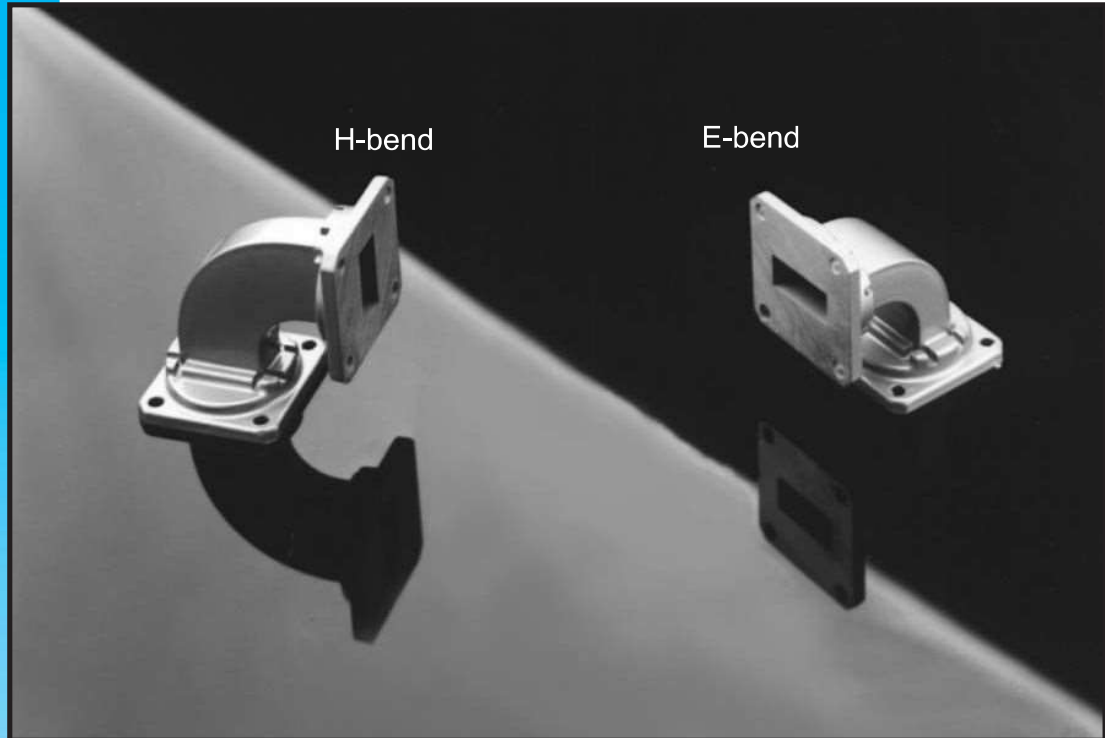


## BENDS E AND H PLANE



PENN ENGINEERING offers a series of standard 45 and 90 degree E plane and H plane formed bends for use in a waveguide system. Typical VSWR is 1.05:1 over the full frequency range.

Brass/bronze bends are Silver plated per QQ-S-365D Class A, Aluminum bends are Chem-filmed per MIL-C-5541E, and both are finished with PENN ENGINEERING'S Polyurethane Blue Paint.

Custom bends offering various angles and configurations are also available upon request.

### **PENN ENGINEERING COMPONENTS**

12750 RAYMER ST.  
N. HOLLYWOOD  
CALIFORNIA 91605

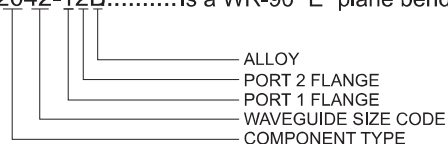
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#### ORDERING INFORMATION - TO ORDER, USE THE FOLLOWING EXAMPLE:

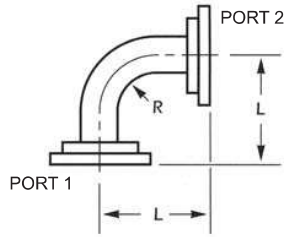
MODEL 2042-12B.....Is a WR-90 "E" plane bend with cover/choke flanges in brass/bronze



**ALLOY:** A=ALUMINUM B=BRASS/BRONZE C=COPPER S=SILVER SS=STAINLESS STEEL  
**FLANGE:** 1=COVER 2=CHOKE 3=CMR 4=CPRG 5=CPRF

