



Blade Antennas

The Haigh-Farr family of rugged Blade antennas is available in frequencies ranging from UHF to upper C-band, and may be provided in either straight or rounded blade configurations.

Our blade antennas have quasi-uniform null-free hemispherical gain patterns. They have a demonstrated reliability in over 30 years of use in high-performance airborne applications. In addition, they are used extensively in ground-based vehicles such as race cars, trucks, tanks, and motorcycles, to name a few.



APPLICATIONS:

- Data Links, Telemetry, Transponder
- Aircraft
- UAVs
- Helicopters
- Tactical Missiles
- Ships
- Ground-Based Vehicles
- Single or Array Implementations with Matching Power Dividers and Cables

FEATURES:

- Hemispherical Coverage (see patterns on next pages)
- Frequencies from UHF to C-Band
- Small, Compact Footprint
- Aerodynamic Design
- Common Footprint for All Models
- Built to Withstand Extreme Shock & Vibration Environments

DESIGN CAPABILITY:

Haigh-Farr has an over 50 year history of designing and producing exceptionally rugged, high-performance antennas. If you don't find an antenna meeting your requirements in our standard list of products, Haigh-Farr has the experience and modeling capability to customize a solution. Adaptations of existing designs can be done with very short lead times.

Contact Haigh-Farr for a review of your antenna requirements.



