

# PRODUCT CATALOGUE



# Company Overview



Vector Telecom provides microwave waveguide components, coaxial components, antennas and other telecommunication components to global market.

Vector Telecom consists of microwave and millimeterwave laboratories, antenna laboratories, microwave and electronic components factories. The laboratories are equipped with advanced microwave measurement facilities and latest R&D platforms. Our professional engineers have excellent background from electronics, telecommunications, space and aviation industries. Continuing investment in the resource indicates Vector Telecom's ongoing commitment to provide customers with innovative and leading edge products.

## Company Overview

Vector Telecom offers well-designed, high quality products at global competitive prices. Our products frequency ranges is up up to 110 GHz. We implement TQM (Total Quality System) and SOP (Standard Operation Procedure) with ISO 9001:2015 certification and RoHS and REACH Compliance, which assures Vector Telecom' s strong commitment to quality standards and customer satisfaction.

### Vector Telecom Mission

Satisfy customers by providing cost effective solutions with reliable quality, good performance and timely delivery.

# Table of Contents

## Section 1

### Waveguide Components

|                                                                                              |    |
|----------------------------------------------------------------------------------------------|----|
| 1 Straight Waveguide .....                                                                   | 1  |
| 1.1 Straight Waveguide .....                                                                 | 1  |
| 1.2 Double Ridged Straight Waveguide .....                                                   | 3  |
| 1.3 Inflatable Straight Waveguide .....                                                      | 4  |
| 2 Waveguide Bend .....                                                                       | 6  |
| 2.1 Waveguide Bend.....                                                                      | 6  |
| 2.2 Waveguide Miter Bend.....                                                                | 8  |
| 2.3 Double Ridged Waveguide Bend .....                                                       | 11 |
| 3 Waveguide Twist .....                                                                      | 13 |
| 3.1 Waveguide Twist.....                                                                     | 13 |
| 3.2 Double Ridged Waveguide Twist .....                                                      | 14 |
| 4 Waveguide Transition .....                                                                 | 16 |
| 4.1 Waveguide Transitions in Overlapping Bands .....                                         | 16 |
| 4.2 Waveguide Transitions in Non Overlapping Bands .....                                     | 17 |
| 4.3 Rectangular To Circular Waveguide Transition (TE <sub>10</sub> -TE <sub>11</sub> ) ..... | 18 |
| 4.4 Special Transitions .....                                                                | 20 |
| 5 Flexible Waveguide and Elliptical Waveguide .....                                          | 21 |
| 5.1 Flexible Waveguide .....                                                                 | 21 |
| 5.1.1 Twistable-Flexible Waveguide .....                                                     | 21 |
| 5.1.2 Flexible Seamless Waveguide .....                                                      | 22 |
| 5.1.3 Double Ridged Twistable-Flexible Waveguide .....                                       | 23 |
| 5.2 Elliptical Waveguide .....                                                               | 23 |
| 6 Adapters .....                                                                             | 26 |
| 6.1 Waveguide to Coaxial Adapter .....                                                       | 26 |
| 6.1.1 Waveguide to Coaxial Adapter (Right Angle) .....                                       | 26 |
| 6.1.2 Waveguide to Coaxial Adapter (End-launch) .....                                        | 30 |

## Table of Content



## Table of Content



|                                                                      |    |
|----------------------------------------------------------------------|----|
| 6.1.3 High Power Waveguide to Coaxial Adapter .....                  | 32 |
| 6.2 Double Ridged Waveguide to Coaxial Adapter.....                  | 33 |
| 6.2.1 Double Ridged Waveguide To Coaxial Adapter (Right Angle) ..... | 33 |
| 6.2.2 Double Ridged Waveguide to Coaxial Adapter (End Launch) .....  | 34 |
| 6.2.3 Double Ridged High Power Waveguide to Coaxial Adapter .....    | 35 |
| 6.3 Circular Waveguide to Coaxial Adapter .....                      | 37 |
| 6.4 Waveguide to Microstrip Adapter .....                            | 38 |
| 6.4.1 Waveguide to Microstrip Adapter (Right Angle) .....            | 38 |
| 6.4.2 Waveguide to Microstrip Adapter (End Launch) .....             | 39 |
| 7 Waveguide Termination (Dummy Load).....                            | 40 |
| 7.1 Waveguide Termination .....                                      | 40 |
| 7.2 Small Size Waveguide Termination.....                            | 41 |
| 7.3 Waveguide Sliding Termination.....                               | 42 |
| 7.4 Waveguide Unmatched Termination .....                            | 44 |
| 7.5 Double-Ridged Waveguide Termination.....                         | 45 |
| 7.6 Circular Waveguide Termination .....                             | 46 |
| 7.7 High Power Waveguide Termination .....                           | 47 |
| 7.8 Double-Ridged High Power Waveguide Termination .....             | 48 |
| 8 Waveguide Coupler.....                                             | 50 |
| 8.1 Crossguide Directional Coupler.....                              | 50 |
| 8.2 Waveguide Loop Coupler .....                                     | 54 |
| 8.2.1 Waveguide Loop Coupler.....                                    | 54 |
| 8.2.2 Double Ridged Waveguide Loop Couple .....                      | 56 |
| 8.3 Broadwall Directional Coupler.....                               | 57 |
| 8.3.1 Broadwall Directional Coupler.....                             | 57 |
| 8.3.2 Double Ridged Broadwall Directional Coupler.....               | 64 |
| 8.4 Waveguide Probe Coupler .....                                    | 65 |
| 8.4.1 Waveguide Probe Coupler .....                                  | 65 |
| 8.4.2 Circular Waveguide Probe Coupler.....                          | 66 |
| 9 Waveguide Power Divider/Combiner .....                             | 68 |
| 9.1 Magic Hybrid Tee .....                                           | 68 |

## Table of Content



|                                                                          |     |
|--------------------------------------------------------------------------|-----|
| 9.2 E-Plane Tee.....                                                     | 70  |
| 9.3 H-Plane Tee .....                                                    | 71  |
| 9.4 In-Phase Waveguide Power Divider / Combiner .....                    | 73  |
| 9.5 Double-Ridged Waveguide Magic Tee and Power Divider / Combiner ..... | 74  |
| 9.6 Waveguide 90° Power Divider/Combiner.....                            | 75  |
| 10 Waveguide Rotary Joint .....                                          | 77  |
| 10.1 Waveguide Single Channel Rotary Joint .....                         | 77  |
| 10.1.1 I Type Waveguide Rotary Joint.....                                | 78  |
| 10.1.2 L Type Waveguide Rotary Joint .....                               | 78  |
| 10.1.3 U Type Waveguide Rotary Joint .....                               | 79  |
| 10.2 High Power Waveguide Rotary Joint .....                             | 80  |
| 10.3 90° Polarized Rotary Joint.....                                     | 80  |
| 10.4 Circular Waveguide Rotary Joint .....                               | 81  |
| 10.5 Double-Ridged Waveguide Rotary Joint.....                           | 82  |
| 10.6 Waveguide Dual-Channel Rotary Joint .....                           | 83  |
| 11 Waveguide Attenuator.....                                             | 85  |
| 11.1 Waveguide Fixed Attenuator.....                                     | 85  |
| 11.2 Waveguide Coupling Fixed Attenuators .....                          | 87  |
| 11.3 High Power Waveguide Coupling Fixed Attenuators .....               | 89  |
| 11.4 Waveguide Variable Attenuator.....                                  | 90  |
| 12 Waveguide Isolator .....                                              | 92  |
| 12.1 Waveguide Isolator .....                                            | 92  |
| 12.2 Full bandwidth Waveguide Isolator.....                              | 93  |
| 12.3 High Power Waveguide Isolator .....                                 | 93  |
| 12.4 High Power Waveguide Differential Phase Shift Isolator .....        | 94  |
| 13 Waveguide Circulator .....                                            | 96  |
| 13.1 Waveguide Circulator .....                                          | 96  |
| 13.2 Full band Waveguide Circulator.....                                 | 97  |
| 13.3 High Power Waveguide Circulator.....                                | 97  |
| 13.4 High Power Waveguide Differential Phase Shift Circulator.....       | 99  |
| 14 Waveguide Filter.....                                                 | 100 |

## Table of Content



|                                                     |     |
|-----------------------------------------------------|-----|
| 14.1 Waveguide Band-pass Filter .....               | 100 |
| 14.2 Waveguide High-pass Filter .....               | 100 |
| 14.3 Waveguide Low-pass Filter .....                | 101 |
| 15 Waveguide Short .....                            | 102 |
| 15.1 Waveguide Short Plate .....                    | 102 |
| 15.2 Waveguide Offset Short .....                   | 103 |
| 15.3 Waveguide Sliding Short .....                  | 105 |
| 16 Waveguide Pressure Window .....                  | 107 |
| 17 Waveguide Calibration Kits .....                 | 109 |
| 17.1 Waveguide Calibration Kits .....               | 109 |
| 17.2 Double-Ridged Waveguide Calibration Kits ..... | 110 |
| 18 Electric Waveguide Switch .....                  | 112 |
| 19 Waveguide Gasket .....                           | 114 |
| 19.1 Waveguide Anti-leak Gasket .....               | 114 |
| 19.2 Waveguide Sealing Gasket .....                 | 115 |
| 19.2.1 O-Ring .....                                 | 115 |
| 19.2.2 D-Ring .....                                 | 116 |
| 20 Waveguide Adjustable Support .....               | 117 |
| 21 Custom Waveguide Assemblies .....                | 118 |

## Section 2

### Coaxial Components

|                                    |     |
|------------------------------------|-----|
| 22 Coaxial Fixed Attenuator .....  | 119 |
| 22.1 Series of $P \leq 100W$ ..... | 119 |
| 22.2 Series of $P \leq 500W$ ..... | 122 |
| 23 Coaxial Termination .....       | 124 |
| 23.1 Series of $P \leq 100W$ ..... | 124 |
| 23.2 Series of $P \leq 500W$ ..... | 126 |
| 23.3 Series of $P > 500W$ .....    | 127 |
| 24 Coaxial Cable Assembly .....    | 128 |
| 25 Coaxial Rotary Joint .....      | 130 |



|                                                         |     |
|---------------------------------------------------------|-----|
| 25.1 Single Channel Coaxial Rotary Joint .....          | 130 |
| 25.2 Dual Channels Coaxial Rotary Joint (II Type) ..... | 130 |
| 25.3 Dual Channels Coaxial Rotary Joint (UI Type) ..... | 131 |
| 25.4 Multiple Channels Coaxial Rotary Joint.....        | 132 |
| 26 Coaxial Calibration Kits .....                       | 133 |

## Section 3

### Antennas

|                                                                             |     |
|-----------------------------------------------------------------------------|-----|
| 27 Standard Gain Antenna .....                                              | 134 |
| 27.1 Standard Gain Horn Antenna (SGAH) .....                                | 134 |
| 27.1.1 Standard Gain Horn Antenna, 10 dB.....                               | 134 |
| 27.1.2 Standard Gain Horn Antenna, 15 dB.....                               | 139 |
| 27.1.3 Standard Gain Horn Antenna, 20 dB.....                               | 142 |
| 27.1.4 Standard Gain Horn Antenna, 25 dB.....                               | 146 |
| 27.1.5 Antenna Bracket for Standard Gain Horn Antenna .....                 | 149 |
| 27.2 Circular Polarization Standard Gain Antenna.....                       | 149 |
| 28 Wideband Double-ridged Horn Antenna .....                                | 152 |
| 28.1 Wideband Double-ridged Horn Antenna .....                              | 152 |
| 28.2 Mini Wideband Double-ridged Horn Antenna.....                          | 153 |
| 29 Linear Polarization Horn Antenna .....                                   | 154 |
| 29.1 Pyramidal Horn Antenna .....                                           | 154 |
| 29.2 Conical Horn Antenna.....                                              | 156 |
| 29.3 Low Side Lobe Diagonal Horn Antenna .....                              | 157 |
| 29.4 Wideband Horn Antenna .....                                            | 159 |
| 29.5 Octave Double-ridged Horn Antenna .....                                | 160 |
| 29.6 Dual Linear Polarization Horn Antenna.....                             | 161 |
| 29.7 Ultra Broadwall Dual Linear Polarization Four Ridged Horn Antenna..... | 163 |
| 29.8 Open Boundary Dual Linear Polarization Four Ridged Horn Antenna .....  | 164 |
| 29.9 Lens Antenna .....                                                     | 165 |
| 29.9.1 Conical Horn Lens Antenna.....                                       | 165 |
| 29.9.2 Pyramidal Horn Lens Antennas .....                                   | 167 |



|                                                                            |     |
|----------------------------------------------------------------------------|-----|
| 29.9.3 Point Focusing Horn Lens Antenna.....                               | 167 |
| 29.9.4 Feed Irradiation Lens Antennas.....                                 | 169 |
| 29.10 Corrugated Horn and Multimode Horn Antennas.....                     | 169 |
| 30 Circular Polarization Antenna .....                                     | 172 |
| 30.1 Circular Polarization Horn Antenna .....                              | 172 |
| 30.1.1 Circular Polarization Horn Antenna (Conical Horn Series) .....      | 172 |
| 30.1.2 Dual Circular Polarization Horn Antenna (Conical Horn Series) ..... | 174 |
| 30.1.3 Dual Circular Polarization Horn Antenna .....                       | 175 |
| 30.1.4 Dual Circular Polarization Horn Antenna .....                       | 176 |
| 30.1.5 Broadband Circular Polarization Horn Antenna .....                  | 177 |
| 30.1.6 Broadband Dual Circular Polarization Horn Antenna .....             | 177 |
| 30.2 Spiral Antenna .....                                                  | 178 |
| 30.3 Planar Spiral Antenna .....                                           | 179 |
| 30.4 Quadrifilar Helix Antenna .....                                       | 180 |
| 30.5 Log-spiral antenna .....                                              | 181 |
| 31 Cassegrain Antenna .....                                                | 182 |
| 31.1 Linear Polarization Cassegrain Antenna.....                           | 182 |
| 33 Other Antennas .....                                                    | 187 |

## Section 4

## Technical Reference

|                                                   |     |
|---------------------------------------------------|-----|
| 34 Rectangular Waveguide Tubing Information ..... | 188 |
| 35 Flange Information .....                       | 190 |
| Revision History .....                            | 192 |

# 1 Straight Waveguide

Vector Telecom offers a standard product line of straight waveguides covering waveguide sizes WR3 thru WR2300, double ridged straight waveguide and inflatable straight waveguide. We also supply other special configurations to meet customer's specific requirements. For more information please contact us and discuss your needs with our sales engineer.



## 1.1 Straight Waveguide



01

Straight  
Waveguide



### 【Specifications】

| Model No*  | Freq Range | VSWR  | WG Type |        | Flange  | Material |
|------------|------------|-------|---------|--------|---------|----------|
|            | (GHz)      | (Max) | IEC     | EIA    |         |          |
| VT3WAL...  | 0.32-0.49  | 1.05  | R3      | WR2300 | FDP/FDM | Al       |
| VT4WAL...  | 0.35-0.53  | 1.05  | R4      | WR2100 | FDP/FDM | Al       |
| VT5WAL...  | 0.41-0.62  | 1.05  | R5      | WR1800 | FDP/FDM | Al       |
| VT6WAL...  | 0.49-0.75  | 1.05  | R6      | WR1500 | FDP/FDM | Al       |
| VT8WAL...  | 0.64-0.98  | 1.05  | R8      | WR1150 | FDP/FDM | Al       |
| VT9WAL...  | 0.75-1.15  | 1.05  | R9      | WR975  | FDP/FDM | Al       |
| VT12WAL... | 0.96-1.46  | 1.05  | R12     | WR770  | FDP/FDM | Al       |
| VT14WAL... | 1.13-1.73  | 1.05  | R14     | WR650  | FDP/FDM | Al       |
| VT18WAL... | 1.45-2.20  | 1.05  | R18     | WR510  | FDP/FDM | Al       |
| VT22WAL... | 1.72-2.61  | 1.05  | R22     | WR430  | FDP/FDM | Al       |
| VT26WAL... | 2.17-3.30  | 1.05  | R26     | WR340  | FDP/FDM | Al       |



## Section 1

### Waveguide Components

# 01

## Straight Waveguide



|              |            |      |       |       |         |    |
|--------------|------------|------|-------|-------|---------|----|
| VT32WAL...   | 2.60-3.95  | 1.05 | R32   | WR284 | FDP/FDM | Al |
| VT40WAL...   | 3.22-4.90  | 1.05 | R40   | WR229 | FDP/FDM | Al |
| VT48WAL...   | 3.94-5.99  | 1.05 | R48   | WR187 | FDP/FDM | Al |
| VT58WAL...   | 4.64-7.05  | 1.05 | R58   | WR159 | FDP/FDM | Al |
| VT70WAL...   | 5.38-8.17  | 1.10 | R70   | WR137 | FDP/FDM | Cu |
| VT84WAL...   | 6.57-9.99  | 1.10 | R84   | WR112 | FBP/FBM | Cu |
| VT100WAL...  | 8.20-12.40 | 1.10 | R100  | WR90  | FBP/FBM | Cu |
| VT120WAL...  | 9.84-15.0  | 1.10 | R120  | WR75  | FBP/FBM | Cu |
| VT140WAL...  | 11.9-18.0  | 1.10 | R140  | WR62  | FBP/FBM | Cu |
| VT180WAL...  | 14.5-22.0  | 1.10 | R180  | WR51  | FBP/FBM | Cu |
| VT220WAL...  | 17.6-26.7  | 1.10 | R220  | WR42  | FBP/FBM | Cu |
| VT260WAL...  | 21.7-33.0  | 1.10 | R260  | WR34  | FBP/FBM | Cu |
| VT320WAL...  | 26.5-40.0  | 1.10 | R320  | WR28  | FBP/FBM | Cu |
| VT400WAL...  | 32.9-50.1  | 1.15 | R400  | WR22  | FUGP    | Cu |
| VT500WAL...  | 39.2-59.6  | 1.15 | R500  | WR19  | FUGP    | Cu |
| VT620WAL...  | 49.8-75.8  | 1.15 | R620  | WR15  | FUGP    | Cu |
| VT740WAL...  | 60.5-91.9  | 1.15 | R740  | WR12  | FUGP    | Cu |
| VT900WAL...  | 73.8-110   | 1.15 | R900  | WR10  | FUGP    | Cu |
| VT1200WAL... | 92.2-140   | -    | R1200 | WR8   | FUGP    | Cu |
| VT1400WAL... | 113-173    | -    | R1400 | WR7   | FUGP    | Cu |
| VT1800WAL... | 145-220    | -    | R1800 | WR5   | FUGP    | Cu |
| VT2200WAL... | 172-261    | -    | R2200 | WR4   | FUGP    | Cu |
| VT2600WAL... | 217-330    | -    | R2600 | WR3   | FUGP    | Cu |

