

# VHF Directional Screened Dipole Array Antennas

146-174MHz

FSA Series



The FSA Series arrays are based on the popular OA Series dipole array antennas. Supplied in “kit” form these antennas are delivered in flat-pack packaging to minimise freight and warehousing issues and allow for simplified assembly at time of installation.

The FSA Series arrays have approximately 105 degrees horizontal beamwidth and offer 5 or 7dBd in gain. The use of the flat screen reflector boosts the front to back ratio considerably allowing for tailoring antenna patterns for frequency re-use in extended networks.

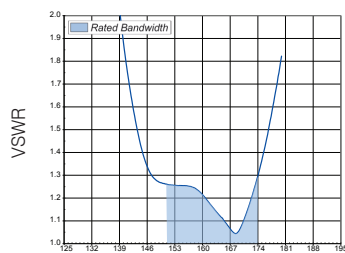
With all welded construction and superior internal harness construction the antennas provide not only excellent radiation characteristics but also defined, high levels of intermodulation and noise suppression. IM performance is -140dBc based on a two carrier test. The entire array rests at ground potential and offers the ultimate in lightning resistant antennas.

## Features:

- Offset (cardioid) pattern with 105 Degree nominal Horizontal Beamwidth
- High front to back ratio to allow frequency re-use by tailoring coverage areas
- Hermetically sealed internal PTFE based phasing harness capable of 750W continuous operation
- Shipped unassembled for ease of handling, easily assembled on site
- Direct DC grounded for lightning protection and reduction of precipitation static noise
- Industry leading PIM rating (-140dBc) providing low IM and low noise characteristics for optimum performance
- The screen can be purchased to retrofit to an existing OA series array. See table below;

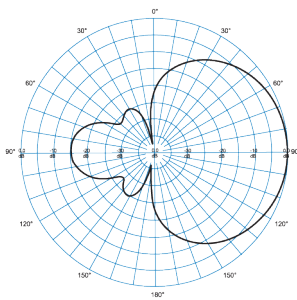


Typical VSWR Response (FSA10-41)

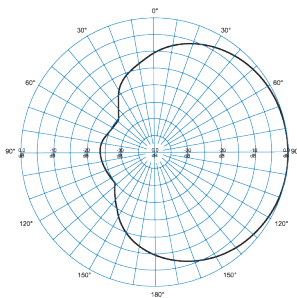


Frequency (MHz)

FSA20-41 - E Plane



FSA20-41 - H Plane



## Kitted components available for individual sale

Component	FSA10-41-P	FSA20-41-p
Complete Array Part Number	FSA10-41-P	FSA20-41-p
Antenna Only Part No.	M-8648	OA20-41-P
Screen Only Part No.	M-8568	M-8566

## Electrical Specifications

Model Number	FSA10-41-P	FSA20-41-P
Nominal Gain dBd (dBi)	5 (7.1)	7 (9.1)
Frequency MHz	146 - 174	148 - 170
Tuned Bandwidth MHz	Full	
VSWR (Return Loss)	<1.5 :1 (14dB)	<1.7 :1 (11.7dB)
Nominal Impedance Ω	50	
Vertical Beamwidth°	70	34
Horizontal Beamwidth°	106	108
Front / Back Ratio dB	17	18
Input Power W	750	
Passive IM 3rd order (2x20W)- dBc	-140	

## Mechanical Specifications

Model Number	FSA10-41-P	FSA20-41-P
Construction	Welded aluminium, corrosion protection plating	
Length (Screen) m	1.3	2.6
Width (Screen) m	1.04	1.04
Weight kg	14.5	33.5
Termination	4.3 - 10 female on cable tail 500mm	
Mounting Area	Clamps included to suit pole diameter 50-90mm	Clamps included to suit pole diameter 50-75mm
Projected Area cm <sup>2</sup>	No ice	5707
	With ice	9187
Wind Load (Thrust) @ 160km/h N	No ice	676
	With ice	1089
Wind Gust Rating km/h	No ice	>240
	With ice	>240
Torque @160 km/h Nm	No ice	20.5
	With ice	34