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Round Blade P/N	Straight Blade P/N	Frequency Range GHz	Band	VSWR TYPICAL/MAX	5KW ¹ ALTITUDE	PEAK ² POWER	Height Inches [mm]	Weight (SMA) OZ [grams]
6102	6002	0.958 – 0.998	UHF	1.5:1/2.0:1			2.3 [58.4]	
6108	6008	0.9165 ± .025	UHF	1.50:1/2.0:1	116	160 W	2.30 [58.4]	1.0 [28.3]
	6300	0.400 - 0.450	UHF	1.50:1/2.0:1			5.75 [146.05]	5.8 [165]
6103	6003	1.25 - 1.40	L-Band	1.50:1/2.0:1		160 W	2.05 [52.1]	0.9 [26]
6103-1		1.30 - 1.39	L-Band	1.50:1/2.0:1		160 W	2.05 [52.1]	0.9 [26]
6104	6004	1.31 - 1.49	L-Band	1.50:1/2.0:1		160 W	1.67 [42.4]	0.8 [23]
6107	6007	1.060 ± .030	L-Band	1.50:1/2.0:1	116	160 W	2.30 [58.4]	1.0 [28.3]
6107-1		1.06 - 1.12	L-Band	1.50:1/2.0:1	116	160 W	2.30 [58.4]	1.0 [28.3]
BL1-16190		1.35 - 1.39	L-Band	1.25:1/1.5:1	116	160 W	1.9 [48.3]	0.9 [26]
6109	6009	1.35 – 1.54	L-Band	1.50:1/2.0:1	116	160 W	1.75 [44.3]	0.9 [26]
6110	6010	1.43 – 1.54	L-Band	1.25:1/1.5:1	116	160 W	1.68 [42.7]	0.8 [23]
6110-2	6010-2	1.425 – 1.525	L-Band	1.25:1/1.5:1	116	160 W	1.67 [39.1]	0.8 [23]
6110-3	6010-3	1.45 – 1.65	L-Band	1.50:1/2.0:1	116	160 W	1.68 [42.7]	0.8 [23]
6110-4	6010-4	1.50 – 1.80	L-Band	1.50:1/2.0:1	116	160 W	1.68 [42.7]	0.8 [23]
6115	6015	1.60 – 1.70	L-Band	1.25:1/1.5:1	116	160 W	1.54 [39.1]	0.8 [23]
6120	6020	1.71 – 1.85	L-Band	1.25:1/1.5:1	114	240 W	1.45 [36.8]	0.8 [23]
6123	6023	1.8 - 2.2	L/S-Band	1.50:1/2.0:1	118	350 W	1.45 [36.8]	0.8 [23]
6125	6025	2.00 – 2.10	S-Band	1.25:1/1.5:1	110	350 W	1.19 [30.2]	0.7 [20]
6125-1	6025-1	2.00 – 2.30	S-Band	1.50:1/2.0:1	110	350 W	1.19 [30.2]	0.7 [20]
6130	6030	2.20 – 2.30	S-Band	1.5:1/1.25:1	110	350 W	1.19 [30.2]	0.7 [20]
6130-1	6030-1	2.30 – 2.40	S-Band	1.25:1/1.5:1	110	350 W	1.19 [30.2]	0.7 [20]
6130-2	6030-2	2.40 – 2.50	S-Band	1.25:1/1.5:1	110	350 W	1.19 [30.2]	0.7 [20]
6130-3	6030-3	2.20 – 2.40	S-Band	1.25:1/1.5:1	110	350 W	1.19 [30.2]	0.7 [20]
6130-4	6030-4	2.30 – 2.50	S-Band	1.25:1/1.5:1	110	350 W	1.19 [30.2]	0.7 [20]
6130-5	6030-5	2.18 - 2.48	S-Band	1.50:1/2.0:1	110	350 W	1.19 [30.2]	0.7 [20]
6130-6	6030-6	2.20 – 2.50	S-Band	1.50:1/2.0:1	110	350 W	1.19 [30.2]	0.7 [20]
6130-7		2.5 - 2.7	S-Band	1.50:1/2.0:1	110	350 W	1.19 [30.2]	0.7 [20]
BL1-16167		2.5 - 2.7	S-Band	1.25:1/1.5:1	110	350 W	1.19 [30.2]	0.7 [20]
6135-1	6035-1	3.10 – 3.30	S-Band	1.25:1/1.5:1	106	350 W	1.19 [30.2]	0.7 [20]
6135-2	6035-2	3.45 – 3.55	S-Band	1.25:1/1.5:1	106	350 W	1.19 [30.2]	0.7 [20]
6135-3	6035-3	3.65 – 3.85	S-Band	1.25:1/1.5:1	106	350 W	1.19 [30.2]	0.7 [20]
6140	6040	4.50 – 5.00	C-Band	1.25:1/1.5:1	104	1.5 kW	0.90 [22.9]	0.6 [17]
6140-1	6040-1	4.40 – 5.50	C-Band	1.25:1/1.5:1	104	1.5 kW	0.90 [22.9]	0.6 [17]
6150	6050	5.40 – 5.90	C-Band	1.25:1/1.5:1	102	2.2 kW	0.75 [19.1]	0.6 [17]
6150-1	6050-1	5.25 – 5.85	C-Band	1.25:1/1.5:1	102	2.2 kW	0.75 [19.1]	0.6 [17]
6150-2	6050-2	6.40 – 6.60	C-Band	1.25:1/1.5:1	102	2.2 kW	0.75 [19.1]	0.6 [17]
6150-3	6050-3	6.40 – 7.20	C-Band	1.25:1/1.5:1	102	2.2 kW	0.75 [19.1]	0.6 [17]
BL1-16165		1.7 - 2.5	Broadband	1.5:1/1.7:1			1.56 [39.62]	1.3 [36]
BL1-16180		350 - 1250	Broadband/UHF	1.5:1/2.0:1			6.677 [169.6]	2.4 lbs.

- Thermal environments: -50°C to 150°C; 300°C transient
- Polarization: Linear, predominately vertical
- Connector: SMA Standard, TNC Optional (50 Ω)
- Required Mounting Screws: 82° Flathead #4 Standard; 100° Flathead #4 or M3 optional
- UHF models are available in different configurations

¹ The 5kW altitude (k ft) is the approximate altitude at which the antenna will experience external corona with 5kW peak power.