*\*Indicates Model Number. See Ordering Information for complete part number.*

### 【Ordering Information】

**Example Part No:** VT 100 WAL 200 P M C

Vector Telcom \_\_\_\_\_  
 WG Type: R100 \_\_\_\_\_  
 Product Type: Straight WG \_\_\_\_\_

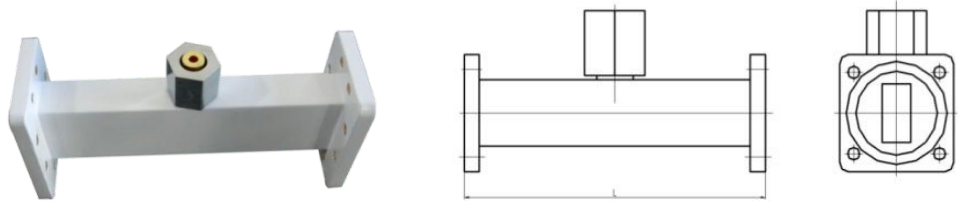
Material: A=Aluminum C=Copper  
 Flange 2 Type: M=FBM100  
 Flange 1 Type: P=FBP100  
 Straight WG Length: L=200mm

- Flange type: Multiple types available - see VT Flanges page
- Finish: Corrosion protection plus black top coat





### 1.3 Inflatable Straight Waveguide

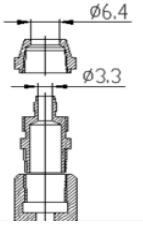
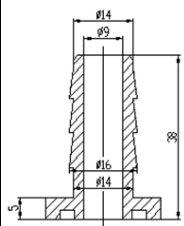
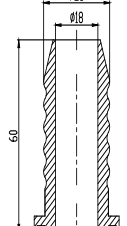
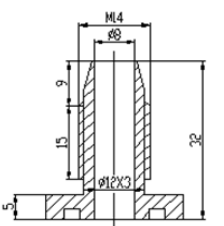


#### 【Specifications】

| Model No*    | Freq Range | VSWR  | Pressure | WG Type |        | Flange  | Material |
|--------------|------------|-------|----------|---------|--------|---------|----------|
|              | (GHz)      | (Max) | (Mpa)    | IEC     | EIA    |         |          |
| VT3QWAL...   | 0.32-0.49  | 1.05  | 0.1      | R3      | WR2300 | FDP/FDM | Al       |
| VT4QWAL...   | 0.35-0.53  | 1.05  | 0.1      | R4      | WR2100 | FDP/FDM | Al       |
| VT5QWAL...   | 0.41-0.62  | 1.05  | 0.1      | R5      | WR1800 | FDP/FDM | Al       |
| VT6QWAL...   | 0.49-0.75  | 1.05  | 0.1      | R6      | WR1500 | FDP/FDM | Al       |
| VT8QWAL...   | 0.64-0.98  | 1.05  | 0.1      | R8      | WR1150 | FDP/FDM | Al       |
| VT9QWAL...   | 0.75-1.15  | 1.05  | 0.1      | R9      | WR975  | FDP/FDM | Al       |
| VT12QWAL...  | 0.96-1.46  | 1.05  | 0.1      | R12     | WR770  | FDP/FDM | Al       |
| VT14QWAL...  | 1.13-1.73  | 1.05  | 0.1      | R14     | WR650  | FDP/FDM | Al       |
| VT18QWAL...  | 1.45-2.20  | 1.05  | 0.1      | R18     | WR510  | FDP/FDM | Al       |
| VT22QWAL...  | 1.72-2.61  | 1.05  | 0.1      | R22     | WR430  | FDP/FDM | Al       |
| VT26QWAL...  | 2.17-3.30  | 1.05  | 0.1      | R26     | WR340  | FDP/FDM | Al       |
| VT32QWAL...  | 2.60-3.95  | 1.05  | 0.1      | R32     | WR284  | FDP/FDM | Al       |
| VT40QWAL...  | 3.22-4.90  | 1.05  | 0.1      | R40     | WR229  | FDP/FDM | Al       |
| VT48QWAL...  | 3.94-5.99  | 1.05  | 0.1      | R48     | WR187  | FDP/FDM | Al       |
| VT58QWAL...  | 4.64-7.05  | 1.05  | 0.1      | R58     | WR159  | FDP/FDM | Al       |
| VT70QWAL...  | 5.38-8.17  | 1.10  | 0.1      | R70     | WR137  | FDP/FDM | Cu       |
| VT84QWAL...  | 6.57-9.99  | 1.10  | 0.1      | R84     | WR112  | FBP/FBM | Cu       |
| VT100QWAL... | 8.20-12.40 | 1.10  | 0.1      | R100    | WR90   | FBP/FBM | Cu       |
| VT120QWAL... | 9.84-15.0  | 1.10  | 0.1      | R120    | WR75   | FBP/FBM | Cu       |
| VT140QWAL... | 11.9-18.0  | 1.10  | 0.2      | R140    | WR62   | FBP/FBM | Cu       |
| VT180QWAL... | 14.5-22.0  | 1.10  | 0.2      | R180    | WR51   | FBP/FBM | Cu       |
| VT220QWAL... | 17.6-26.7  | 1.10  | 0.2      | R220    | WR42   | FBP/FBM | Cu       |
| VT260QWAL... | 21.7-33.0  | 1.10  | 0.2      | R260    | WR34   | FBP/FBM | Cu       |
| VT320QWAL... | 26.5-40.0  | 1.10  | 0.2      | R320    | WR28   | FBP/FBM | Cu       |

\*Indicates Model Number. See Ordering Information for complete part number.

## 【Inflatable Mouth Specifications】

| Name                                   | Self-Locking Type                                                                 | Agnail Clamp Type                                                                  | Pagoda Clamp Type                                                                   | Thread Type                                                                         |
|----------------------------------------|-----------------------------------------------------------------------------------|------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|
| Outline Drawings                       |  |  |  |  |
| Inner Diameter (mm)                    | φ3.3                                                                              | φ9                                                                                 | φ18                                                                                 | φ8                                                                                  |
| Outer Diameter (mm)                    | φ6.4                                                                              | φ16                                                                                | φ28                                                                                 | M14                                                                                 |
| Inner Diameter of Inflatable Tube (mm) | φ4                                                                                | φ12                                                                                | φ26                                                                                 | φ10                                                                                 |
| Outer Diameter of Inflatable Tube (mm) | φ6                                                                                | φ16                                                                                | φ30                                                                                 | φ14                                                                                 |

## 【Ordering Information】

**Example Part No:** VT 120 QWAL 100 P M C

Vector Telecom ————

WG Type: R120 ————

Product Type: Inflatable Straight WG ————

Material: Brass ————

Flange 2 Type: FBM100 ————

Flange 1 Type: FBP100 ————

Length: L=100mm ————

- Flange type: Multiple types available - see VT Flanges page
- Finish: Corrosion protection plus black top coat

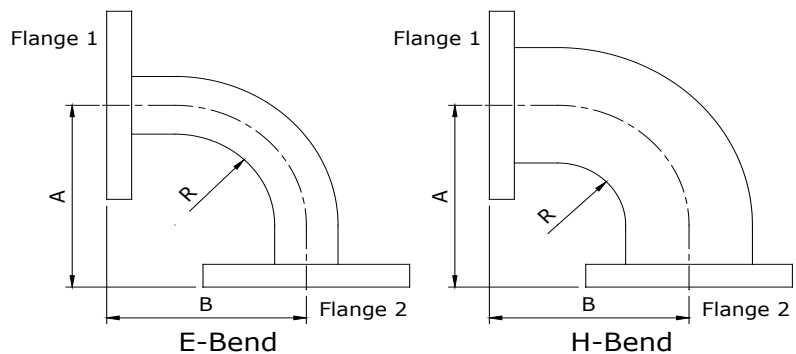


## 2 Waveguide Bend

Vector Telecom offers a standard product line of E-bends and H-bends covering waveguide sizes WR10 thru WR430. Multi-degrees, additional sizes, configurations and combinations are available on request.



### 2.1 Waveguide Bend



#### 【Specifications】

| Model No*  | Freq Range<br>(GHz) | VSWR<br>(Max) | Std Dimensions<br>A×B (mm)** | WG Type |       | Flange  | Material |
|------------|---------------------|---------------|------------------------------|---------|-------|---------|----------|
|            |                     |               |                              | IEC     | EIA   |         |          |
| VT22WEB... | 1.72-2.61           | 1.10          | 150X150                      | R22     | WR430 | FDP/FDM | Al       |
| VT22WHB... | 1.72-2.61           | 1.10          | 150X150                      | R22     | WR430 | FDP/FDM | Al       |
| VT26WEB... | 2.17-3.30           | 1.10          | 100X100                      | R26     | WR340 | FDP/FDM | Al       |
| VT26WHB... | 2.17-3.30           | 1.10          | 180X180                      | R26     | WR340 | FDP/FDM | Al       |
| VT32WEB... | 2.60-3.95           | 1.10          | 100X100                      | R32     | WR284 | FDP/FDM | Al       |
| VT32WHB... | 2.60-3.95           | 1.10          | 150X150                      | R32     | WR284 | FDP/FDM | Al       |
| VT40WEB... | 3.22-4.90           | 1.10          | 80X80                        | R40     | WR229 | FDP/FDM | Al       |
| VT40WHB... | 3.22-4.90           | 1.10          | 100X100                      | R40     | WR229 | FDP/FDM | Al       |
| VT48WEB... | 3.94-5.99           | 1.10          | 80X80                        | R48     | WR187 | FDP/FDM | Al       |
| VT48WHB... | 3.94-5.99           | 1.10          | 80X80                        | R48     | WR187 | FDP/FDM | Al       |
| VT58WEB... | 4.64-7.05           | 1.10          | 80X80                        | R58     | WR159 | FDP/FDM | Al       |
| VT58WHB... | 4.64-7.05           | 1.10          | 80X80                        | R58     | WR159 | FDP/FDM | Al       |
| VT70WEB... | 5.38-8.17           | 1.10          | 50X50                        | R70     | WR137 | FDP/FDM | Cu       |
| VT70WHB... | 5.38-8.17           | 1.10          | 70X70                        | R70     | WR137 | FDP/FDM | Cu       |

## Section 1

### Waveguide Components

# 02

## Waveguide Bend



|              |            |      |       |       |       |         |    |
|--------------|------------|------|-------|-------|-------|---------|----|
| VT84WEB...   | 6.57-9.99  | 1.10 | 50X50 | R84   | WR112 | FBP/FBM | Cu |
| VT84WHB...   | 6.57-9.99  | 1.10 | 70X70 | R84   | WR112 | FBP/FBM | Cu |
| VT100WEB...  | 8.20-12.40 | 1.10 | 40X40 | R100  | WR90  | FBP/FBM | Cu |
| VT100WHB...  | 8.20-12.40 | 1.10 | 50X50 | R100  | WR90  | FBP/FBM | Cu |
| VT120WEB...  | 9.84-15.0  | 1.10 | 40X40 | R120  | WR75  | FBP/FBM | Cu |
| VT120WHB...  | 9.84-15.0  | 1.10 | 40X40 | R120  | WR75  | FBP/FBM | Cu |
| VT140WEB...  | 11.9-18.0  | 1.10 | 40X40 | R140  | WR62  | FBP/FBM | Cu |
| VT140WHB...  | 11.9-18.0  | 1.10 | 40X40 | R140  | WR62  | FBP/FBM | Cu |
| VT180WEB...  | 14.5-22.0  | 1.10 | 30X30 | R180  | WR51  | FBP/FBM | Cu |
| VT180WHB...  | 14.5-22.0  | 1.10 | 30X30 | R180  | WR51  | FBP/FBM | Cu |
| VT220WEB...  | 17.6-26.7  | 1.10 | 30X30 | R220  | WR42  | FBP/FBM | Cu |
| VT220WHB...  | 17.6-26.7  | 1.10 | 30X30 | R220  | WR42  | FBP/FBM | Cu |
| VT260WEB...  | 21.7-33.0  | 1.15 | 30X30 | R260  | WR34  | FBP/FBM | Cu |
| VT260WHB...  | 21.7-33.0  | 1.15 | 30X30 | R260  | WR34  | FBP/FBM | Cu |
| VT320WEB...  | 26.5-40.0  | 1.15 | 30X30 | R320  | WR28  | FBP/FBM | Cu |
| VT320WHB...  | 26.5-40.0  | 1.15 | 30X30 | R320  | WR28  | FBP/FBM | Cu |
| VT400WEB...  | 32.9-50.1  | 1.15 | 30X30 | R400  | WR22  | FUGP    | Cu |
| VT400WHB...  | 32.9-50.1  | 1.15 | 30X30 | R400  | WR22  | FUGP    | Cu |
| VT500WEB...  | 39.2-59.6  | 1.15 | 30X30 | R500  | WR19  | FUGP    | Cu |
| VT500WHB...  | 39.2-59.6  | 1.15 | 30X30 | R500  | WR19  | FUGP    | Cu |
| VT620WEB...  | 49.8-75.8  | 1.15 | 30X30 | R620  | WR15  | FUGP    | Cu |
| VT620WHB...  | 49.8-75.8  | 1.15 | 30X30 | R620  | WR15  | FUGP    | Cu |
| VT740WEB...  | 60.5-91.9  | 1.15 | 30X30 | R740  | WR12  | FUGP    | Cu |
| VT740WHB...  | 60.5-91.9  | 1.15 | 30X30 | R740  | WR12  | FUGP    | Cu |
| VT900WEB...  | 73.8-110   | 1.15 | 30X30 | R900  | WR10  | FUGP    | Cu |
| VT900WHB...  | 73.8-110   | 1.15 | 30X30 | R900  | WR10  | FUGP    | Cu |
| VT1200WEB... | 92.2-140   | -    | 20X20 | R1200 | WR8   | FUGP    | Cu |
| VT1200WHB... | 92.2-140   | -    | 20X20 | R1200 | WR8   | FUGP    | Cu |
| VT1400WEB... | 113-173    | -    | 20X20 | R1400 | WR7   | FUGP    | Cu |
| VT1400WHB... | 113-173    | -    | 20X20 | R1400 | WR7   | FUGP    | Cu |
| VT1800WEB... | 145-220    | -    | 20X20 | R1800 | WR5   | FUGP    | Cu |
| VT1800WHB... | 145-220    | -    | 20X20 | R1800 | WR5   | FUGP    | Cu |
| VT2200WEB... | 172-261    | -    | 20X20 | R2200 | WR4   | FUGP    | Cu |



| Model No*    | Freq Range<br>(GHz) | VSWR<br>(Max) | Std Dimensions<br>A×B (mm)** | WG Type |     | Flange | Material |
|--------------|---------------------|---------------|------------------------------|---------|-----|--------|----------|
|              |                     |               |                              | IEC     | EIA |        |          |
| VT2200WHB... | 172-261             | -             | 20X20                        | R2200   | WR4 | FUGP   | Cu       |
| VT2600WEB... | 217-330             | -             | 20X20                        | R2600   | WR3 | FUGP   | Cu       |
| VT2600WHB... | 217-330             | -             | 20X20                        | R2600   | WR3 | FUGP   | Cu       |

\*Indicates Model Number. See Ordering Information for complete part number.

\*\*Legs (A,B) available in other sizes. Consult sales engineer for more information.

### 【Ordering Information】

**Example Part No:** VT 100 WEB 40X40 P M A 45

Vector Telecom ———

WG Type: R100 ———

Product Type: WEB: E-bend, WHB: H-bend ———

WG Bend Dimensions: A×B=40X40mm ———

Bending Angle: 45° (90° as default) ———

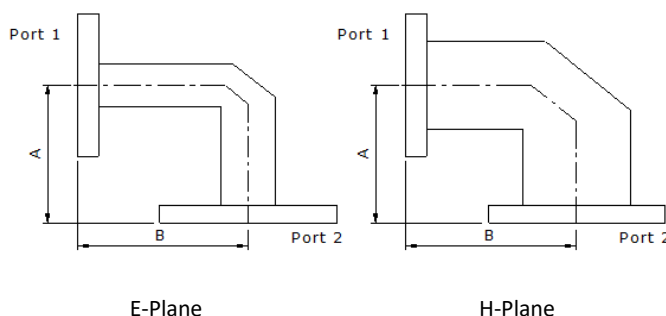
Material: A=Aluminum C=Copper ———

Flange 2 Type: M=FBM100 ———

Flange 1 Type: P=FBP100 ———

- Flange type: Multiple types available - see VT Flanges page
- Finish: Corrosion protection plus black top coat
- Bends other than 90 available on request

