

# High Precision Offset Parabolic Reflector



## SOLUTION FOR

- High-gain reference antenna
- Far-field antenna measurements

## Main features

### Technical performance

- Smooth gain with frequency
- Linear polarized with high polarization purity
- Low return loss / VSWR
- Wide bandwidth

### Design

- Super elliptical rim
- Lightweight for easy handling

### Surface treatment

- Surtec 650 according to MIL-C 5541E class 3

### Repeatability

- Stiff and robust mechanical design
- Standard MVG circular interface for precision centering
- Precision pin for accurate polarization alignment
- Precision machined

### Delivered documents

- Typical performance data (TYMEDA™)
- Measured return loss data

## Product configuration

### Equipment

- Mounting flange
- Feed adapter flange

### Related services

- Calibration and maintenance
- Customization

■ Included  Optional

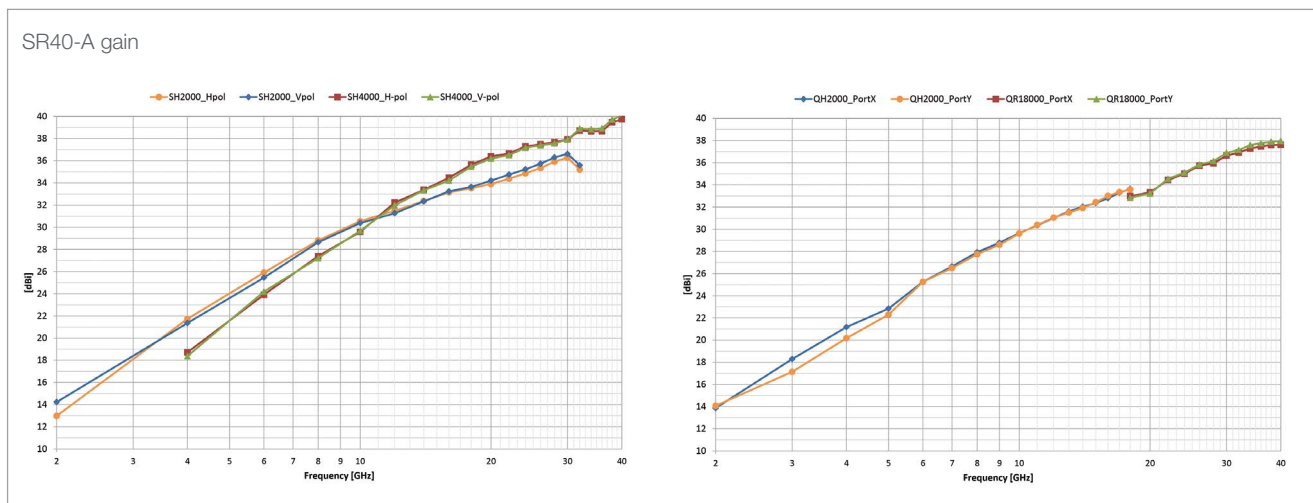


The MVG offset parabolic reflector, fed with MVG dual ridge horns, has been selected as a high-reliability reference antenna for uncertainty assessment in measurement systems and EM simulation software.

- L. J. Foged, M. Sierra Castañer, L. Scialacqua "Facility Comparison Campaigns within EurAAP", 5<sup>th</sup> European conference on Antennas and propagation, EuCAP2011, Rome, April 2011
- L.J.Foged, M.A. Saporetti, M. Sierra-Castanner, E. Jørgensen, T. Voigt, F. Calvano, D. Tallini, "Measurement and Simulation of Reflector Antenna", EuCAP2015, Lisbon, April 2015
- M. Sierra Castañer, L.J. Foged, M.A. Saporetti, E. Jørgensen, T. Voigt, D. Tallini, M. Orefice, G. Giordanengo, G. Dassano, M. Böttcher, A. Wien, J. M. Serna, D. Pérez de Diego, F. Calvano, "Comparison of Reflector Antenna Measurements and Simulations", Antenna Measurements Techniques Association, October 2015