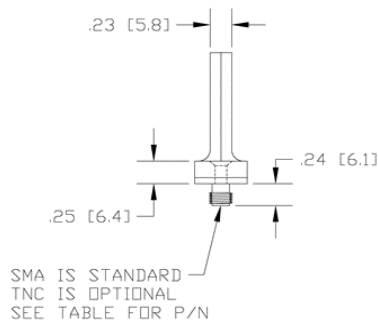
² Peak power indicates the maximum power that may be radiated without experiencing external corona at any altitude. Sufficient airflow is required at the higher power levels. These antennas handle average power in the 25-30W CW range but sufficient airflow is required at these higher power levels for the antennas to perform properly. A static ground test will not provide the adequate airflow required. Haigh-Farr offers both a 60XX and 61XX high power version of all the above listed blades.

Note: Haigh-Farr Rounded Blades (61XX) are identical in performance to our Straight Blades (60XX) and often preferred due to their rounded radome over the sharp edges of 60XX series.

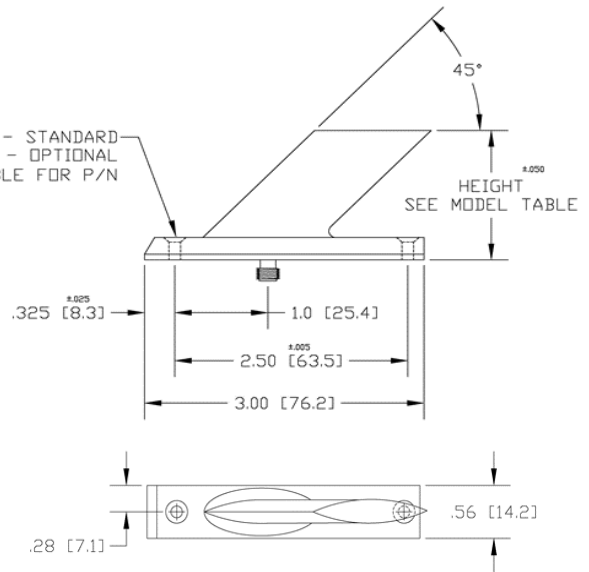


MECHANICAL DIMENSIONS:

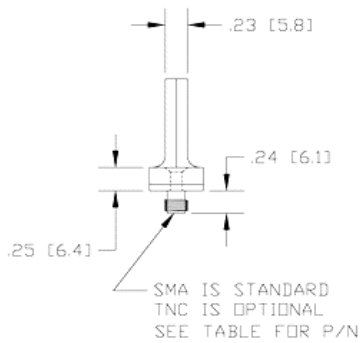
Straight Blade:



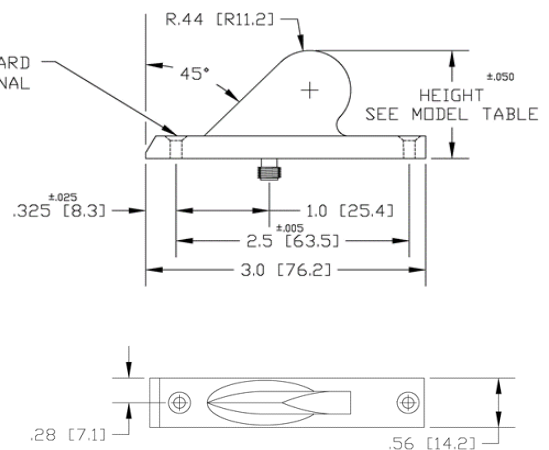
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M3 SCREW - 100° INSERT - OPTIONAL
SEE TABLE FOR P/N



Rounded Blade:

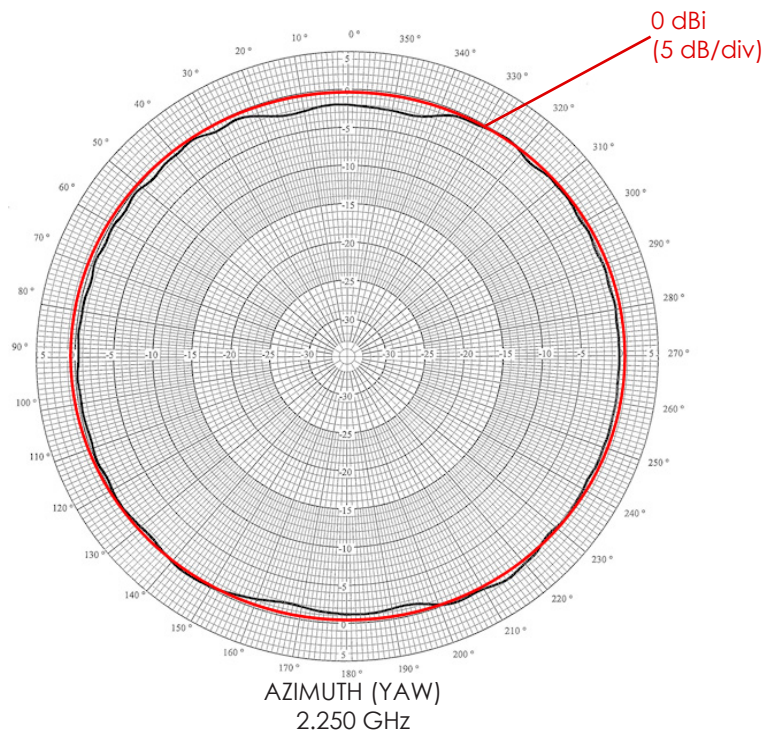
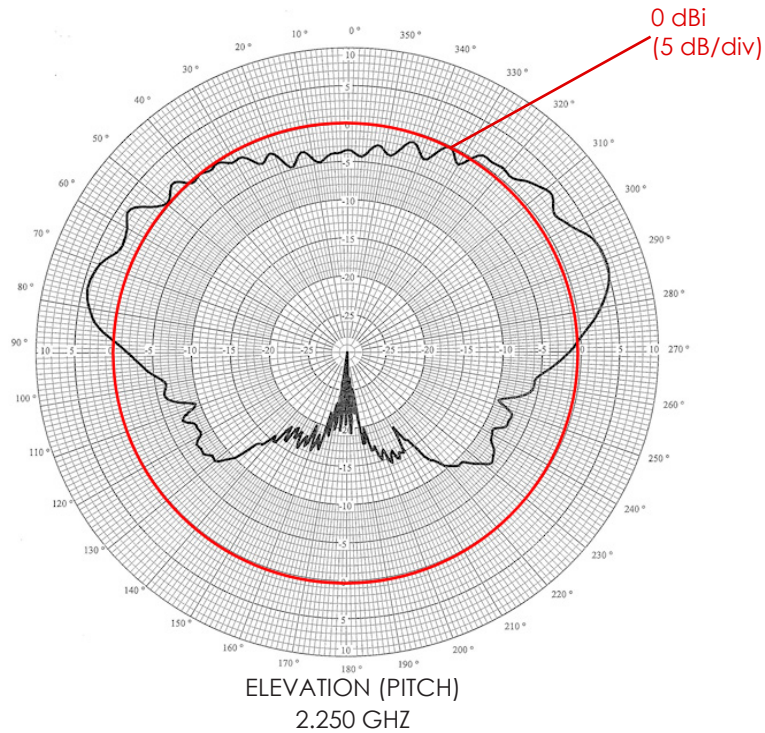


#4 SCREW - 82° INSERT - STANDARD
M3 SCREW - 100° INSERT - OPTIONAL
SEE TABLE FOR P/N





REPRESENTATIVE RADIATION PATTERNS:



Note: The patterns shown above were measured with model 6130 on a cylindrical ground plane but are typical of the other Blades offered. Fins and other protrusions on the vehicle will perturb the radiation pattern. The extent of any perturbations cannot be fully determined until radiation patterns are either calculated or measured on a model of the vehicle. Haigh-Farr offers engineering services, which include the calculation of radiation patterns on a specific vehicle.