## 2.2 Waveguide Miter Bend



### 【Specifications】

## Section 1

### Waveguide Components

# 02

## Waveguide Bend



| Model No*      | Freq Range (GHz) | Operating Bandwidth | VSWR | Std Dimensions A×B(mm)** | WG Type |        | Flange  | Material |
|----------------|------------------|---------------------|------|--------------------------|---------|--------|---------|----------|
|                |                  |                     |      |                          | IEC     | EIA    |         |          |
| VT3WTEBA×B...  | 0.32-0.49        | Full band           | 1.15 | 220×220                  | R3      | WR2300 | FDP/FDM | Al       |
| VT3WTHBA×B...  | 0.32-0.49        | ≤15%                | 1.15 | 350×650                  | R4      | WR2300 | FDP/FDM | Al       |
| VT4WTEBA×B...  | 0.35-0.53        | Full band           | 1.15 | 200×200                  | R5      | WR2100 | FDP/FDM | Al       |
| VT4WTHBA×B...  | 0.35-0.53        | ≤15%                | 1.15 | 330×330                  | R6      | WR2100 | FDP/FDM | Al       |
| VT5WTEBA×B...  | 0.41-0.62        | Full band           | 1.15 | 180×180                  | R8      | WR1800 | FDP/FDM | Al       |
| VT5WTHBA×B...  | 0.41-0.62        | ≤15%                | 1.15 | 300×300                  | R9      | WR1800 | FDP/FDM | Al       |
| VT6WTEBA×B...  | 0.49-0.75        | Full band           | 1.15 | 150×150                  | R12     | WR1500 | FDP/FDM | Al       |
| VT6WTHBA×B...  | 0.49-0.75        | ≤15%                | 1.15 | 240×240                  | R14     | WR1500 | FDP/FDM | Al       |
| VT8WTEBA×B...  | 0.64-0.98        | Full band           | 1.15 | 130×130                  | R18     | WR1150 | FDP/FDM | Al       |
| VT8WTHBA×B...  | 0.64-0.98        | ≤15%                | 1.15 | 220×220                  | R22     | WR1150 | FDP/FDM | Al       |
| VT9WTEBA×B...  | 0.75-1.15        | Full band           | 1.15 | 120×120                  | R26     | WR975  | FDP/FDM | Al       |
| VT9WTHBA×B...  | 0.75-1.15        | ≤15%                | 1.15 | 200×200                  | R40     | WR975  | FDP/FDM | Al       |
| VT12WTEBA×B... | 0.96-1.46        | Full band           | 1.15 | 110×110                  | R48     | WR770  | FDP/FDM | Al       |
| VT12WTHBA×B... | 0.96-1.46        | ≤15%                | 1.15 | 160×160                  | R3      | WR770  | FDP/FDM | Al       |
| VT14WTEBA×B... | 1.13-1.73        | Full band           | 1.15 | 100×100                  | R4      | WR650  | FDP/FDM | Al       |
| VT14WTHBA×B... | 1.13-1.73        | ≤15%                | 1.15 | 140×140                  | R5      | WR650  | FDP/FDM | Al       |
| VT18WTEBA×B... | 1.45-2.20        | Full band           | 1.15 | 90×90                    | R6      | WR510  | FDP/FDM | Al       |
| VT18WTHBA×B... | 1.45-2.20        | ≤15%                | 1.15 | 120×120                  | R8      | WR510  | FDP/FDM | Al       |
| VT22WTEBA×B... | 1.72-2.61        | Full band           | 1.15 | 70×70                    | R22     | WR430  | FDP/FDM | Al       |
| VT22WTHBA×B... | 1.72-2.61        | ≤15%                | 1.15 | 100×100                  | R22     | WR430  | FDP/FDM | Al       |
| VT26WTEBA×B... | 2.17-3.30        | Full band           | 1.15 | 70×70                    | R26     | WR340  | FDP/FDM | Al       |
| VT26WTHBA×B... | 2.17-3.30        | ≤15%                | 1.15 | 100×100                  | R26     | WR340  | FDP/FDM | Al       |
| VT32WTEBA×B... | 2.60-3.95        | Full band           | 1.15 | 60×60                    | R32     | WR284  | FDP/FDM | Al       |
| VT32WTHBA×B... | 2.60-3.95        | ≤15%                | 1.15 | 65×65                    | R32     | WR284  | FDP/FDM | Al       |
| VT40WTEBA×B... | 3.22-4.90        | Full band           | 1.15 | 45×45                    | R40     | WR229  | FDP/FDM | Al       |
| VT40WTHBA×B... | 3.22-4.90        | ≤15%                | 1.15 | 60×60                    | R40     | WR229  | FDP/FDM | Al       |
| VT48WTEBA×B... | 3.94-5.99        | Full band           | 1.15 | 45×45                    | R48     | WR187  | FDP/FDM | Al       |
| VT48WTHBA×B... | 3.94-5.99        | ≤15%                | 1.15 | 60×60                    | R48     | WR187  | FDP/FDM | Al       |
| VT58WTEBA×B... | 4.64-7.05        | Full band           | 1.15 | 40×40                    | R58     | WR159  | FDP/FDM | Al       |
| VT58WTHBA×B... | 4.64-7.05        | ≤15%                | 1.15 | 50×50                    | R58     | WR159  | FDP/FDM | Al       |
| VT40WTHBA×B... | 3.22-4.90        | ≤15%                | 1.15 | 60×60                    | R40     | WR229  | FDP/FDM | Al       |



|                 |            |           |      |        |      |       |         |    |
|-----------------|------------|-----------|------|--------|------|-------|---------|----|
| VT48WTEBA×B...  | 3.94-5.99  | Full band | 1.15 | 45×45  | R48  | WR187 | FDP/FDM | Al |
| VT48WTHBA×B...  | 3.94-5.99  | ≤15%      | 1.15 | 60×60  | R48  | WR187 | FDP/FDM | Al |
| VT58WTEBA×B...  | 4.64-7.05  | Full band | 1.15 | 40×40  | R58  | WR159 | FDP/FDM | Al |
| VT58WTHBA×B...  | 4.64-7.05  | ≤15%      | 1.15 | 50×50  | R58  | WR159 | FDP/FDM | Al |
| VT70WTEBA×B...  | 5.38-8.17  | Full band | 1.15 | 35×35  | R70  | WR137 | FDP/FDM | Cu |
| VT84WTEBA×B...  | 6.57-9.99  | Full band | 1.15 | 30×30  | R84  | WR112 | FBP/FBM | Cu |
| VT84WTHBA×B...  | 6.57-9.99  | ≤15%      | 1.15 | 40×40  | R84  | WR112 | FBP/FBM | Cu |
| VT100WTEBA×B... | 8.20-12.40 | Full band | 1.15 | 25×25  | R100 | WR90  | FBP/FBM | Cu |
| VT100WTHBA×B... | 8.20-12.4  | ≤15%      | 1.15 | 30×30  | R100 | WR90  | FBP/FBM | Cu |
| VT120WTEBA×B... | 9.84-15.0  | Full band | 1.15 | 25×25  | R120 | WR75  | FBP/FBM | Cu |
| VT120WTHBA×B... | 9.84-15.0  | ≤15%      | 1.15 | 30×30  | R120 | WR75  | FBP/FBM | Cu |
| VT140WTEBA×B... | 11.9-18.0  | Full band | 1.15 | 20×20  | R140 | WR62  | FBP/FBM | Cu |
| VT140WTHBA×B... | 11.9-18.0  | ≤15%      | 1.15 | 25×25  | R140 | WR62  | FBP/FBM | Cu |
| VT180WTEBA×B... | 14.5-22.0  | Full band | 1.15 | 20 X20 | R180 | WR51  | FBP/FBM | Cu |
| VT180WTHBA×B... | 14.5-22.0  | ≤15%      | 1.15 | 25 X25 | R180 | WR51  | FBP/FBM | Cu |
| VT220WTEBA×B... | 17.6-26.7  | Full band | 1.15 | 15 X15 | R220 | WR42  | FBP/FBM | Cu |
| VT220WTHBA×B... | 17.6-26.7  | ≤10%      | 1.15 | 20 X20 | R220 | WR42  | FBP/FBM | Cu |
| VT260WTEBA×B... | 21.7-33.0  | Full band | 1.15 | 15 X15 | R260 | WR34  | FBP/FBM | Cu |
| VT260WTHBA×B... | 21.7-33.0  | ≤10%      | 1.15 | 20 X20 | R260 | WR34  | FBP/FBM | Cu |
| VT320WTEBA×B... | 26.5-40.0  | Full band | 1.15 | 12 X12 | R320 | WR28  | FBP/FBM | Cu |
| VT320WTHBA×B... | 26.5-40.0  | ≤10%      | 1.15 | 18 X18 | R320 | WR28  | FBP/FBM | Cu |

\*Indicates Model Number. See Ordering Information for complete part number.

\*\*Legs (A,B) available in other sizes. Consult sales engineer for more information.

### 【Ordering Information】

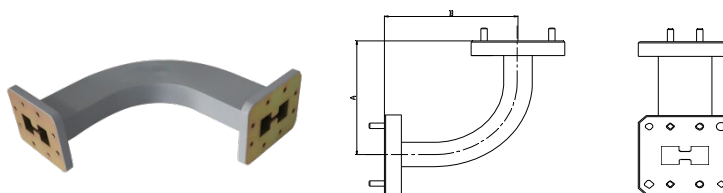
**Example Part No:** VT 100 WTEB 40X40 P M A 45

Vector Telecom —  
WG Type: R100 —  
Product Type: WTEB: Miter E-Bend, WTHB: Miter H-Bend —  
WG Bend Dimensions: AXB=40X40mm —  
Bending Angle: 45° (90° as default) —  
Material: A=AL, C=Cu —  
Flange 2 Type: M=FBM100 —  
Flange 1 Type: P=FBP100 —

- Flange type: Multiple types available - see VT Flanges page
- Finish: Corrosion protection plus black top coat
- Bends other than 90 available on request



## 2.3 Double Ridged Waveguide Bend



### 【Specifications】

| Model No*         | Freq Range<br>(GHz) | VSWR<br>(Max) | Std Dimensions A×B<br>(mm)** | WG Type | Flange | Material |
|-------------------|---------------------|---------------|------------------------------|---------|--------|----------|
|                   |                     |               |                              | IEC     |        |          |
| VT84DRWEBA×B...   | 0.84-2              | 1.25          | 150X150                      | WRD84   | FP/FM  | Al       |
| VT84DRWHBA×B...   | 0.84-2              | 1.25          | 200X200                      | WRD84   | FP/FM  | Al       |
| VT150DRWEBA×B...  | 1.5-3.6             | 1.25          | 100X100                      | WRD150  | FP/FM  | Al       |
| VT150DRWHBA×B...  | 1.5-3.6             | 1.25          | 150X150                      | WRD150  | FP/FM  | Al       |
| VT200DRWEBA×B...  | 2-4.8               | 1.25          | 100X100                      | WRD200  | FP/FM  | Al       |
| VT200DRWHBA×B...  | 2-4.8               | 1.25          | 150X150                      | WRD200  | FP/FM  | Al       |
| VT250DRWEBA×B...  | 2.6-7.8             | 1.25          | 100X100                      | WRD250  | FP/FM  | Al       |
| VT250DRWHBA×B...  | 2.6-7.8             | 1.25          | 150X150                      | WRD250  | FP/FM  | Al       |
| VT350DRWEBA×B...  | 3.5-8.2             | 1.25          | 100X100                      | WRD350  | FP/FM  | Al       |
| VT350DRWHBA×B...  | 3.5-8.2             | 1.25          | 100X100                      | WRD350  | FP/FM  | Al       |
| VT475DRWEBA×B...  | 4.75-11             | 1.25          | 100X100                      | WRD475  | FP/FM  | Cu       |
| VT475DRWHBA×B...  | 4.75-11             | 1.25          | 100X100                      | WRD475  | FP/FM  | Cu       |
| VT500DRWEBA×B...  | 5-18                | 1.25          | 80X80                        | WRD500  | FP/FM  | Cu       |
| VT500DRWHBA×B...  | 5-18                | 1.25          | 80X80                        | WRD500  | FP/FM  | Cu       |
| VT580DRWEBA×B...  | 5.8-16              | 1.25          | 80X80                        | WRD580  | FP/FM  | Cu       |
| VT580DRWHBA×B...  | 5.8-16              | 1.25          | 80X80                        | WRD580  | FP/FM  | Cu       |
| VT650DRWEBA×B...  | 6.5-18              | 1.25          | 50X50                        | WRD650  | FP/FM  | Cu       |
| VT650DRWHBA×B...  | 6.5-18              | 1.25          | 50X50                        | WRD650  | FP/FM  | Cu       |
| VT750DRWEBA×B...  | 7.5-18              | 1.25          | 50X50                        | WRD750  | FP/FM  | Cu       |
| VT750DRWHBA×B...  | 7.5-18              | 1.25          | 50X50                        | WRD750  | FP/FM  | Cu       |
| VT700DRWEBA×B...  | 7-18.5              | 1.25          | 50X50                        | WRD700  | FP/FM  | Cu       |
| VT700DRWHBA×B...  | 7-18.5              | 1.25          | 50X50                        | WRD700  | FP/FM  | Cu       |
| VT1100DRWEBA×B... | 11-26.5             | 1.25          | 30X30                        | WRD1100 | FP/FM  | Cu       |
| VT1100DRWHBA×B... | 11-26.5             | 1.25          | 30X30                        | WRD1100 | FP/FM  | Cu       |
| VT1800DRWEBA×B... | 18-40               | 1.3           | 30X30                        | WRD1800 | FP/FM  | Cu       |
| VT1800DRWHBA×B... | 18-40               | 1.3           | 30X30                        | WRD1800 | FP/FM  | Cu       |

\*Indicates Model Number. See Ordering Information for complete part number.



Section 1

## Waveguide Components

# 02

## Waveguide Bend



**\*\*Legs (A,B) available in other sizes. Consult sales engineer for more information.**

### 【Ordering Information】

Example Part No: VT 100 DRWEB 40X40 P M A 45

Vector Telecom | WG Type: R100 | Product Type: (DRWEB:Doble Ridged E-Bend, DRWHB:Doble Ridged H-Bend) | WG Bend Dimensions:AXB=40X40mm | P | M | A | 45

Bending Angle:45° (90° as default)  
Material:A=Aluminum, C=Copper  
Flange 2 Type:FP  
Flange 1 Type:FM

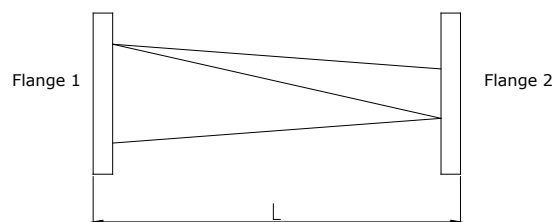
- Flange type: Multiple types available - see VT Flanges page
- Finish: Corrosion protection plus black top coat
- Bends other than 90 available on request

## 3 Waveguide Twist

Vector Telecom offers a standard product line of waveguide twist covering waveguide sizes WR10 thru WR430 and Double Ridged. Twist angle, twist direction and flange types can be custom made as per customer's specific requirements.



### 3.1 Waveguide Twist



#### 【Specifications】

| Model No*   | Freq Range<br>(GHz) | VSWR<br>(Max) | Std Length<br>(mm) | Min Length<br>(mm) | WG Type |       | Flange  | Material |
|-------------|---------------------|---------------|--------------------|--------------------|---------|-------|---------|----------|
|             |                     |               |                    |                    | IEC     | EIA   |         |          |
| VT22WTA...  | 1.72-2.61           | 1.10          | 400                | 150                | R22     | WR430 | FDP/FDM | Al       |
| VT26WTA...  | 2.17-3.30           | 1.10          | 400                | 140                | R26     | WR340 | FDP/FDM | Al       |
| VT32WTA...  | 2.60-3.95           | 1.10          | 300                | 120                | R32     | WR284 | FDP/FDM | Al       |
| VT40WTA...  | 3.22-4.90           | 1.10          | 200                | 90                 | R40     | WR229 | FDP/FDM | Al       |
| VT48WTA...  | 3.94-5.99           | 1.10          | 200                | 70                 | R48     | WR187 | FDP/FDM | Al       |
| VT58WTA...  | 4.64-7.05           | 1.10          | 200                | 70                 | R58     | WR159 | FDP/FDM | Al       |
| VT70WTA...  | 5.38-8.17           | 1.10          | 100                | 60                 | R70     | WR137 | FDP/FDM | Cu       |
| VT84WTA...  | 6.57-9.99           | 1.10          | 100                | 50                 | R84     | WR112 | FBP/FBM | Cu       |
| VT100WTA... | 8.20-12.40          | 1.10          | 100                | 45                 | R100    | WR90  | FBP/FBM | Cu       |
| VT120WTA... | 9.84-15.0           | 1.10          | 100                | 40                 | R120    | WR75  | FBP/FBM | Cu       |
| VT140WTA... | 11.9-18.0           | 1.10          | 100                | 40                 | R140    | WR62  | FBP/FBM | Cu       |
| VT180WTA... | 14.5-22.0           | 1.10          | 60                 | 35                 | R180    | WR51  | FBP/FBM | Cu       |
| VT220WTA... | 17.6-26.7           | 1.10          | 60                 | 35                 | R220    | WR42  | FBP/FBM | Cu       |
| VT260WTA... | 21.7-33.0           | 1.10          | 60                 | 35                 | R260    | WR34  | FBP/FBM | Cu       |
| VT320WTA... | 26.5-40.0           | 1.10          | 50                 | 30                 | R320    | WR28  | FBP/FBM | Cu       |
| VT400WTA... | 32.9-50.1           | 1.15          | 50                 | 30                 | R400    | WR22  | FUGP    | Cu       |
| VT500WTA... | 39.2-59.6           | 1.15          | 50                 | 30                 | R500    | WR19  | FUGP    | Cu       |
| VT620WTA... | 49.8-75.8           | 1.15          | 50                 | 25                 | R620    | WR15  | FUGP    | Cu       |
| VT740WTA... | 60.5-91.9           | 1.15          | 50                 | 25                 | R740    | WR12  | FUGP    | Cu       |
| VT900WTA... | 73.8-110            | 1.15          | 50                 | 25                 | R900    | WR10  | FUGP    | Cu       |





\*Indicates Model Number. See Ordering Information for complete part number.