## Electrical characteristics

Part number	SR40-A	SR40-A	SR40-A	SR40-A	SR40-A	SR40-A
Featured feed part number	SH2000	SH4000	SH5000	QH2000	QH4000	QR18000
Featured feed type	Dual-ridge horn	Dual-ridge horn	Dual-ridge horn	Open-boundary quad-ridge horn	Open-boundary quad-ridge horn	Closed-boundary quad-ridge horn
Frequency range	2 – 32 GHz	4 – 40 GHz	5 – 50 GHz	2 – 32 GHz	4 – 40 GHz	18 – 40 GHz
Polarization	Single linear	Single linear	Single linear	Dual linear	Dual linear	Dual linear
Gain	14 – 35 dBi > 14 dBi @ 2 GHz > 21 dBi @ 4 GHz > 29 dBi @ 8 GHz > 33 dBi @ 16 GHz > 35 dBi @ 32 GHz	18 – 40 dBi > 18 dBi @ 4 GHz > 28 dBi @ 8 GHz > 34 dBi @ 16 GHz > 37 dBi @ 32 GHz > 39 dBi @ 40 GHz	18 – 40 dBi > 18 dBi @ 5 GHz > 28 dBi @ 8 GHz > 34 dBi @ 16 GHz > 37 dBi @ 32 GHz > 40 dBi @ 50 GHz	14 – 34 dBi > 14 dBi @ 2 GHz > 20 dBi @ 4 GHz > 28 dBi @ 8 GHz > 31 dBi @ 12 GHz > 34 dBi @ 18 GHz	18 – 40 dBi > 18 dBi @ 4 GHz > 28 dBi @ 8 GHz > 34 dBi @ 16 GHz > 37 dBi @ 32 GHz > 39 dBi @ 40 GHz	33 – 38 dBi > 33 dBi @ 18 GHz > 35 dBi @ 24 GHz > 36 dBi @ 30 GHz > 38 dBi @ 40 GHz
VSWR	< 2.3 [2 – 6 GHz] < 1.9 [6 – 31 GHz] < 2.3 [31 – 32 GHz]	< 2.3 [4 – 10 GHz] < 1.9 [10 – 37 GHz] < 2.3 [37 – 40 GHz]	< 1.9	< 2.5 [2 – 4 GHz] < 1.9 [4 – 32 GHz]	< 3.5 [4 – 5 GHz] < 1.9 [5 – 37 GHz] < 3.5 [37 – 40 GHz]	< 1.9
Return loss	< -8 dB [2 – 6 GHz] < -10 dB [6 – 31 GHz] < -8 dB [31 – 32 GHz]	< -8 dB [2 – 6 GHz] < -10 dB [10 – 37 GHz] < -8 dB [37 – 40 GHz]	< -10 dB	< -7 dB [2 – 4 GHz] < -10 dB [4 – 32 GHz]	< -5 dB [4 – 5 GHz] < -10 dB [5 – 37 GHz] < -5 dB [37 – 40 GHz]	< -10 dB



