	3.95-4.50	1A	187HSA92	3.625	4.17	1.17	.150	.150
	3.95-4.50	1B ⁴	187HSA84	3.625	4.76B 4.17B'	1.77C 1.17C'	.150	.150
	3.95-4.50	1C ⁴	187HS74	3.625	4.76	1.77	.150	.150
	4.34-5.06	1A	187HSA32	3.625	4.17	1.17	.150	.150
	4.34-5.06	1C ⁴	187HS44	3.625	4.76	1.77	.150	.150
	4.34-5.06	1B ⁴	187HS94	3.625	4.76B 4.17B'	1.77C 1.17C'	.150	.150
	4.50-5.20	1A	187HSA52	3.625	4.17	1.17	.150	.150
	4.50-5.20	1B ⁴	187HSA64	3.625	4.76B 4.17B'	1.77C 1.17C'	.150	.150
	4.50-5.20	1C ⁴	187HS54	3.625	4.76	1.77	.150	.150
	4.70-5.25	1A	187HS62	3.625	4.14	1.13	.128	.128
	4.90-5.75	1A	187HS72	3.625	4.14	1.13	.150	.150
	5.2-5.9	1A	187HSA42	3.250	4.14	1.14	.128	.128
	5.2-5.9	1B ^{5A}	187HSA24	3.250	5.02B 4.14B'	2.01C 1.14C'	.128	.128
	5.2-5.9	1B ^{5B}	187HSA14	3.250	5.02B 4.14B'	2.01C 1.14C'	.128	.128
WR187 90°	3.8-4.3	2C ³	187HS13	2.250(R)	4.75	1.78	.150	.150
	3.8-4.3	2A	187HS112	2.250(R)	4.15	1.13	.150	.150
	4.4-5.0	2A	187HS22	2.375(R)	4.14	1.12	.150	.150
	5.2-5.9	2A	187HS82	2.250(R)	4.19	1.20	.128	.128
	5.2-5.9	2B ^{5A}	187HS34	2.250(R)	5.02B 4.19B'	2.01C 1.20C'	.128	.128
	3.7-4.2	1A	229HS12	5.25	4.96	1.40	.128	.128
WR284	2.66-2.99	1A	284HS32	5.50	6.14	1.62	.160	.160
	2.7-2.9	1A	284HS22	5.50	6.14	1.62	.160	.160
	2.7-2.9	1C ⁶	284HS14	5.50	7.22	2.72	.160	.160
	2.7-2.9	1A	284HS92	5.50	6.18	1.67	.160	.160
	2.8-3.2	1A	284HS12	5.50	6.14	1.62	.160	.160
	2.99-3.44	1A	284HS52	5.50	6.14	1.62	.160	.160
	3.1-3.5	1A	284HS102	5.50	6.18	1.67	.160	.160
	3.44-3.95	1A	284HS42	5.50	6.11	1.62	.160	.160
	3.1-3.5	1A ⁸	A284HS22	5.50	6.16	.72	.160	.160
	3.1-3.5	1A ⁷	A284HS32	5.50	6.16	.99	.160	.160
WR284 90°	2.85-3.15	1A	284HS62	3.50(R)	6.20	1.60	.160	.160

Except as Noted Output power Unbalance (dBmax.) ±.25 Isolation (db min.) 30

Notes: ³ Blank flange

⁴ Dual s/w flat flange 187FS92

^{5A} Dual sidewall flat pressure flange twelve 0.196 dia. holes (187FS52)

^{5B} Dual sidewall flat pressure flange twelve 10.32 threaded holes (187FS62)

⁶ Dual S/W flat flange 284FS12

⁷ .670 height

⁸ .400 height

NOTE: All hybrids corrals mate with standard W/G (WR size noted in the table on Page 51) having a common wall of the thickness shown by dimensions D and E.

Socket dimensions & overall tolerances shown on Page 44.