## 【Ordering Information】

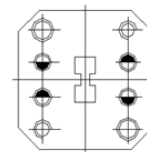
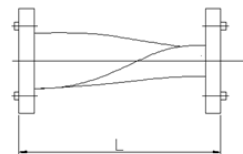
**Example Part No:** VT 100 WTA 100 P M A 45

Vector Telecom ————  
WG Type: R100 ————  
Production Type: WG Twist ————  
Twist WG Length: L=100mm ————

Twisting Angle: 45° (90° as default)  
Material: A=Aluminum C=Copper  
Flange 2 Type: M=FBM100  
Flange 1 Type: P=FBP100

- Flange type: Multiple types available - see VT Flanges page
- Finish: Corrosion protection plus black top coat
- Twist angle other than 90 available on request
- Twist direction option of VT unless otherwise specified

## 3.2 Double Ridged Waveguide Twist



## 【Specifications】

| Model No*      | Freq Range<br>(GHz) | VSWR<br>(Max) | Std Length<br>(mm) | WG Type |         | Flange | Material |
|----------------|---------------------|---------------|--------------------|---------|---------|--------|----------|
|                |                     |               |                    | IEC     | EIA     |        |          |
| VT84DRWTA...   | 0.84-2              | 1.25          | 500                | R84     | WRD84   | FP/FM  | Al       |
| VT150DRWTA...  | 1.5-3.6             | 1.25          | 400                | R150    | WRD150  | FP/FM  | Al       |
| VT200DRWTA...  | 2-4.8               | 1.25          | 400                | R200    | WRD200  | FP/FM  | Al       |
| VT250DRWTA...  | 2.6-7.8             | 1.25          | 300                | R250    | WRD250  | FP/FM  | Al       |
| VT350DRWTA...  | 3.5-8.2             | 1.25          | 300                | R350    | WRD350  | FP/FM  | Al       |
| VT475DRWTA...  | 4.75-11             | 1.25          | 300                | R475    | WRD475  | FP/FM  | Cu       |
| VT500DRWTA...  | 5-18                | 1.25          | 200                | R500    | WRD500  | FP/FM  | Cu       |
| VT580DRWTA...  | 5.8-16              | 1.25          | 200                | R580    | WRD580  | FP/FM  | Cu       |
| VT650DRWTA...  | 6.5-18              | 1.25          | 200                | R650    | WRD650  | FP/FM  | Cu       |
| VT750DRWTA...  | 7.5-18              | 1.25          | 200                | R750    | WRD750  | FP/FM  | Cu       |
| VT700DRWTA...  | 7-18.5              | 1.25          | 200                | R700    | WRD700  | FP/FM  | Cu       |
| VT1100DRWTA... | 11-26.5             | 1.25          | 150                | R1100   | WRD1100 | FP/FM  | Cu       |
| VT1800DRWTA... | 18-40               | 1.3           | 80                 | R1800   | WRD1800 | FP/FM  | Cu       |

*\*Indicates Model Number. See Ordering Information for complete part number.*

## 【Ordering Information】

**Example Part No:** VT 650 DRWTA 200 P M C

Vector Telecom ——— Material: Brass

WG Type: WRD650 ——— Flange 2 Type: FP

Product Type: Double Ridged WG Twist ——— Flange 1 Type: FM

————— Length: L=200mm

- Flange type: Multiple types available - see VT Flanges page
- Finish: Corrosion protection plus black top coat
- Twist angle other than 90 available on request
- Twist direction option of VT unless otherwise specified

# 03

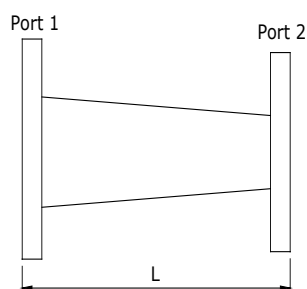
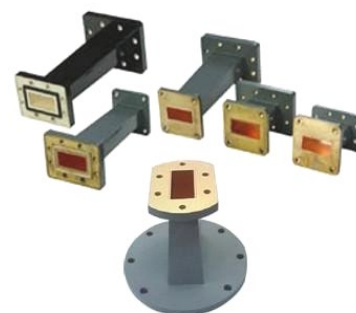
## Waveguide Twist





## 4 Waveguide Transition

Vector Telecom manufactures a wide variety of waveguide transitions ranging from standard rectangular waveguide transitions in overlapping bands to custom transitions spanning multiple bands. Additional sizes, extended range, and custom design configurations are available on request.



### 4.1 Waveguide Transitions in Overlapping Bands

#### 【Specifications】

| Model No*   | Freq Range | VSWR  | Length | Port 1 WG Type |       | Port 2 WG Type |       | Flange  | Material |
|-------------|------------|-------|--------|----------------|-------|----------------|-------|---------|----------|
|             | (GHz)      | (Max) | (mm)   | IEC            | EIA   | IEC            | EIA   |         |          |
| VT34WA...   | 0.35-0.49  | 1.10  | 1000   | R3             | WR230 | R4             | WR210 | FDP/FDM | Al       |
| VT45WA...   | 0.41-0.53  | 1.10  | 1000   | R4             | WR210 | R5             | WR180 | FDP/FDM | Al       |
| VT56WA...   | 0.49-0.62  | 1.10  | 900    | R5             | WR180 | R6             | WR150 | FDP/FDM | Al       |
| VT68WA...   | 0.64-0.75  | 1.10  | 800    | R6             | WR150 | R8             | WR110 | FDP/FDM | Al       |
| VT89WA...   | 0.75-0.98  | 1.10  | 600    | R8             | WR110 | R9             | WR975 | FDP/FDM | Al       |
| VT912WA...  | 0.96-1.15  | 1.15  | 200    | R9             | WR975 | R12            | WR770 | FDP     | Al       |
| VT1214WA... | 1.13-1.46  | 1.15  | 200    | R12            | WR770 | R14            | WR650 | FDP     | Al       |
| VT1418WA... | 1.45-1.73  | 1.15  | 200    | R14            | WR650 | R18            | WR510 | FDP     | Al       |
| VT1822WA... | 1.72-2.20  | 1.10  | 200    | R18            | WR510 | R22            | WR430 | FDP     | Al       |
| VT2226WA... | 2.17-2.61  | 1.10  | 200    | R22            | WR430 | R26            | WR340 | FDP     | Al       |
| VT2632WA... | 2.60-3.30  | 1.10  | 200    | R26            | WR340 | R32            | WR284 | FDP     | Al       |
| VT3240WA... | 3.22-3.95  | 1.10  | 200    | R32            | WR284 | R40            | WR229 | FDP     | Al       |
| VT4048WA... | 3.94-4.90  | 1.10  | 200    | R40            | WR229 | R48            | WR187 | FDP     | Al       |



| Model No*      | Freq Range | VSWR  | Length | Port 1 WG Type |       | Port 2 WG Type |      | Flange   | Material |
|----------------|------------|-------|--------|----------------|-------|----------------|------|----------|----------|
|                | (GHz)      | (Max) | (mm)   | IEC            | EIA   | IEC            | EIA  |          |          |
| VT4858WA...    | 4.64-5.99  | 1.10  | 200    | R48            | WR187 | R58            | WR15 | FDP      | Al       |
| VT5870WA...    | 5.38-7.05  | 1.10  | 150    | R58            | WR159 | R70            | WR13 | FDP      | Al       |
| VT7084WA...    | 6.57-8.17  | 1.10  | 100    | R70            | WR137 | R84            | WR11 | FDP/FBP  | Cu       |
| VT84100WA...   | 8.20-9.99  | 1.10  | 60     | R84            | WR112 | R100           | WR90 | FBP      | Cu       |
| VT100120WA...  | 9.84-12.4  | 1.10  | 60     | R10            | WR90  | R120           | WR7  | FBP      | Cu       |
| VT120140WA...  | 11.9-15.0  | 1.10  | 50     | R10            | WR75  | R140           | WR62 | FBP      | Cu       |
| VT140180WA...  | 14.5-18.0  | 1.10  | 50     | R10            | WR62  | R180           | WR51 | FBP      | Cu       |
| VT180220WA...  | 17.6-22.0  | 1.10  | 50     | R10            | WR51  | R220           | WR42 | FBP      | Cu       |
| VT220260WA...  | 21.7-26.7  | 1.10  | 50     | R220           | WR42  | R260           | WR34 | FBP      | Cu       |
| VT260320WA...  | 26.5-33.0  | 1.10  | 50     | R260           | WR34  | R320           | WR28 | FBP      | Cu       |
| VT320400WA...  | 32.9-40.0  | 1.15  | 50     | R320           | WR28  | R400           | WR22 | FBP/FUGP | Cu       |
| VT400500WA...  | 39.2-50.1  | 1.15  | 50     | R400           | WR22  | R500           | WR19 | FUGP     | Cu       |
| VT500620WA...  | 49.8-59.6  | 1.15  | 50     | R500           | WR19  | R620           | WR15 | FUGP     | Cu       |
| VT620740WA...  | 60.5-75.8  | 1.15  | 50     | R620           | WR15  | R740           | WR12 | FUGP     | Cu       |
| VT740900WA...  | 73.8-91.9  | 1.15  | 50     | R740           | WR12  | R900           | WR10 | FUGP     | Cu       |
| VT9001200WA... | 92.2-110   | -     | 30     | R900           | WR10  | R120           | WR8  | FUGP     | Cu       |
| VT1200140W...  | 113-140    | -     | 30     | R1200          | WR8   | R140           | WR7  | FUGP     | Cu       |
| VT14001800W... | 145-173    | -     | 30     | R1400          | WR7   | R180           | WR5  | FUGP     | Cu       |
| VT18002200W... | 172-220    | -     | 30     | R1800          | WR5   | R220           | WR4  | FUGP     | Cu       |
| VT22002600W... | 217-261    | -     | 30     | R2200          | WR4   | R260           | WR3  | FUGP     | Cu       |

\*Indicates Model Number. See Ordering Information for complete part number.

## 4.2 Waveguide Transitions in Non Overlapping Bands

### [Specifications]

| Model No*   | Freq Range<br>(GHz) | Port 1 WG Type |       | Port 2 WG Type |       | Flange | Material |
|-------------|---------------------|----------------|-------|----------------|-------|--------|----------|
|             |                     | IEC            | EIA   | IEC            | EIA   |        |          |
| VT2240WA... | 3.22-4.90           | R22            | WR430 | R40            | WR229 | FDP    | Al       |
| VT2658WA... | 4.64-7.05           | R26            | WR340 | R58            | WR159 | FDP    | Al       |
| VT3270WA... | 5.38-8.17           | R32            | WR284 | R70            | WR137 | FDP    | Al       |

|               |           |      |       |      |       |           |    |
|---------------|-----------|------|-------|------|-------|-----------|----|
| VT4084WA...   | 6.57-9.99 | R40  | WR229 | R84  | WR112 | FDP/FBP   | Al |
| VT48100WA...  | 8.20-12.4 | R48  | WR187 | R100 | WR90  | FDP/FBP   | Al |
| VT58120WA...  | 9.84-15.0 | R58  | WR159 | R120 | WR75  | FDP/FBP   | Al |
| VT70140WA...  | 11.9-18.0 | R70  | WR137 | R140 | WR62  | FDP/FBP   | Al |
| VT84180WA...  | 14.5-22.0 | R84  | WR112 | R180 | WR51  | FBP       | Cu |
| VT100220WA... | 17.6-26.7 | R100 | WR90  | R220 | WR42  | FBP       | Cu |
| VT120260WA... | 21.7-33.0 | R120 | WR75  | R260 | WR34  | FBP       | Cu |
| VT140320WA... | 26.5-40.0 | R140 | WR62  | R320 | WR28  | FBP       | Cu |
| VT180400WA... | 32.9-50.1 | R180 | WR51  | R400 | WR22  | FBP/ FUGP | Cu |
| VT220500WA... | 39.2-59.6 | R220 | WR42  | R500 | WR19  | FBP/ FUGP | Cu |
| VT260620WA... | 49.8-75.8 | R260 | WR34  | R620 | WR15  | FBP/ FUGP | Cu |
| VT320740WA... | 60.5-91.9 | R320 | WR28  | R740 | WR12  | FBP/ FUGP | Cu |
| VT400900WA... | 73.8-110  | R400 | WR22  | R900 | WR10  | FUGP      | Cu |

*\*Indicates Model Number. See Ordering Information for complete part number.*

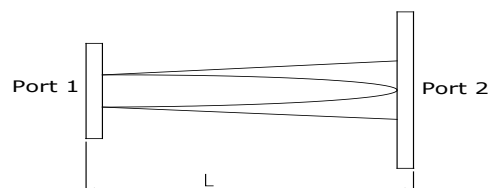
## 【Ordering Information】

**Example Part No:** VT 84100 WA 100 P M A

Vector Telecom ———  
 WG Type: R84 to R100 ———  
 Product Type: WG Transition ———  
 A=Aluminum C=Copper  
 Flange 2 Type:M=FBM100  
 Flange 1 Type:P=FBP84  
 WG Length:L=100mm

- Flange type: Multiple types available - see VT Flanges page
- Finish: Corrosion protection plus black top coat

## 4.3 Rectangular To Circular Waveguide Transition (TE10-TE11)



## 【Specifications】



| Model No*   | Freq Range<br>(GHz) | VSWR<br>(Max) | Length<br>(mm) | WG Type |       | Inner Diameter of<br>Circular Waveguide | Material |
|-------------|---------------------|---------------|----------------|---------|-------|-----------------------------------------|----------|
|             |                     |               |                | IEC     | EIA   |                                         |          |
| VT14RCA...  | 1.30-1.70           | 1.10          | 920            | R14     | WR650 | 157                                     | Al       |
| VT18RCA...  | 1.76-2.20           | 1.10          | 820            | R18     | WR510 | 114.58                                  | Al       |
| VT22RCA...  | 2.07-2.61           | 1.10          | 580            | R22     | WR430 | 97.87                                   | Al       |
| VT26RCA...  | 2.42-3.30           | 1.10          | 500            | R26     | WR340 | 83.62                                   | Al       |
| VT32RCA...  | 2.83-3.88           | 1.10          | 420            | R32     | WR284 | 71.42                                   | Al       |
| VT40RCA...  | 3.22-4.90           | 1.10          | 350            | R40     | WR229 | 51.99                                   | Al       |
| VT48RCA...  | 3.94-5.33           | 1.10          | 300            | R48     | WR187 | 44.45                                   | Al       |
| VT58RCA...  | 5.3-7.05            | 1.10          | 230            | R58     | WR159 | 38.10                                   | Al       |
| VT70RCA...  | 6.21-8.17           | 1.10          | 200            | R70     | WR137 | 32.54                                   | Al       |
| VT84RCA...  | 7.30-9.97           | 1.10          | 200            | R84     | WR112 | 27.79                                   | Al       |
| VT100RCA... | 8.50-11.6           | 1.10          | 160            | R100    | WR90  | 23.83                                   | Cu       |
| VT120RCA... | 11.6-15.0           | 1.10          | 130            | R120    | WR75  | 17.42                                   | Cu       |
| VT140RCA... | 13.4-18.0           | 1.10          | 100            | R140    | WR62  | 15.09                                   | Cu       |
| VT180RCA... | 15.9-21.8           | 1.15          | 100            | R180    | WR51  | 12.70                                   | Cu       |
| VT220RCA... | 21.2-26.7           | 1.15          | 60             | R220    | WR42  | 9.53                                    | Cu       |
| VT260RCA... | 24.3-33.0           | 1.15          | 60             | R260    | WR34  | 8.33                                    | Cu       |
| VT320RCA... | 31.8-40             | 1.15          | 50             | R320    | WR28  | 7.14                                    | Cu       |
| VT400RCA... | 36.4-49.8           | 1.15          | 50             | R400    | WR22  | 5.56                                    | Cu       |
| VT500RCA... | 46.3-59.6           | 1.15          | 40             | R500    | WR19  | 4.37                                    | Cu       |
| VT620RCA... | 56.6-75.8           | 1.15          | 30             | R620    | WR15  | 3.58                                    | Cu       |
| VT740RCA... | 63.5-87.2           | 1.15          | 30             | R740    | WR12  | 3.18                                    | Cu       |
| VT900RCA... | 84.8-112            | 1.15          | 20             | R900    | WR10  | 2.39                                    | Cu       |

*\*Indicates Model Number. See Ordering Information for complete part number.*

## 【Ordering Information】

**Example Part No:** VT 100 RCA 20 A

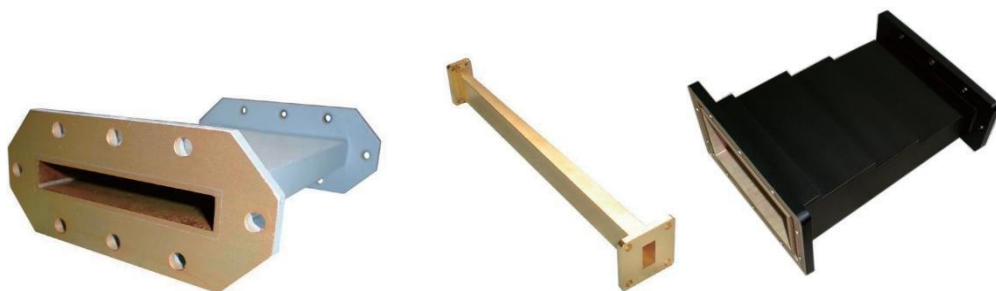
Vector Telecom ——— |  
 WG Type: R100 ——— |  
 Product Type: Rectangular to Circular WG Transition ——— |

A=Aluminum C=Copper  
 Circular WG Diameter: R=20mm

- Flange type: Multiple types available - see VT Flanges page
- Finish: Corrosion protection plus black top coat

#### 4.4 Special Transitions

Transitions spanning multiple bands, rectangular to circular waveguide transitions are available. Please consult sales engineer for more information.



# 04

## Waveguide Transition





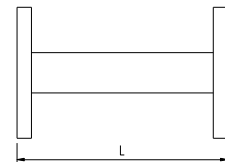
# 5 Flexible Waveguide and Elliptical Waveguide

## 5.1 Flexible Waveguide

Vector Telecom offers a standard product line of rectangular twistable-flexible waveguides. They are used in requirements where both bending and twisting of the waveguide is needed. For more information feel free to call us and discuss your needs with one of our sales engineers.



### 5.1.1 Twistable-Flexible Waveguide



#### 【Specifications】

| Model No*   | Freq Range<br>(GHz) | VSWR<br>(Max) | IL<br>(dB/m)(Max) | Min Radius      |                 | Max<br>Twist<br>(deg/m) | WG Type |       | Flange  |
|-------------|---------------------|---------------|-------------------|-----------------|-----------------|-------------------------|---------|-------|---------|
|             |                     |               |                   | E-Plane<br>(mm) | H-Plane<br>(mm) |                         | IEC     | EIA   |         |
| VT40WEL...  | 3.22-4.90           | 1.10          | 0.15              | 165             | 330             | 132                     | R40     | WR229 | FDP/FDM |
| VT48WEL...  | 3.94-5.99           | 1.10          | 0.16              | 136             | 272             | 155                     | R48     | WR187 | FDP/FDM |
| VT58WEL...  | 4.64-7.05           | 1.10          | 0.22              | 129             | 258             | 170                     | R58     | WR159 | FDP/FDM |
| VT70WEL...  | 5.38-8.17           | 1.15          | 0.25              | 102             | 204             | 108                     | R70     | WR137 | FDP/FDM |
| VT84WEL...  | 6.57-9.99           | 1.15          | 0.30              | 76              | 152             | 210                     | R84     | WR112 | FBP/FBM |
| VT100WEL... | 8.20-12.40          | 1.15          | 0.40              | 66              | 127             | 240                     | R100    | WR90  | FBP/FBM |
| VT120WEL... | 9.84-15.0           | 1.15          | 0.50              | 64              | 120             | 340                     | R120    | WR75  | FBP/FBM |
| VT140WEL... | 11.9-18.0           | 1.15          | 0.65              | 54              | 105             | 350                     | R140    | WR62  | FBP/FBM |
| VT180WEL... | 14.5-22.0           | 1.15          | 1.10              | 50              | 100             | 445                     | R180    | WR51  | FBP/FBM |
| VT220WEL... | 17.6-26.5           | 1.25          | 1.30              | 41              | 82              | 465                     | R220    | WR42  | FBP/FBM |
| VT260WEL... | 21.7-33.0           | 1.20          | 1.50              | 35              | 70              | 510                     | R260    | WR34  | FBP/FBM |
| VT320WEL... | 26.5-40.0           | 1.25          | 2.00              | 38              | 76              | 465                     | R320    | WR28  | FBP/FBM |



|             |           |      |      |    |    |     |      |      |      |
|-------------|-----------|------|------|----|----|-----|------|------|------|
| VT400WEL... | 32.9-50.1 | 1.45 | 3.00 | 38 | 76 | 530 | R400 | WR22 | FUGP |
|-------------|-----------|------|------|----|----|-----|------|------|------|

\*Indicates Model Number. See Ordering Information for complete part number.