## Mechanical characteristics

Part number	SR40-A	SR40-A	SR40-A	SR40-A	SR40-A	SR40-A
Featured feed	SH2000	SH4000	SH5000	QH2000	QH4000	QR18000
<b>Reflector characteristics</b>						
- Rim shape	Super elliptical	Super elliptical	Super elliptical	Super elliptical	Super elliptical	Super elliptical
- Rim dimensions	400 x 400 mm	400 x 400 mm	400 x 400 mm	400 x 400 mm	400 x 400 mm	400 x 400 mm
- "F/D" ratio	0.5	0.5	0.5	0.5	0.5	0.5
- Clearance	50 mm	50 mm	50 mm	50 mm	50 mm	50 mm
<b>Dimensions</b>						
<b>Horizontal mounting</b>						
(H1 x W x A1)	571 x 400 x 305 mm	571 x 400 x 305 mm	571 x 400 x 305 mm	571 x 400 x 305 mm	571 x 400 x 305 mm	571 x 400 x 305 mm
<b>Vertical mounting</b>						
(H2 x W x A2)	561 x 400 x 315 mm	561 x 400 x 315 mm	561 x 400 x 315 mm	561 x 400 x 315 mm	561 x 400 x 315 mm	561 x 400 x 315 mm
<b>Weight (approx.)</b>	3.9 Kg	3.6 Kg	3.6 Kg	3.7 Kg	3.7 Kg	3.6 Kg
<b>RF connector</b>	3.5 mm Female <sup>(1)</sup>	2.92 mm Female <sup>(2)</sup>	2.4 mm Female <sup>(5)</sup>	3.5 mm Female <sup>(1)</sup>	2.92 mm Female <sup>(2)</sup>	2.92 mm Female <sup>(3)</sup>
<b>Material</b>	Aluminum	Aluminum	Aluminum	Aluminum	Aluminum	Aluminum
<b>Treatment</b>	Surtec 650 <sup>(4)</sup>	Surtec 650 <sup>(4)</sup>	Surtec 650 <sup>(4)</sup>	Surtec 650 <sup>(4)</sup>	Surtec 650 <sup>(4)</sup>	Surtec 650 <sup>(4)</sup>
<b>Interface</b>	Circular Ø 110 mm	Circular Ø 110 mm	Circular Ø 110 mm	Circular Ø 110 mm	Circular Ø 110 mm	Circular Ø 110 mm

(1) Huber & Suhner type 23 PC35-50-0-51/199 UE

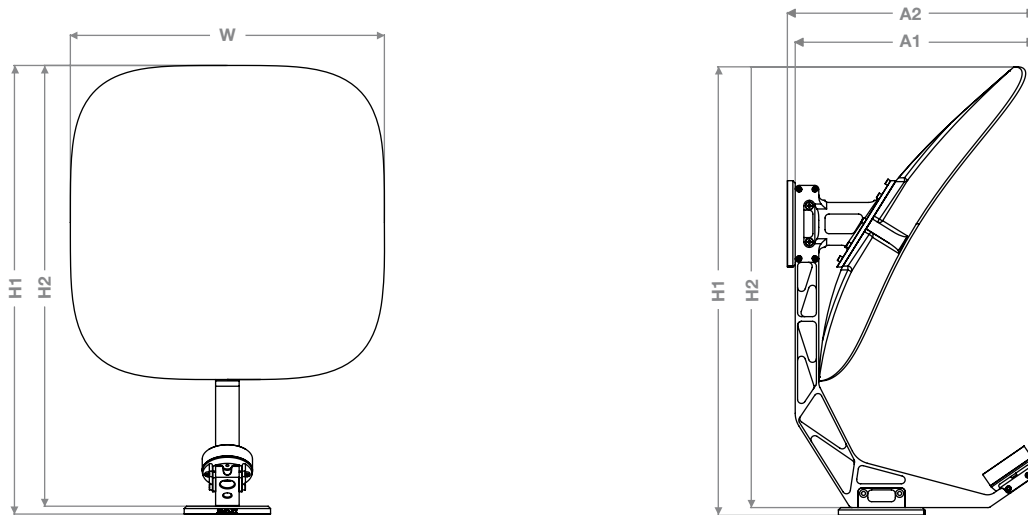
(2) Anritsu K103F + Southwest 1030-10SF

(3) Southwest 1012-16SF

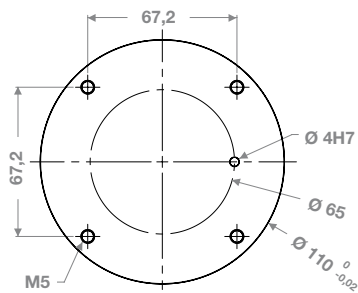
(4) According to MIL-C 5541E class 3

(5) Southwest 1814-04SF + SGMC 100-30-33-000

Dimensional drawing



SR40-A interface





**Contact your local sales representative for more information**

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