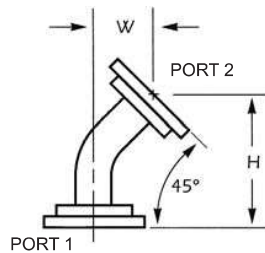
(See last page for complete list of flanges and materials)

## RADIUS BEND 90°



Model #	90 Deg. "E" Bend		Model #	90 Deg. "H" Bend		Waveguide EIA	Frequency Range(GHz)
	L	R		L	R		
2058	12.0	7.0	2158	12.0	5.0	WR-340	2.20-3.30
2056	7.75	6.0	2156	7.25	4.0	WR-284	2.60-3.95
2054	3.625	2.0	2154	4.25	2.0	WR-229	3.30-4.90
2052	5.062	4.0	2152	5.562	4.0	WR-187	3.95-5.85
2050	2.5	1.0	2150	2.875	1.0	WR-159	4.90-7.05
2048	2.375	1.0	2148	2.75	1.0	WR-137	5.85-8.20
2046	2.062	.750	2146	2.375	.750	WR-112	7.05-10.0
2044	2.00	.750	2144	2.00	.5	WR-102	7.00-11.0
2042	1.437	.5	2142	1.687	.5	WR-90	8.20-12.4
2040	1.437	.5	2140	1.687	.5	WR-75	10.0-15.0
2038	1.656	.5	2138	1.812	.5	WR-62	12.4-18.0
2036	1.656	.5	2136	1.812	.5	WR-51	15.0-22.0
2034	1.25	.5	2134	1.375	.5	WR-42	18.0-26.5
2032	1.25	.5	2132	1.375	.5	WR-34	22.0-33.0
2030	1.234	.5	2130	1.312	.5	WR-28	26.5-40.0
2028	1.234	.5	2128	1.312	.5	WR-22	33.0-50.0
2026	1.234	.5	2126	1.312	.5	WR-19	40.0-60.0
2024	1.234	.5	2124	1.312	.5	WR-15	50.0-75.0
2022	1.234	.5	2122	1.312	.5	WR-12	60.0-90.0
2020	1.234	.5	2120	1.312	.5	WR-10	75.0-110.0

## RADIUS BEND 45°



(ALL BEND RADII SAME AS 90 DEG. BENDS)

Model #	45 Deg. "E" Bend		Model #	45 Deg. "H" Bend		Waveguide EIA	Frequency Range(GHz)
	W	H		W	H		
2256	1.875	4.5	2356	2.093	5.031	WR-284	2.60-3.95
2254	1.062	2.656	2354	1.312	3.062	WR-229	3.30-4.90
2252	1.437	3.468	2352	1.593	3.812	WR-187	3.95-5.85
2250	1.25	3.0	2350	1.218	2.906	WR-159	4.90-7.05
2248	1.125	2.687	2348	1.218	2.937	WR-137	5.85-8.20
2246	1.093	2.625	2346	1.187	2.875	WR-112	7.05-10.0
2244	1.093	2.625	2344	1.187	2.875	WR-102	7.00-11.0
2242	0.968	2.312	2342	1.031	2.5	WR-90	8.20-12.4
2240	0.687	1.687	2340	0.687	1.687	WR-75	10.0-15.0
2238	0.687	1.687	2338	0.687	1.687	WR-62	12.4-18.0
2236	0.687	1.687	2336	0.687	1.687	WR-51	15.0-22.0
2234	0.687	1.687	2334	0.687	1.687	WR-42	18.0-26.5
2232	0.687	1.687	2332	0.687	1.687	WR-34	22.0-33.0
2230	0.687	1.687	2330	0.687	1.687	WR-28	26.5-40.0
2228	0.687	1.687	2328	0.687	1.687	WR-22	33.0-50.0
2226	0.687	1.687	2326	0.687	1.687	WR-19	40.0-60.0
2224	0.687	1.687	2324	0.687	1.687	WR-15	50.0-75.0
2222	0.687	1.687	2322	0.687	1.687	WR-12	60.0-90.0
2220	0.687	1.687	2320	0.687	1.687	WR-10	75.0-110.0

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