## 5.1.2 Flexible Seamless Waveguide



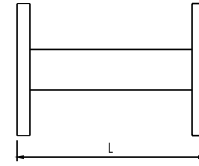
### 【Specifications】

| Model No*    | Freq Range<br>(GHz) | VSWR<br>(Max) | IL (dB/m)<br>(Max) | Pressure<br>(Mpa) | WG Type |       | Flange  |
|--------------|---------------------|---------------|--------------------|-------------------|---------|-------|---------|
|              |                     |               |                    |                   | IEC     | EIA   |         |
| VT14WWEL...  | 1.13-1.73           | 1.10          | 0.12               | 0.20              | R14     | WR650 | FDP/FDM |
| VT22WWEL...  | 1.72-2.61           | 1.10          | 0.15               | 0.20              | R22     | WR430 | FDP/FDM |
| VT26WWEL...  | 2.17-3.30           | 1.10          | 0.15               | 0.20              | R26     | WR340 | FDP/FDM |
| VT32WWEL...  | 2.60-3.95           | 1.10          | 0.08               | 0.20              | R32     | WR284 | FDP/FDM |
| VT40WWEL...  | 3.22-4.90           | 1.10          | 0.08               | 0.20              | R40     | WR229 | FDP/FDM |
| VT48WWEL...  | 3.94-5.99           | 1.10          | 0.12               | 0.20              | R48     | WR187 | FDP/FDM |
| VT58WWEL...  | 4.64-7.05           | 1.12          | 0.17               | 0.20              | R58     | WR159 | FDP/FDM |
| VT70WWEL...  | 5.38-8.17           | 1.12          | 0.21               | 0.20              | R70     | WR137 | FDP/FDM |
| VT84WWEL...  | 6.57-9.99           | 1.12          | 0.25               | 0.20              | R84     | WR112 | FBP/FBM |
| VT100WWEL... | 8.20-12.40          | 1.12          | 0.37               | 0.20              | R100    | WR90  | FBP/FBM |
| VT120WWEL... | 9.84-15.0           | 1.12          | 0.49               | 0.20              | R120    | WR75  | FBP/FBM |
| VT140WWEL... | 11.9-18.0           | 1.15          | 0.65               | 0.20              | R140    | WR62  | FBP/FBM |
| VT180WWEL... | 14.5-22.0           | 1.22          | 1.23               | 0.20              | R180    | WR51  | FBP/FBM |
| VT220WWEL... | 17.6-26.5           | 1.22          | 1.23               | 0.20              | R220    | WR42  | FBP/FBM |
| VT260WWEL... | 21.7-33.0           | 1.33          | 1.44               | 0.20              | R260    | WR34  | FBP/FBM |
| VT320WWEL... | 26.5-40.0           | 1.33          | 2.05               | 0.20              | R320    | WR28  | FBP/FBM |
| VT400WWEL... | 32.9-50.1           | 1.40          | 4.10               | 0.20              | R400    | WR22  | FUGP    |

\*Indicates Model Number. See Ordering Information for complete part number.



### 5.1.3 Double Ridged Twistable-Flexible Waveguide



#### 【Specifications】

| Model No*      | Freq Range<br>(GHz) | VSWR<br>(Max) | IL(dB/m)<br>(Max) | Min Radius |         | WG Type<br>IEC | Flange |
|----------------|---------------------|---------------|-------------------|------------|---------|----------------|--------|
|                |                     |               |                   | E-Plane    | F-Plane |                |        |
| VT580DRWEL...  | 5.8-16              | 1.25          | 1.50              | 105        | 210     | RD580          | FP/FM  |
| VT650DRWEL...  | 6.5-18              | 1.30          | 1.65              | 90         | 180     | RD650          | FP/FM  |
| VT750DRWEL...  | 7.5-18              | 1.30          | 1.65              | 85         | 170     | RD750          | FP/FM  |
| VT1800DRWEL... | 18-40               | 1.50          | 3.42              | 55         | 110     | RD1800         | FP/FM  |

\*Indicates Model Number. See Ordering Information for complete part number.

#### 【Ordering Information】

**Example Part No:** VT 100 WEL 900 P M C

Vector Telecom ————  
WG Type: R100 ————  
Product Type: WEL: Twistable-Flexible WG  
WWEL: Flexible Seamless WG  
DRWEL: Double Ridged Twistable-Flexible WG

Material: C=Copper  
Flange 2 Type: M=FBM100  
Flange 1 Type: P=FBP100  
WG Length: L=900mm

- Flange type: Multiple types available - see VT Flanges page
- Finish: Corrosion protection plus black top coat
- Std lengths (mm): 100, 200, 300, 500, 600, 900, 1000
- Supplied with Neoprene jacket in order to hold pressure, as a standard model

### 5.2 Elliptical Waveguide

Vector Telecom offers a wide selection of Elliptical Waveguide for feeder of most microwave antenna systems in 3 to 20 GHz frequency range. All elliptical waveguide is jacketed unless otherwise specified. Customized length, splice and other accessories are available upon request.

#### 【Specifications】



| Model No* | Freq Range   | VSWR | Attention                    | Peak Power | Bend Radius (E Plane) | Bend Radius (H Plane) | External Diameter | Material          |
|-----------|--------------|------|------------------------------|------------|-----------------------|-----------------------|-------------------|-------------------|
|           | (GHz)        | Max  | (dB/100 m)                   | (kW)       | Min (mm)              | Min (mm)              | (mm)              |                   |
| VT26EWAL  | 2.5-2.7      | 1.25 | 2                            | 460        | 600                   | 1500                  | 108.4*61.3        | Corrugated Copper |
| VT38EWAL  | 3.4-4.2      | 1.1  | 3.6@3.4GHz<br>2.6@4.2GHz     | 310        | 340                   | 840                   | 82.6*47.4         | Corrugated Copper |
| VT48EWAL  | 4.4-5.0      | 1.1  | 4.7@4.4GHz<br>3.8@5.0GHz     | 190        | 300                   | 750                   | 72.0*42.0         | Corrugated Copper |
| VT54EWAL  | 5.0-6.0      | 1.1  | 5.3@5.0GHz<br>4.3@6.0GHz     | 150        | 240                   | 580                   | 58.5*38.0         | Corrugated Copper |
| VT62EWAL  | 5.925-7.125  | 1.1  | 5.2@5.9GHz<br>4.5@7.1GHz     | 102        | 220                   | 550                   | 52.0*30.0         | Corrugated Copper |
| VT80EWAL  | 7.125-8.5    | 1.08 | 6.3@7.1GHz<br>5.6@8.2GHz     | 60         | 200                   | 520                   | 44.8*27.6         | Corrugated Copper |
| VT90EWAL  | 8.6-10       | 1.15 | 11.2@8.6GHz<br>9.5@10.0GHz   | 40         | 160                   | 350                   | 34.0*24.0         | Corrugated Copper |
| VT110EWAL | 10.7-11.7    | 1.15 | 10.3@10.7GHz<br>9.8@11.7GHz  | 35         | 150                   | 300                   | 33.0*21.0         | Corrugated Copper |
| VT120EWAL | 10.95-12.75  | 1.2  | 10                           | 35         | 150                   | 300                   | 29.0*15.0         | Corrugated Copper |
| VT130EWAL | 12.275-13.25 | 1.08 | 11.4@12.2GHz<br>11.2@13.2GHz | 30         | 150                   | 300                   | 29.5*14.5         | Corrugated Copper |
| VT148EWAL | 14.0-15.35   | 1.2  | 16.5@14.0GHz<br>15.5@15.4GHz | 20         | 150                   | 350                   | 25.3*16.0         | Corrugated Copper |
| VT188EWAL | 17.7-19.7    | 1.25 | 20.5@17.7GHz<br>19.0@19.7GHz | 7          | 150                   | 380                   | 23.6*16.1         | Corrugated Copper |

\*Indicates Model Number. See Ordering Information for complete part number.

## 【Ordering Information】

**Example Part No:** VT 110 EWAL 10000

Vector Telecom ———

Elliptical WG Type: 110 ———

Product Type: Elliptical WG ———

Length: L=10000mm



Vector Telecom

Section 1

**Waveguide  
Components**

05

**Flexible &  
Elliptical  
Waveguide**



- Jacket Material: black PE
- Can offer matched Elliptical to Rectangular Waveguide Adapter



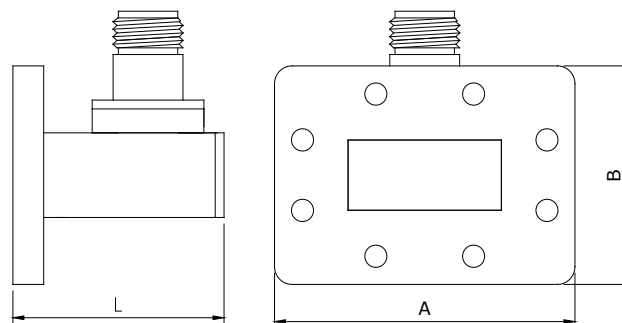


## 6 Adapters

### 6.1 Waveguide to Coaxial Adapter

#### 6.1.1 Waveguide to Coaxial Adapter (Right Angle)

Vector Telecom manufactures Waveguide to Coaxial Adapters covering a full frequency range for Rectangular Waveguides, with multiple flange and coaxial Connector types and configurations available. For more information feel free to call us and discuss your needs with one of our sales engineers.



#### Type N Waveguide to Coaxial Adapters

##### 【Specifications】

| Model No*   | Freq<br>Range (GHz) | VSWR<br>(Max) | Dimensions L*B*A<br>(mm) | WG Type |        | Flange  | Material |
|-------------|---------------------|---------------|--------------------------|---------|--------|---------|----------|
|             |                     |               |                          | IEC     | EIA    |         |          |
| VT3WCAN...  | 0.32-0.49           | 1.25          | 400*384*676              | R3      | WR2300 | FDP/FDM | Al       |
| VT4WCAN...  | 0.35-0.53           | 1.25          | 380*359*626              | R4      | WR2100 | FDP/FDM | Al       |
| VT5WCAN...  | 0.41-0.62           | 1.25          | 350*318*546              | R5      | WR1800 | FDP/FDM | Al       |
| VT6WCAN...  | 0.49-0.75           | 1.25          | 300*280*470              | R6      | WR1500 | FDP/FDM | Al       |
| VT8WCAN...  | 0.64-0.98           | 1.25          | 260*235*381              | R8      | WR1150 | FDP/FDM | Al       |
| VT9WCAN...  | 0.75-1.15           | 1.25          | 231*212*336              | R9      | WR975  | FDP/FDM | Al       |
| VT12WCAN... | 0.96-1.46           | 1.25          | 166*187*285              | R12     | WR770  | FDP/FDM | Al       |
| VT14WCAN... | 1.13-1.73           | 1.25          | 150*138*220              | R14     | WR650  | FDP/FDM | Al       |
| VT18WCAN... | 1.45-2.20           | 1.25          | 120*120*185              | R18     | WR510  | FDP/FDM | Al/Cu    |
| VT22WCAN... | 1.72-2.61           | 1.25          | 100*106*161              | R22     | WR430  | FDP/FDM | Al/Cu    |
| VT26WCAN... | 2.17-3.30           | 1.25          | 90*95*138                | R26     | WR340  | FDP/FDM | Al/Cu    |
| VT32WCAN... | 2.60-3.95           | 1.25          | 72*76*114                | R32     | WR284  | FDP/FDM | Al/Cu    |



| Model No*    | Freq Range<br>(GHz) | VSWR<br>(Max) | Dimensions<br>L*B*A (mm) | WG Type |       | Flange      | Material |
|--------------|---------------------|---------------|--------------------------|---------|-------|-------------|----------|
|              |                     |               |                          | IEC     | EIA   |             |          |
| VT40WCAN...  | 3.22-4.90           | 1.25          | 65*70*98                 | R40     | WR229 | FDP/FDM     | Al/Cu    |
| VT48WCAN...  | 3.94-5.99           | 1.25          | 54*63*89                 | R48     | WR187 | FDP/FDM     | Al/Cu    |
| VT58WCAN...  | 4.64-7.05           | 1.25          | 50*62*81                 | R58     | WR159 | FDP/FDM     | Al/Cu    |
| VT70WCAN...  | 5.38-8.17           | 1.25          | 48*49*68                 | R70     | WR137 | FDP/FDM     | Al/Cu    |
| VT84WCAN...  | 6.57-9.99           | 1.25          | 40*48*48                 | R84     | WR112 | FBP/FBM/FBE | Al/Cu    |
| VT100WCAN... | 8.20-12.4           | 1.25          | 38*41*41                 | R100    | WR90  | FBP/FBM/FBE | Al/Cu    |
| VT120WCAN... | 9.84-15.0           | 1.25          | 30*38*38                 | R120    | WR75  | FBP/FBM/FBE | Al/Cu    |
| VT140WCAN... | 11.9-18.0           | 1.25          | 27*33*33                 | R140    | WR62  | FBP/FBM/FBE | Al/Cu    |
| VT180WCAN... | 14.5-22.0           | 1.25          | 27*30*30                 | R180    | WR51  | FBP/FBM/FBE | Al/Cu    |

\*Indicates Model Number. See Ordering Information for complete part number.

## SMA Waveguide to Coaxial Adapters

### 【Specifications】

| Model No*    | Freq Range | VSWR  | Dimensions  | WG Type |       | Flange      | Material |
|--------------|------------|-------|-------------|---------|-------|-------------|----------|
|              | (GHz)      | (Max) | L*B*A (mm)  | IEC     | EIA   |             |          |
| VT9WCAS...   | 0.75-1.15  | 1.25  | 220*212*336 | R9      | WR975 | FDP/FDM     | Al       |
| VT12WCAS...  | 0.96-1.46  | 1.25  | 166*187*285 | R12     | WR770 | FDP/FDM     | Al       |
| VT14WCAS...  | 1.13-1.73  | 1.25  | 149*138*220 | R14     | WR650 | FDP/FDM     | Al       |
| VT18WCAS...  | 1.45-2.20  | 1.25  | 130*120*185 | R18     | WR510 | FDP/FDM     | Al/Cu    |
| VT22WCAS...  | 1.72-2.61  | 1.25  | 110*106*161 | R22     | WR430 | FDP/FDM     | Al/Cu    |
| VT26WCAS...  | 2.17-3.30  | 1.25  | 100*95*138  | R26     | WR340 | FDP/FDM     | Al/Cu    |
| VT32WCAS...  | 2.60-3.95  | 1.25  | 72*76*114   | R32     | WR284 | FDP/FDM     | Al/Cu    |
| VT40WCAS...  | 3.22-4.90  | 1.25  | 70*70*98    | R40     | WR229 | FDP/FDM     | Al/Cu    |
| *VT48WCAS... | 3.94-5.99  | 1.25  | 67*63*89    | R48     | WR187 | FDP/FDM     | Al/Cu    |
| VT58WCAS...  | 4.64-7.05  | 1.25  | 52*62*81    | R58     | WR159 | FDP/FDM     | Al/Cu    |
| VT70WCAS...  | 5.38-8.17  | 1.25  | 45*49*68    | R70     | WR137 | FDP/FDM     | Al/Cu    |
| VT84WCAS...  | 6.57-9.99  | 1.25  | 35*48*48    | R84     | WR112 | FBP/FBM/FBE | Al/Cu    |
| VT100WCAS... | 8.20-12.4  | 1.25  | 33*41*41    | R100    | WR90  | FBP/FBM/FBE | Al/Cu    |
| VT120WCAS... | 9.84-15.0  | 1.25  | 30*38*38    | R120    | WR75  | FBP/FBM/FBE | Al/Cu    |
| VT140WCAS... | 11.9-18.0  | 1.25  | 27*33*33    | R140    | WR62  | FBP/FBM/FBE | Al/Cu    |
| VT180WCAS... | 14.5-22.0  | 1.25  | 27*30*30    | R180    | WR51  | FBP/FBM/FBE | Al/Cu    |
| VT220WCAS... | 17.6-26.7  | 1.35  | 25*22*22    | R220    | WR42  | FBP/FBM/FBE | Al/Cu    |
| VT320WCAS... | 26.5-40.0  | 1.50  | 25*19*19    | R320    | WR28  | FBP/FBM/FBE | Al/Cu    |

\*Indicates Model Number. See Ordering Information for complete part number.



## Section 1

### Waveguide Components

## 2.92mm Waveguide to Coaxial Adapters

### 【Specifications】

| Model No*       | Freq Range<br>(GHz) | VSWR<br>(Max) | Dimensions<br>L*B*A (mm) | WG Type |       | Flange      | Material |
|-----------------|---------------------|---------------|--------------------------|---------|-------|-------------|----------|
|                 |                     |               |                          | IEC     | EIA   |             |          |
| VT70WCA2.92...  | 5.38-15.0           | 1.25          | 55*68*49                 | R70     | WR137 | FDP/FDM     | Al/Cu    |
| VT84WCA2.92...  | 6.57-9.99           | 1.25          | 55*48*48                 | R84     | WR112 | FBP/FBM/FBE | Al/Cu    |
| VT100WCA2.92... | 8.20-12.4           | 1.25          | 48*41*41                 | R100    | WR90  | FBP/FBM/FBE | Al/Cu    |
| VT120WCA2.92... | 9.84-15.0           | 1.25          | 30*38*38                 | R120    | WR75  | FBP/FBM/FBE | Al/Cu    |
| VT140WCA2.92... | 11.9-18.0           | 1.25          | 27*33*33                 | R140    | WR62  | FBP/FBM/FBE | Al/Cu    |
| VT180WCA2.92... | 14.5-22.0           | 1.25          | 27*30*30                 | R180    | WR51  | FBP/FBM/FBE | Al/Cu    |
| VT220WCA2.92... | 17.6-26.7           | 1.25          | 33*22*22                 | R220    | WR42  | FBP/FBM/FBE | Al/Cu    |
| VT260WCA2.92... | 21.7-33.0           | 1.25          | 27*21*21                 | R260    | WR34  | FBP/FBM/FBE | Al/Cu    |
| VT320WCA2.92... | 26.5-40.0           | 1.25          | 25*19*19                 | R320    | WR28  | FBP/FBM/FBE | Al/Cu    |

\*Indicates Model Number. See Ordering Information for complete part number.

# 06

## Adapters



## 2.4mm Waveguide to Coaxial Adapters

### 【Specifications】

| Model No*      | Freq Range<br>(GHz) | VSWR<br>(Max) | Dimensions<br>L*B*A (mm) | WG Type |       | Flange      | Material |
|----------------|---------------------|---------------|--------------------------|---------|-------|-------------|----------|
|                |                     |               |                          | IEC     | EIA   |             |          |
| VT84WCA2.4...  | 6.57-9.99           | 1.25          | 45*48*48                 | R84     | WR112 | FBP/FBM/FBE | Al/Cu    |
| VT100WCA2.4... | 8.20-12.4           | 1.25          | 30*41*41                 | R100    | WR90  | FBP/FBM/FBE | Al/Cu    |
| VT120WCA2.4... | 9.84-15.0           | 1.25          | 30*38*38                 | R120    | WR75  | FBP/FBM/FBE | Al/Cu    |
| VT140WCA2.4... | 11.9-18.0           | 1.25          | 27*33*33                 | R140    | WR62  | FBP/FBM/FBE | Al/Cu    |
| VT180WCA2.4... | 14.5-22.0           | 1.25          | 30*30*30                 | R180    | WR51  | FBP/FBM/FBE | Al/Cu    |
| VT220WCA2.4... | 17.6-26.7           | 1.25          | 36*22*22                 | R220    | WR42  | FBP/FBM/FBE | Al/Cu    |
| VT260WCA2.4... | 21.7-33.0           | 1.25          | 27*21*21                 | R260    | WR34  | FBP/FBM/FBE | Al/Cu    |
| VT320WCA2.4... | 26.5-40.0           | 1.25          | 25*19*19                 | R320    | WR28  | FBP/FBM/FBE | Al/Cu    |
| VT400WCA2.4... | 33.0-50.0           | 1.25          | 25*28.6*28.6             | R400    | WR22  | FUGP        | Cu       |

\*Indicates Model Number. See Ordering Information for complete part number.

## 1.85mm Waveguide to Coaxial Adapters

### 【Specifications】

| Model No*       | Freq Range<br>(GHz) | VSWR<br>(Max) | Dimensions<br>L*B*A (mm) | WG Type |      | Flange      | Material |
|-----------------|---------------------|---------------|--------------------------|---------|------|-------------|----------|
|                 |                     |               |                          | IEC     | EIA  |             |          |
| VT260WCA1.85... | 21.7-33.0           | 1.25          | 27*21*21                 | R260    | WR34 | FBP/FBM/FBE | Al/Cu    |
| VT320WCA1.85... | 26.5-40.0           | 1.25          | 25*19*19                 | R320    | WR28 | FBP/FBM/FBE | Al/Cu    |
| VT400WCA1.85... | 33.0-50.0           | 1.35          | 25*28.6*28.6             | R400    | WR22 | FUGP        | Cu       |
| VT500WCA1.85... | 40.0-50.0           | 1.35          | 25*28.6*28.6             | R500    | WR19 | FUGP        | Cu       |
| VT620WCA1.85... | 50.0-75.0           | 1.35          | 25*19.1*19.1             | R620    | WR16 | FUGP        | Cu       |

\*Indicates Model Number. See Ordering Information for complete part number.

## 1.0mm Waveguide to Coaxial Adapters

### 【Specifications】

| Model No*      | Freq Range<br>(GHz) | VSWR<br>(Max) | Dimensions<br>L*B*A (mm) | WG Type |      | Flange | Material |
|----------------|---------------------|---------------|--------------------------|---------|------|--------|----------|
|                |                     |               |                          | IEC     | EIA  |        |          |
| VT620WCA1.0... | 50.0-75.0           | 1.60          | 23*19.1*19.1             | R740    | WR12 | FUGP   | Cu       |
| VT740WCA1.0... | 60.0-90.0           | 1.60          | 23*19.1*19.1             | R740    | WR12 | FUGP   | Cu       |
| VT900WCA1.0... | 90.0-110.0          | 1.60          | 23*19.1*19.1             | R900    | WR10 | FUGP   | Cu       |

\*Indicates Model Number. See Ordering Information for complete part number.

### 【Ordering Information】

**Example Part No:** VT 100 WCA S K P C

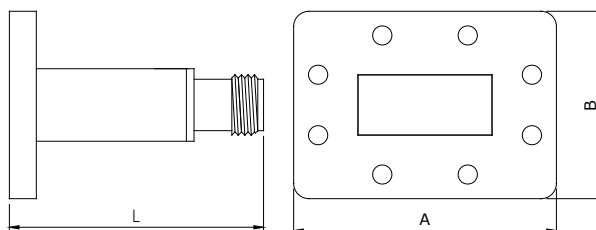
Vector Telecom — VT  
WG Type: R100 — 100  
Product Type: WG to Coaxial Adapter (Right Angle) — WCA  
Material: A=Aluminum C=Copper — C  
Flange Type: P=FBP100 — P  
J=Male, K=Female — K  
Coax Connector Type: N=Type N, S=SMA, 2.92=K2.92mm, 2.4=2.4mm, 1.85=1.85mm, 1.0=1.0mm — S

- Flange type: Multiple types available - see VT Flanges page
- Finish: Corrosion protection plus black top coat
- Standard unit provided not sealed pressure tight unless otherwise specified



## 6.1.2 Waveguide to Coaxial Adapter (End-launch)

Vector Telecom manufactures End-launch Waveguide to Coaxial Adapters covering a full frequency range for Rectangular Waveguides, with multiple flange and coaxial connector types and configuration available. For more information feel free to call us and discuss your needs with one of our sales engineers.



### 【Specifications】

| Model No*      | Freq Range | VSWR  | Connector | Dimensions<br>L*B*A (mm) | WG Type |       | Flange      | Material |
|----------------|------------|-------|-----------|--------------------------|---------|-------|-------------|----------|
|                | (GHz)      | (Max) |           |                          | IEC     | EIA   |             |          |
| VT22WECAN...   | 1.72-2.61  | 1.25  | N         | 128.7*106*161            | R22     | WR430 | FDP/FDM     | Al/Cu    |
| VT22WECAS...   | 1.72-2.61  | 1.25  | SMA       | 113.4*106*161            | R22     | WR430 | FDP/FDM     | Al/Cu    |
| VT26WECAN...   | 2.17-3.30  | 1.25  | N         | 118.7*95*138             | R26     | WR340 | FDP/FDM     | Al/Cu    |
| VT26WECAS...   | 2.17-3.30  | 1.25  | SMA       | 121*95*138               | R26     | WR340 | FDP/FDM     | Al/Cu    |
| VT32WECAN...   | 2.60-3.95  | 1.25  | N         | 108.7*76*114             | R32     | WR284 | FDP/FDM     | Al/Cu    |
| VT32WECAS...   | 2.60-3.95  | 1.25  | SMA       | 96*76*114                | R32     | WR284 | FDP/FDM     | Al/Cu    |
| VT40WECAN...   | 3.22-4.90  | 1.25  | N         | 94.7*70*98               | R40     | WR229 | FDP/FDM     | Al/Cu    |
| VT40WECAS...   | 3.22-4.90  | 1.25  | SMA       | 85*70*98                 | R40     | WR229 | FDP/FDM     | Al/Cu    |
| VT48WECAN...   | 3.94-5.99  | 1.25  | N         | 74.7*63*89               | R48     | WR187 | FDP/FDM     | Al/Cu    |
| VT48WECAS...   | 3.94-5.99  | 1.25  | SMA       | 78.4*63*89               | R48     | WR187 | FDP/FDM     | Al/Cu    |
| VT58WECAN...   | 4.64-7.05  | 1.25  | N         | 72.4*62*81               | R58     | WR159 | FDP/FDM     | Al/Cu    |
| VT58WECAS...   | 4.64-7.05  | 1.25  | SMA       | 45*62*81                 | R58     | WR159 | FDP/FDM     | Al/Cu    |
| VT70WECAN...   | 5.38-8.17  | 1.25  | N         | 68.8*49*68               | R70     | WR137 | FDP/FDM     | Al/Cu    |
| VT70WECAS...   | 5.38-8.17  | 1.25  | SMA       | 52.5*49*68               | R70     | WR137 | FDP/FDM     | Al/Cu    |
| VT70WECA2.4... | 5.38-8.17  | 1.25  | 2.4mm     | 68.8*49*68               | R70     | WR137 | FDP/FDM     | Al/Cu    |
| VT84WECAN...   | 6.57-9.99  | 1.25  | N         | 58.8*48*48               | R84     | WR112 | FBP/FBM/FBE | Al/Cu    |
| VT84WECAS...   | 6.57-9.99  | 1.25  | SMA       | 49.5*48*48               | R84     | WR112 | FBP/FBM/FBE | Al/Cu    |
| VT100WECAN...  | 8.20-12.40 | 1.25  | N         | 49.3*41*41               | R100    | WR90  | FBP/FBM/FBE | Al/Cu    |
| VT100WECAS...  | 8.20-12.40 | 1.25  | SMA       | 40*41*41                 | R100    | WR90  | FBP/FBM/FBE | Al/Cu    |





|                 |            |      |         |                |      |      |             |       |
|-----------------|------------|------|---------|----------------|------|------|-------------|-------|
| VT100WECA2.4... | 8.20-12.40 | 1.25 | 2.4mm   | 30.5*41*41     | R100 | WR90 | FBP/FBM/FBE | Al/Cu |
| VT120WECAN...   | 9.84-15.0  | 1.25 | N       | 46.3*38*38     | R120 | WR75 | FBP/FBM/FBE | Al/Cu |
| VT120WECAS...   | 9.84-15.0  | 1.25 | SMA     | 37*38*38       | R120 | WR75 | FBP/FBM/FBE | Al/Cu |
| VT140WECAN...   | 11.9-18.0  | 1.25 | N       | 43.3*33*33     | R140 | WR62 | FBP/FBM/FBE | Al/Cu |
| VT140WECAS...   | 11.9-18.0  | 1.25 | SMA     | 34*33*33       | R140 | WR62 | FBP/FBM/FBE | Al/Cu |
| VT140WECA2.4... | 11.9-18.0  | 1.25 | 2.4mm   | 34.5*33*33     | R140 | WR62 | FBP/FBM/FBE | Al/Cu |
| VT180WECAS...   | 14.5-22.0  | 1.25 | SMA     | 25*33*33       | R180 | WR51 | FBP/FBM/FBE | Al/Cu |
| VT180WECA2.92   | 14.5-22.0  | 1.25 | 2.92mm  | 23.4*33*33     | R180 | WR51 | FBP/FBM/FBE | Al/Cu |
| VT220WECAS...   | 17.6-26.7  | 1.35 | SMA     | 17.5*22*22     | R220 | WR42 | FBP/FBM/FBE | Al/Cu |
| VT220WECAK...   | 17.6-26.7  | 1.25 | V2.4mm  | 18*22*22       | R220 | WR42 | FBP/FBM/FBE | Al/Cu |
| VT220WECAV...   | 17.6-26.7  | 1.35 | K2.92mm | 18*22*22       | R220 | WR42 | FBP/FBM/FBE | Al/Cu |
| VT220WECA1.85   | 17.6-26.7  | 1.35 | 1.85mm  | 24*22*22       | R220 | WR42 | FBP/FBM/FBE | Al/Cu |
| VT260WECAS...   | 21.7-33.0  | 1.50 | K2.92mm | 21.5*21*21     | R260 | WR34 | FBP/FBM/FBE | Al/Cu |
| VT260WECAK...   | 21.7-33.0  | 1.25 | K2.92mm | 22*21*21       | R260 | WR34 | FBP/FBM/FBE | Al/Cu |
| VT260WECAV...   | 21.7-33.0  | 1.35 | V2.4mm  | 21.5*21*21     | R260 | WR34 | FBP/FBM/FBE | Al/Cu |
| VT320WECAS...   | 26.3-40.0  | 1.50 | SMA     | 26*19*19       | R320 | WR28 | FBP/FBM/FBE | Al/Cu |
| VT320WECAK...   | 26.3-40.0  | 1.25 | SMA     | 21.2*19*19     | R320 | WR28 | FBP/FBM/FBE | Al/Cu |
| VT320WECAV...   | 26.3-40.0  | 1.35 | V2.4mm  | 21.2*19*19     | R320 | WR28 | FBP/FBM/FBE | Al/Cu |
| VT400WECAV      | 33.0-60.0  | 1.25 | V2.4mm  | 19.5*28.6*28.6 | R400 | WR22 | FUGP        | Cu    |
| VT400WECA1.8    | 33.0-60.0  | 1.25 | 1.85mm  | 21.2*28.6*28.6 | R400 | WR22 | FUGP        | Cu    |
| VT500WECA1.85   | 40.0-60.0  | 1.35 | 1.85mm  | 21.2*28.6*28.6 | R500 | WR19 | FUGP        | Cu    |
| VT620WECA1.85   | 50.0-75.0  | 1.5  | 1.85mm  | 19.2*19.1*19.1 | R620 | WR15 | FUGP        | Cu    |
| VT620WECA1.0    | 50.0-75.0  | 1.5  | 1.0mm   | 19.2*19.1*19.1 | R620 | WR15 | FUGP        | Cu    |
| VT740WECA1.8    | 60.0-65.0  | 1.8  | 1.85mm  | 19.2*19.1*19.1 | R740 | WR12 | FUGP        | Cu    |
| VT740WECA1.0    | 66.0-90.0  | 1.6  | 1.0mm   | 14.6*19.1*19.1 | R740 | WR12 | FUGP        | Cu    |
| VT900WECA1.0    | 90.0-110.0 | 1.6  | 1.0mm   | 14.6*19.1*19.1 | R900 | WR10 | FUGP        | Cu    |

*\*Indicates Model Number. See Ordering Information for complete part number.*

## 【Ordering Information】

**Example Part No:** VT 100 WECA S K P C

Vector Telecom ———

WG Type: R100 ———

Product Type: WG To Coaxial Adapter (End-launch) ———

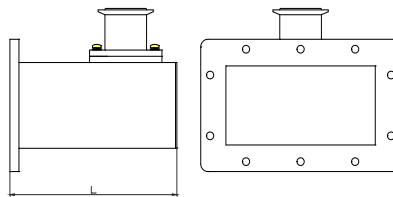
Material: A=Aluminum, C=Copper  
Flange Type: P=FBP100  
J=Male, K=Female  
Coax Connector Type: N=Type N, S=SMA,  
2.92 =K 2.92mm, 2.4=2.4mm, 1.85=1.85mm, 1.0=1.0mm

- Flange type: Multiple types available - see VT Flanges page
- Finish: Corrosion protection plus black top coat
- Standard unit provided not sealed pressure tight unless otherwise specified



### 6.1.3 High Power Waveguide to Coaxial Adapter

Vector Telecom manufactures High Power Waveguide to Coaxial Adapters up to 5kW for Rectangular Waveguides, with multiple flange and coaxial connector types and configurations available. For more information feel free to call us and discuss your needs with one of our sales engineers.



#### 【Specifications】

| Model No*    | Freq Range | VSWR | Working<br>Bandwidth | WG Type |       | IL<br>(dB) | Connector    | CW<br>(W) | Flange  | Material |
|--------------|------------|------|----------------------|---------|-------|------------|--------------|-----------|---------|----------|
|              | (GHz)      |      |                      | IEC     | EIA   |            |              |           |         |          |
| VT14WHPA...  | 1.13-1.73  | 1.15 | ≤15%                 | R14     | WR650 | ≤0.2       | 1'5/8 Female | ≤5000     | FDP/FDM | Al       |
| VT14WHPA...  | 1.13-1.73  | 1.15 | ≤15%                 | R14     | WR650 | ≤0.2       | 5339 Female  | ≤5000     | FDP/FDM | Al       |
| VT14WHPAL... | 1.13-1.73  | 1.15 | ≤15%                 | R14     | WR650 | ≤0.2       | L29 Female   | ≤2000     | FDP/FDM | Al       |
| VT14WHPAL... | 1.13-1.73  | 1.15 | ≤15%                 | R14     | WR650 | ≤0.2       | L27 Female   | ≤2000     | FDP/FDM | Al       |
| VT18WHPA...  | 1.45-2.2   | 1.15 | ≤15%                 | R18     | WR510 | ≤0.2       | 1'5/8 Female | ≤4000     | FDP/FDM | Al       |
| VT18WHPA...  | 1.45-2.2   | 1.15 | ≤15%                 | R18     | WR510 | ≤0.2       | 5339 Female  | ≤4000     | FDP/FDM | Al       |
| VT18WHPAL... | 1.45-2.2   | 1.15 | ≤15%                 | R18     | WR510 | ≤0.2       | L27 Female   | ≤2000     | FDP/FDM | Al       |
| VT22WHPA...  | 1.72-2.61  | 1.15 | ≤15%                 | R22     | WR430 | ≤0.2       | 1'5/8 Female | ≤3000     | FDP/FDM | Al       |
| VT22WHPA...  | 1.76-2.61  | 1.15 | ≤15%                 | R22     | WR430 | ≤0.2       | 5339 Female  | ≤3000     | FDP/FDM | Al       |
| VT22WHPAL... | 1.72-2.61  | 1.15 | ≤15%                 | R22     | WR430 | ≤0.2       | L29 Female   | ≤2000     | FDP/FDM | Al       |
| VT22WHPAL... | 1.72-2.61  | 1.15 | ≤15%                 | R22     | WR430 | ≤0.2       | L27 Female   | ≤2000     | FDP/FDM | Al       |
| VT26WHPAL... | 2.17-3.30  | 1.15 | ≤15%                 | R26     | WR340 | ≤0.2       | L29 Female   | ≤2000     | FDP/FDM | Al       |
| VT26WHPAL... | 2.17-3.3   | 1.15 | ≤15%                 | R26     | WR340 | ≤0.2       | L27 Female   | ≤2000     | FDP/FDM | Al       |
| VT32WHPAL... | 2.60-3.95  | 1.15 | ≤15%                 | R32     | WR284 | ≤0.2       | L29 Female   | ≤1000     | FDP/FDM | Al       |
| VT32WHPAL... | 2.60-3.95  | 1.15 | ≤15%                 | R32     | WR284 | ≤0.2       | L27 Female   | ≤1000     | FDP/FDM | Al       |
| VT40WHPAL... | 3.22-4.90  | 1.15 | ≤15%                 | R40     | WR229 | ≤0.2       | L29 Female   | ≤1000     | FDP/FDM | Al       |
| VT40WHPAL... | 3.22-4.90  | 1.15 | ≤15%                 | R40     | WR229 | ≤0.2       | L27 Female   | ≤1000     | FDP/FDM | Al       |



|                |           |      |      |      |       |      |            |       |            |    |
|----------------|-----------|------|------|------|-------|------|------------|-------|------------|----|
| VT40WHPCAN...  | 3.22-4.90 | 1.25 | ≤15% | R40  | WR229 | ≤0.2 | N Female   | ≤200  | FDP/FDM    | Al |
| VT48WHPCAL...  | 3.94-5.99 | 1.15 | ≤15% | R48  | WR187 | ≤0.2 | L29 Female | ≤1000 | FDP/FDM    | Al |
| VT48WHPCAL...  | 3.94-5.99 | 1.15 | ≤15% | R48  | WR187 | ≤0.2 | L27 Female | ≤1000 | FDP/FDM    | Al |
| VT48WHPCAN...  | 3.94-5.99 | 1.25 | ≤15% | R48  | WR187 | ≤0.2 | N Female   | ≤200  | FDP/FDM    | Al |
| VT58WHPCAN...  | 4.64-7.05 | 1.25 | ≤15% | R58  | WR159 | ≤0.2 | N Female   | ≤200  | FDP/FDM    | Al |
| VT70WHPCAN...  | 5.38-8.17 | 1.25 | ≤15% | R70  | WR137 | ≤0.3 | N Female   | ≤200  | FDP/FDM    | Al |
| VT84WHPCAN...  | 6.57-9.99 | 1.25 | ≤15% | R84  | WR112 | ≤0.3 | N Female   | ≤200  | FBP/FBM/FB | Cu |
| VT100WHPCAN... | 8.20-12.4 | 1.25 | ≤15% | R100 | WR90  | ≤0.3 | N Female   | ≤200  | FBP/FBM/FB | Cu |
| VT120WHPCAN... | 9.84-15.0 | 1.25 | ≤15% | R120 | WR75  | ≤0.3 | N Female   | ≤200  | FBP/FBM/FB | Cu |
| VT140WHPCAN... | 11.9-18.0 | 1.15 | ≤15% | R140 | WR62  | ≤0.3 | N Female   | ≤200  | FBP/FBM/FB | Cu |

\*Indicates Model Number. See Ordering Information for complete part number.

## 【Ordering Information】

**Example Part No:** VT 100 WHPCA S K P C

Vector Telecom ———

WG Type: R100 ———

Product Type: High Power WG to Coaxial Adapter ———

Material: A=Aluminum C=Copper

Flange Type: P=FBP100

J=Male, K=Female

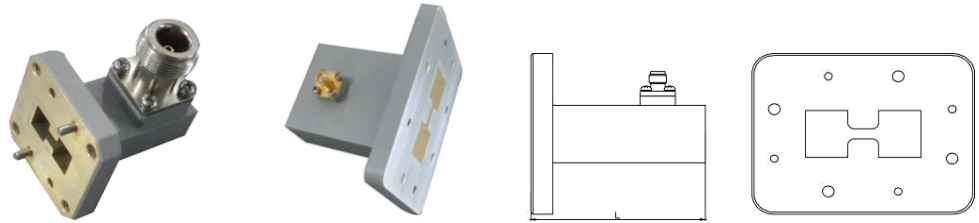
Coax Connector Type: N=Type N,  
S=SMA, 2.92=K2.92mm, 2.4=2.4mm, 1.85=1.85mm  
1.0=1.0mm

- Flange type: Multiple types available - see VT Flanges page
- Finish: Corrosion protection plus black top coat
- Standard unit provided not sealed pressure tight unless otherwise specified

## 6.2 Double Ridged Waveguide to Coaxial Adapter

Vector Telecom manufactures Waveguide to Coaxial Adapters covering a full frequency range for Double-Ridged Waveguides, with multiple flange and coaxial connector types and configurations available. For more information feel free to call us and discuss your needs with one of our sales engineers.

### 6.2.1 Double Ridged Waveguide To Coaxial Adapter (Right Angle)

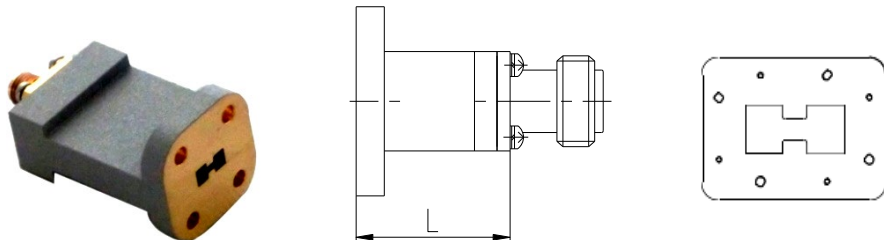


### 【Specifications】

| Model No*       | Freq<br>Range<br>(GHz) | VSWR<br>(Max) | Length<br>L(mm) | WG Type<br>EIA | IL<br>(dB) | Connector   | Avg<br>Power<br>(W) | Flange | Material |
|-----------------|------------------------|---------------|-----------------|----------------|------------|-------------|---------------------|--------|----------|
| VT84DRWCAN...   | 0.84-2                 | 1.50          | 175             | WRD84          | ≤0.5       | N Female    | 800                 | FP     | Al       |
| VT150DRWCAN...  | 1.5-3.6                | 1.50          | 150             | WRD150         | ≤0.5       | N Female    | 800                 | FP     | Al       |
| VT200DRWCAN...  | 2-4.8                  | 1.50          | 101             | WRD200         | ≤0.5       | N Female    | 500                 | FP     | Al       |
| VT250DRWCAN...  | 2.6-7.8                | 1.50          | 70              | WRD250         | ≤0.5       | N Female    | 500                 | FP     | Al       |
| VT350DRWCAN...  | 3.5-8.2                | 1.50          | 60              | WRD350         | ≤0.5       | N Female    | 500                 | FP     | Al       |
| VT475DRWCAN...  | 4.75-11                | 1.50          | 50              | WRD475         | ≤0.5       | N Female    | 300                 | FP     | Al       |
| VT500DRWCAS...  | 5-18                   | 1.50          | 45              | WRD500         | ≤0.5       | SMA Female  | 300                 | FP     | Al       |
| VT580DRWCAS...  | 5.8-16                 | 1.50          | 45              | WRD580         | ≤0.5       | SMA Female  | 300                 | FP     | Al       |
| VT650DRWCAS...  | 6.5-18                 | 1.50          | 45              | WRD650         | ≤0.5       | SMA Female  | 100                 | FP     | Cu       |
| VT750DRWCAS...  | 7.5-18                 | 1.50          | 40              | WRD750         | ≤0.5       | SMA Female  | 100                 | FP     | Cu       |
| VT700DRWCAS...  | 7-18.5                 | 1.50          | 40              | WRD700         | ≤0.5       | SMA Female  | 100                 | FP     | Cu       |
| VT1100DRWCAK... | 11-26.5                | 1.50          | 35              | WRD1100        | ≤0.5       | 2.92 Female | 50                  | FP     | Cu       |
| VT1800DRWCAK... | 18-40                  | 2.00          | 27              | WRD1800        | ≤0.5       | 2.92 Female | 50                  | FP     | Cu       |

\*Indicates Model Number. See Ordering Information for complete part number.

### 6.2.2 Double Ridged Waveguide to Coaxial Adapter (End Launch)



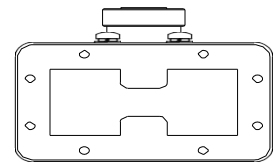
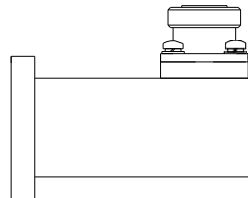


## 【Specifications】

| Model No*      | Freq<br>Range<br>(GHz) | VSWR<br>(Max) | Length<br>L(mm) | WG Type<br>EIA | IL<br>(dB) | Connector  | Avg<br>Power<br>(W) | Flange | Material |
|----------------|------------------------|---------------|-----------------|----------------|------------|------------|---------------------|--------|----------|
| VT84DRWECAN... | 0.84-2                 | 1.50          | 300             | WRD84          | ≤0.5       | N Female   | 800                 | FP     | Al       |
| VT150DRWECAN   | 1.5-3.6                | 1.50          | 160             | WRD150         | ≤0.5       | N Female   | 800                 | FP     | Al       |
| VT200DRWECAN   | 2-4.8                  | 1.50          | 120             | WRD200         | ≤0.5       | N Female   | 500                 | FP     | Al       |
| VT250DRWECAN   | 2.6-7.8                | 1.50          | 85              | WRD250         | ≤0.5       | N Female   | 500                 | FP     | Al       |
| VT350DRWECAN   | 3.5-8.2                | 1.50          | 80              | WRD350         | ≤0.5       | N Female   | 500                 | FP     | Al       |
| VT475DRWECAN   | 4.75-11                | 1.50          | 50              | WRD475         | ≤0.5       | N Female   | 300                 | FP     | Al       |
| VT500DRWECAS   | 5-18                   | 1.50          | 45              | WRD500         | ≤0.5       | SMA Female | 300                 | FP     | Al       |
| VT580DRWECAS   | 5.8-16                 | 1.50          | 40              | WRD580         | ≤0.5       | SMA Female | 300                 | FP     | Al       |
| VT650DRWECAS   | 6.5-18                 | 1.50          | 33.7            | WRD650         | ≤0.5       | SMA Female | 100                 | FP     | Cu       |
| VT750DRWECAS   | 7.5-18                 | 1.50          | 33.7            | WRD750         | ≤0.5       | SMA Female | 100                 | FP     | Cu       |
| VT700DRWECAS   | 7-18.5                 | 1.50          | 33              | WRD700         | ≤0.5       | SMA Female | 50                  | FP     | Cu       |
| VT1100DRWECK   | 11-26.5                | 1.50          | 30              | WRD110         | ≤0.5       | 2.92Female | 30                  | FP     | Cu       |
| VT1800DRWECK   | 18-40                  | 2.00          | 36.8            | WRD180         | ≤0.8       | 2.92Female | 30                  | FP     | Cu       |

\* indicates Model Number. See Ordering Information for complete part number.

### 6.2.3 Double Ridged High Power Waveguide to Coaxial Adapter



## 【Specifications】



| Model No*        | Freq<br>Range | VSWR<br>(Max) | WG Type<br>EIA | IL<br>(dB) | Connector  | Avg<br>Power<br>(W) | Flange | Material |
|------------------|---------------|---------------|----------------|------------|------------|---------------------|--------|----------|
| VT84DRWHPCA...   | 0.84-2        | 1.50          | WRD84          | ≤0.5       | 5339Female | 1000                | FP     | Al       |
| VT84DRWHPCAL...  | 0.84-2        | 1.50          | WRD84          | ≤0.5       | L29Female  | 500                 | FP     | Al       |
| VT84DRWHPCAL...  | 0.84-2        | 1.50          | WRD84          | ≤0.5       | L27Female  | 500                 | FP     | Al       |
| VT84DRWHPCAN...  | 0.84-2        | 1.50          | WRD84          | ≤0.5       | N Female   | 300                 | FP     | Al       |
| VT150DRWHPCAN... | 1.5-3.6       | 1.50          | WRD150         | ≤0.5       | N Female   | 300                 | FP     | Al       |
| VT200DRWHPCAN... | 2-4.8         | 1.50          | WRD200         | ≤0.5       | N Female   | 300                 | FP     | Al       |
| VT250DRWHPCAN... | 2.6-7.8       | 1.50          | WRD250         | ≤0.5       | N Female   | 300                 | FP     | Al       |
| VT350DRWHPCAN... | 3.5-8.2       | 1.50          | WRD350         | ≤0.5       | N Female   | 200                 | FP     | Al       |
| VT475DRWHPCAN... | 4.75-11       | 1.50          | WRD475         | ≤0.5       | N Female   | 200                 | FP     | Al       |
| VT500DRWHPCAN... | 5-18          | 1.50          | WRD500         | ≤0.5       | N Female   | 200                 | FP     | Al       |
| VT580DRWHPCAN... | 5.8-16        | 1.50          | WRD580         | ≤0.5       | N Female   | 200                 | FP     | Al       |
| VT650DRWHPCAN... | 6.5-18        | 1.50          | WRD650         | ≤0.5       | N Female   | 200                 | FP     | Cu       |
| VT750DRWHPCAN... | 7.5-18        | 1.50          | WRD750         | ≤0.8       | N Female   | 200                 | FP     | Cu       |

\*Indicates Model Number. See Ordering Information for complete part number.

## 【Ordering Information】

**Example Part No:** VT 650 DRWCA S K P C

Vector Telecom — VT  
WG Type:WRD650 — 650  
Product Type:Double WG to Coaxial Adapter (Right Angle) — DRWCA  
Coax Connector Type:N=Type N,S=SMA — S  
J=Male, K=Female — K  
Flange Type:P=FBP100 — P  
Material: A=Aluminum C=Copper — C

| Product Type | Description                                              |
|--------------|----------------------------------------------------------|
| DRWCA        | Double Ridged Waveguide to Coaxial Adapter (Right Angle) |
| DRWECA       | Double Ridged Waveguide to Coaxial Adapter (End-launch)  |
| DRWHPCA      | Double Ridged High Power Waveguide to Coaxial Adapter    |

- Flange type: Multiple types available - see VT Flanges page
- Finish: Corrosion protection plus black top coat



## 6.3 Circular Waveguide to Coaxial Adapter



### 【Ordering Information】

| Model No*        | Freq Range (GHz) | VSWR (Max) | Operating Bandwidth | Inner Diameter $\Phi$ (mm) | Connector   |
|------------------|------------------|------------|---------------------|----------------------------|-------------|
| VT114.58CWCAN... | 1.76-2.42        | 1.25       | $\leq 20\%$         | $\leq 0.5$                 | N Female    |
| VT97.87CWCAN...  | 2.1-2.8          | 1.25       | $\leq 20\%$         | $\leq 0.5$                 | N Female    |
| VT83.62CWCAN...  | 2.45-3.3         | 1.25       | $\leq 20\%$         | $\leq 0.5$                 | N Female    |
| VT71.42CWCAN...  | 2.83-3.88        | 1.25       | $\leq 20\%$         | $\leq 0.5$                 | N Female    |
| VT51.99CWCAN...  | 3.9-5.3          | 1.25       | $\leq 20\%$         | $\leq 0.5$                 | N Female    |
| VT44.45CWCAN...  | 4.55-6.23        | 1.25       | $\leq 20\%$         | $\leq 0.8$                 | N Female    |
| VT38.1CWCAN...   | 5.3-7.3          | 1.25       | $\leq 20\%$         | 38.1                       | N Female    |
| VT32.537CWCAN... | 6.3-8.5          | 1.25       | $\leq 20\%$         | 32.537                     | N Female    |
| VT27.788CWCAN... | 7.3-9.5          | 1.25       | $\leq 20\%$         | 27.788                     | N Female    |
| VT23.825CWCAN... | 8.5-11.5         | 1.25       | $\leq 20\%$         | 23.825                     | N Female    |
| VT17.415CWCAS... | 11.6-15.9        | 1.25       | $\leq 20\%$         | 17.415                     | SMA Female  |
| VT15.088CWCAS... | 13.4-18.4        | 1.25       | $\leq 20\%$         | 15.088                     | SMA Female  |
| VT12.7CWCAS...   | 15.9-21.8        | 1.25       | $\leq 20\%$         | 12.7                       | SMA Female  |
| VT9.525CWCAK...  | 21.2-29.1        | 1.25       | $\leq 20\%$         | 9.525                      | 2.92 Female |
| VT8.331CWCAK...  | 24.3-33.2        | 1.30       | $\leq 15\%$         | 8.331                      | 2.92 Female |
| VT7.137CWCAK...  | 28.3-38.8        | 1.30       | $\leq 15\%$         | 7.137                      | 2.92 Female |

\*Indicates Model Number. See Ordering Information for complete part number.

### 【Ordering Information】

**Example Part No:** VT 114.58 CWCA S K P C

Vector Telecom

Circular WG Inner Diameter: 114.58mm

Product Type: Circular WG to Coaxial Adapter

Material: A=Aluminum C=Copper

Flange Type: P=FBP100

J=Male, K=Female

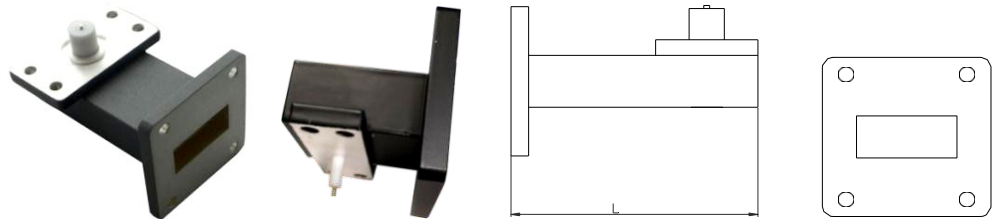
Coax Connector Type: N=Type N, S=SMA, 2.92=K2.92mm, 2.4=2.4mm, 1.85=1.85mm, 1.0=1.0mm



- Flange type: Multiple types available - see VT Flanges page
- Finish: Corrosion protection plus black top coat
- Standard unit provided not sealed pressure tight unless otherwise specified.

## 6.4 Waveguide to Microstrip Adapter

### 6.4.1 Waveguide to Microstrip Adapter (Right Angle)



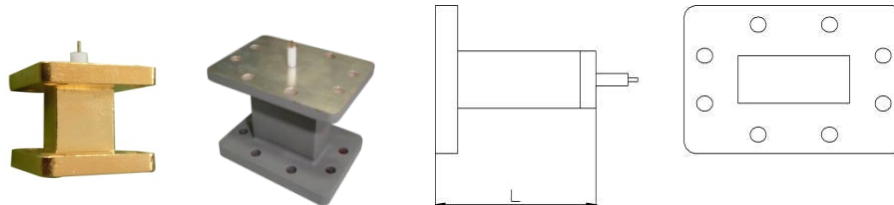
#### 【Specifications】

| Model No* | WG Type<br>EIA | Freq<br>Range<br>(GHz) | Operating<br>Bandwidth | VSWR<br>(Max) | IL<br>(dB) | Avg<br>Power<br>(W) | Length<br>L (mm) | Flange | Material |
|-----------|----------------|------------------------|------------------------|---------------|------------|---------------------|------------------|--------|----------|
| VT32WMI   | WR284          | 2.60-3.95              | ≤15%                   | 1.25          | ≤0.2       | 100                 | 80               | FDP    | Al       |
| VT40WMI   | WR229          | 3.22-4.90              | ≤15%                   | 1.25          | ≤0.2       | 100                 | 70               | FDP    | Al       |
| VT48WMI   | WR187          | 3.94-5.99              | ≤15%                   | 1.25          | ≤0.2       | 100                 | 70               | FDP    | Al       |
| VT58WMI   | WR159          | 4.64-7.05              | ≤15%                   | 1.25          | ≤0.2       | 100                 | 60               | FDP    | Al       |
| VT70WMI   | WR137          | 5.38-8.17              | ≤15%                   | 1.25          | ≤0.2       | 100                 | 50               | FDP    | Cu       |
| VT84WMI   | WR112          | 6.57-9.99              | ≤15%                   | 1.25          | ≤0.2       | 50                  | 45               | FBP    | Cu       |
| VT100WMI  | WR90           | 8.20-12.40             | ≤15%                   | 1.25          | ≤0.2       | 50                  | 50               | FBP    | Cu       |
| VT120WMI  | WR75           | 9.84-15.0              | ≤15%                   | 1.25          | ≤0.2       | 50                  | 40               | FBP    | Cu       |
| VT140WMI  | WR62           | 11.9-18.0              | ≤15%                   | 1.25          | ≤0.2       | 50                  | 40               | FBP    | Cu       |
| VT180WMI  | WR51           | 14.5-22.0              | ≤15%                   | 1.25          | ≤0.2       | 50                  | 35               | FBP    | Cu       |
| VT220WMI  | WR42           | 17.6-26.7              | ≤15%                   | 1.50          | ≤0.3       | 30                  | 30               | FBP    | Cu       |
| VT260WMI  | WR34           | 21.7-33.0              | ≤15%                   | 1.50          | ≤0.5       | 30                  | 26               | FBP    | Cu       |
| VT320WMI  | WR28           | 26.5-40.0              | ≤15%                   | 1.50          | ≤0.5       | 30                  | 26               | FBP    | Cu       |

\*Indicates Model Number. See Ordering Information for complete part number.



## 6.4.2 Waveguide to Microstrip Adapter (End Launch)



### 【Specifications】

| Model No* | WG Type<br>EIA | Freq Range<br>(GHz) | VSWR<br>(Max) | IL(dB) | Avg Power<br>(W) | Length<br>L(mm) | Flange | Material |
|-----------|----------------|---------------------|---------------|--------|------------------|-----------------|--------|----------|
| VT32WEMI  | WR284          | 2.60-3.95           | 1.25          | ≤0.2   | 100              | 82              | FDP    | Al       |
| VT40WEMI  | WR229          | 3.22-4.90           | 1.25          | ≤0.2   | 100              | 68              | FDP    | Al       |
| VT48WEMI  | WR187          | 3.94-5.99           | 1.25          | ≤0.2   | 100              | 58              | FDP    | Al       |
| VT58WEMI  | WR159          | 4.64-7.05           | 1.25          | ≤0.2   | 100              | 56              | FDP    | Al       |
| VT70WEMI  | WR137          | 5.38-8.17           | 1.25          | ≤0.2   | 100              | 50              | FDP    | Cu       |
| VT84WEMI  | WR112          | 6.57-9.99           | 1.25          | ≤0.2   | 50               | 40              | FBP    | Cu       |
| VT100WEMI | WR90           | 8.20-12.40          | 1.25          | ≤0.2   | 50               | 30.5            | FBP    | Cu       |
| VT120WEMI | WR75           | 9.84-15.0           | 1.25          | ≤0.2   | 50               | 21              | FBP    | Cu       |
| VT140WEMI | WR62           | 11.9-18.0           | 1.25          | ≤0.2   | 50               | 24              | FBP    | Cu       |
| VT180WEMI | WR51           | 14.5-22.0           | 1.25          | ≤0.2   | 50               | 25              | FBP    | Cu       |
| VT220WEMI | WR42           | 17.6-26.7           | 1.50          | ≤0.3   | 30               | 18              | FBP    | Cu       |
| VT260WEMI | WR34           | 21.7-33.0           | 1.50          | ≤0.5   | 30               | 21              | FBP    | Cu       |
| VT320WEMI | WR28           | 26.5-40.0           | 1.50          | ≤0.5   | 30               | 16              | FBP    | Cu       |

\*Indicates Model Number. See Ordering Information for complete part number.

### 【Ordering Information】

**Example Part No:** VT 32 WMI

Vector Telecom

WG Type:R32

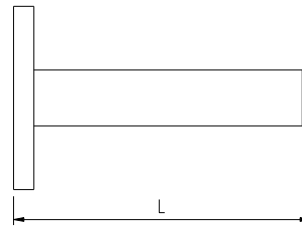
Product Type: WMI: WG to Microstrip Adapter (Right Angle)  
WEMI: WG to Microstrip Adapter (End Launch)

- Flange type: Multiple types available - see VT Flanges page
- Finish: Corrosion protection plus black top coat

# 7 Waveguide Termination (Dummy Load)

## 7.1 Waveguide Termination

Vector Telecom's standard product line of low power terminations utilizes precision conical load elements for optimum electrical performance. This series of terminations is designed for low power input. Normally VSWR is less than 1.03 over the full waveguide bandwidth.



### 【Specifications】

| Model No* | WG Type<br>EIA | Freq Range<br>(GHz) | VSWR<br>(Max) | Length<br>(mm) | Avg Power<br>(W) | Flange | Material |
|-----------|----------------|---------------------|---------------|----------------|------------------|--------|----------|
| VT3WL...  | WR2300         | 0.32-0.49           | 1.05          | 2200           | 20               | FDP    | Al       |
| VT4WL...  | WR2100         | 0.35-0.53           | 1.05          | 1900           | 20               | FDP    | Al       |
| VT5WL...  | WR1800         | 0.41-0.62           | 1.05          | 1300           | 15               | FDP    | Al       |
| VT6WL...  | WR1500         | 0.49-0.75           | 1.05          | 1300           | 15               | FDP    | Al       |
| VT8WL...  | WR1150         | 0.64-0.98           | 1.05          | 1100           | 15               | FDP    | Al       |
| VT9WL...  | WR975          | 0.75-1.15           | 1.05          | 900            | 15               | FDP    | Al       |
| VT12WL... | WR770          | 0.96-1.45           | 1.05          | 680            | 10               | FDP    | Al       |
| VT14WL... | WR650          | 1.13-1.73           | 1.03          | 570            | 10               | FDP    | Cu       |
| VT18WL... | WR510          | 1.45-2.20           | 1.03          | 540            | 10               | FDP    | Cu       |
| VT22WL... | WR430          | 1.72-2.61           | 1.03          | 450            | 10               | FDP    | Cu       |
| VT26WL... | WR340          | 2.17-3.30           | 1.03          | 350            | 5                | FDP    | Cu       |
| VT32WL... | WR284          | 2.60-3.95           | 1.03          | 300            | 5                | FDP    | Cu       |
| VT40WL... | WR229          | 3.22-4.90           | 1.03          | 250            | 5                | FDP    | Cu       |
| VT48WL... | WR187          | 3.94-5.99           | 1.03          | 220            | 5                | FDP    | Cu       |
| VT58WL... | WR159          | 4.64-7.05           | 1.03          | 200            | 5                | FDP    | Cu       |
| VT70WL... | WR137          | 5.38-8.17           | 1.03          | 180            | 5                | FDP    | Cu       |

07

Waveguide  
Termination

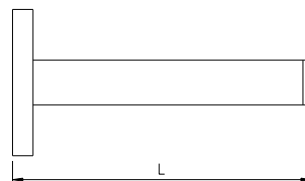




|             |       |            |      |     |     |      |    |
|-------------|-------|------------|------|-----|-----|------|----|
| VT84WL...   | WR112 | 6.57-9.99  | 1.03 | 150 | 5   | FBP  | Cu |
| VT100WL...  | WR90  | 8.20-12.40 | 1.03 | 130 | 2   | FBP  | Cu |
| VT120WL...  | WR75  | 9.84-15.0  | 1.03 | 110 | 2   | FBP  | Cu |
| VT140WL...  | WR62  | 11.9-18.0  | 1.03 | 90  | 2   | FBP  | Cu |
| VT180WL...  | WR51  | 14.5-22.0  | 1.03 | 75  | 2   | FBP  | Cu |
| VT220WL...  | WR42  | 17.6-26.7  | 1.03 | 65  | 1   | FBP  | Cu |
| VT260WL...  | WR34  | 21.7-33.0  | 1.03 | 55  | 1   | FBP  | Cu |
| VT320WL...  | WR28  | 26.5-40.0  | 1.03 | 50  | 1   | FBP  | Cu |
| VT400WL...  | WR22  | 32.9-50.1  | 1.15 | 40  | 0.5 | FUGP | Cu |
| VT500WL...  | WR19  | 39.2-59.6  | 1.15 | 40  | 0.5 | FUGP | Cu |
| VT620WL...  | WR15  | 49.8-75.8  | 1.15 | 38  | 0.5 | FUGP | Cu |
| VT740WL...  | WR12  | 60.5-91.9  | 1.15 | 30  | 0.5 | FUGP | Cu |
| VT900WL...  | WR10  | 73.8-110   | 1.15 | 30  | 0.5 | FUGP | Cu |
| VT1200WL... | WR8   | 92.2-140   | 1.2  | 25  | 0.3 | FUGP | Cu |
| VT1400WL... | WR6   | 113-173    | 1.2  | 22  | 0.3 | FUGP | Cu |
| VT1800WL... | WR5   | 145-220    | 1.25 | 20  | 0.3 | FUGP | Cu |
| VT2200WL... | WR4   | 172-261    | 1.25 | 20  | 0.3 | FUGP | Cu |
| VT2600WL... | WR3   | 217-330    | 1.25 | 20  | 0.3 | FUGP | Cu |

\*Indicates Model Number. See Ordering Information for complete part number.

## 7.2 Small Size Waveguide Termination



### 【Specifications】

| Model No* | WG Type<br>EIA | Freq Range<br>(GHz) | Operating<br>Bandwidth | VSWR<br>(Max) | Length<br>L (mm) | Flange | Material |
|-----------|----------------|---------------------|------------------------|---------------|------------------|--------|----------|
| VT3WLS... | WR2300         | 0.32-0.49           | 10%                    | 1.07          | 300-600          | FDP    | Al       |
| VT4WLS... | WR2100         | 0.35-0.53           | 10%                    | 1.07          | 250-550          | FDP    | Al       |
| VT5WLS... | WR1800         | 0.41-0.62           | 10%                    | 1.07          | 250-500          | FDP    | Al       |
| VT6WLS... | WR1500         | 0.49-0.75           | 10%                    | 1.07          | 200-400          | FDP    | Al       |



Vector Telecom

## Section 1

### Waveguide Components

# 07

### Waveguide Termination

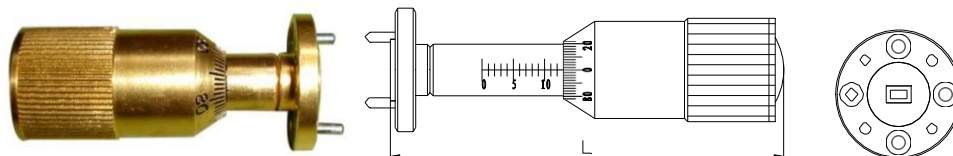


|             |        |            |     |      |         |      |    |
|-------------|--------|------------|-----|------|---------|------|----|
| VT8WLS...   | WR1150 | 0.64-0.98  | 10% | 1.07 | 170-350 | FDP  | Al |
| VT9WLS...   | WR975  | 0.75-1.15  | 10% | 1.07 | 150-300 | FDP  | Al |
| VT12WLS...  | WR770  | 0.96-1.46  | 10% | 1.05 | 120-250 | FDP  | Al |
| VT14WLS...  | WR650  | 1.13-1.73  | 10% | 1.05 | 100-200 | FDP  | Al |
| VT18WLS...  | WR510  | 1.45-2.20  | 10% | 1.05 | 70-150  | FDP  | Al |
| VT22WLS...  | WR430  | 1.72-2.61  | 10% | 1.05 | 60-130  | FDP  | Al |
| VT26WLS...  | WR340  | 2.17-3.30  | 10% | 1.05 | 50-100  | FDP  | Al |
| VT32WLS...  | WR284  | 2.60-3.95  | 10% | 1.05 | 40-90   | FDP  | Al |
| VT40WLS...  | WR229  | 3.22-4.90  | 10% | 1.05 | 40-80   | FDP  | Al |
| VT48WLS...  | WR187  | 3.94-5.99  | 10% | 1.05 | 40-70   | FDP  | Al |
| VT58WLS...  | WR159  | 4.64-7.05  | 10% | 1.05 | 30-60   | FDP  | Al |
| VT70WLS...  | WR137  | 5.38-8.17  | 10% | 1.05 | 25-50   | FDP  | Cu |
| VT84WLS...  | WR112  | 6.57-9.99  | 10% | 1.05 | 20-40   | FBP  | Cu |
| VT100WLS... | WR90   | 8.20-12.40 | 10% | 1.05 | 15-30   | FBP  | Cu |
| VT120WLS... | WR75   | 9.84-15.0  | 10% | 1.05 | 15-30   | FBP  | Cu |
| VT140WLS... | WR62   | 11.9-18.0  | 10% | 1.05 | 10-20   | FBP  | Cu |
| VT180WLS... | WR51   | 14.5-22.0  | 10% | 1.05 | 10-20   | FBP  | Cu |
| VT220WLS... | WR42   | 17.6-26.7  | 10% | 1.05 | 10-18   | FBP  | Cu |
| VT260WLS... | WR34   | 21.7-33.0  | 10% | 1.07 | 10-18   | FBP  | Cu |
| VT320WLS... | WR28   | 26.5-40.0  | 10% | 1.07 | 8-15    | FBP  | Cu |
| VT400WLS... | WR22   | 32.9-50.1  | 10% | 1.10 | 7-15    | FUGP | Cu |
| VT500WLS... | WR19   | 39.2-59.6  | 10% | 1.10 | 6-12    | FUGP | Cu |
| VT620WLS... | WR15   | 49.8-75.8  | 10% | 1.10 | 6-12    | FUGP | Cu |
| VT740WLS... | WR12   | 60.5-91.9  | 10% | 1.15 | 5-10    | FUGP | Cu |
| VT900WLS... | WR10   | 73.8-110   | 10% | 1.15 | 5-10    | FUGP | Cu |

*\*Indicates Model Number. See Ordering Information for complete part number.*

### 7.3 Waveguide Sliding Termination

Vector Telecom's standard product line of waveguide sliding termination used in microwave precision measurement or system. The sliding distance of sliding load can be divided into 180° and 360°.



### 【Specifications】

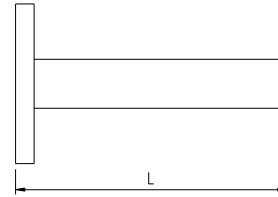
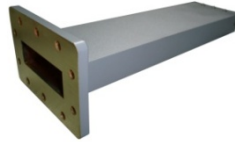
| Model No*   | WG Type EIA | Freq Range<br>(GHz) | VSWR<br>(Max) | Sliding<br>Distance (mm) | Flange | Material |
|-------------|-------------|---------------------|---------------|--------------------------|--------|----------|
| VT14WSL...  | WR650       | 1.13-1.73           | 1.05          | ≥70                      | FDP    | Cu       |
| VT18WSL...  | WR510       | 1.45-2.20           | 1.05          | ≥55                      | FDP    | Cu       |
| VT22WSL...  | WR430       | 1.72-2.61           | 1.05          | ≥45                      | FDP    | Cu       |
| VT26WSL...  | WR340       | 2.17-3.30           | 1.05          | ≥36                      | FDP    | Cu       |
| VT32WSL...  | WR284       | 2.60-3.95           | 1.05          | ≥30                      | FDP    | Cu       |
| VT40WSL...  | WR229       | 3.22-4.90           | 1.05          | ≥25                      | FDP    | Cu       |
| VT48WSL...  | WR187       | 3.94-5.99           | 1.05          | ≥20                      | FDP    | Cu       |
| VT58WSL...  | WR159       | 4.64-7.05           | 1.05          | ≥17                      | FDP    | Cu       |
| VT70WSL...  | WR137       | 5.38-8.17           | 1.05          | ≥15                      | FDP    | Cu       |
| VT84WSL...  | WR112       | 6.57-9.99           | 1.05          | ≥24                      | FBP    | Cu       |
| VT100WSL... | WR90        | 8.20-12.40          | 1.05          | ≥20                      | FBP    | Cu       |
| VT120WSL... | WR75        | 9.84-15.0           | 1.05          | ≥16                      | FBP    | Cu       |
| VT140WSL... | WR62        | 11.9-18.0           | 1.05          | ≥13                      | FBP    | Cu       |
| VT180WSL... | WR51        | 14.5-22.0           | 1.05          | ≥11                      | FBP    | Cu       |
| VT220WSL... | WR42        | 17.6-26.7           | 1.05          | ≥9                       | FBP    | Cu       |
| VT260WSL... | WR34        | 21.7-33.0           | 1.05          | ≥7.2                     | FBP    | Cu       |
| VT320WSL... | WR28        | 26.5-40.0           | 1.05          | ≥9                       | FBP    | Cu       |
| VT400WSL... | WR22        | 32.9-50.1           | 1.15          | ≥2                       | FUGP   | Cu       |
| VT500WSL... | WR19        | 39.2-59.6           | 1.15          | ≥4                       | FUGP   | Cu       |
| VT620WSL... | WR15        | 49.8-75.8           | 1.15          | ≥3.3                     | FUGP   | Cu       |
| VT740WSL... | WR12        | 60.5-91.9           | 1.15          | ≥2.6                     | FUGP   | Cu       |
| VT900WSL... | WR10        | 73.8-110            | 1.15          | ≥2.1                     | FUGP   | Cu       |

\*Indicates Model Number. See Ordering Information for complete part number.



## 7.4 Waveguide Unmatched Termination

Vector Telecom offers a full waveguide series of waveguide unmatched load. Normally VSWR value selection is 1.2-2.0, and accuracy is  $VSWR \pm 0.02$  over the full waveguide bandwidth.



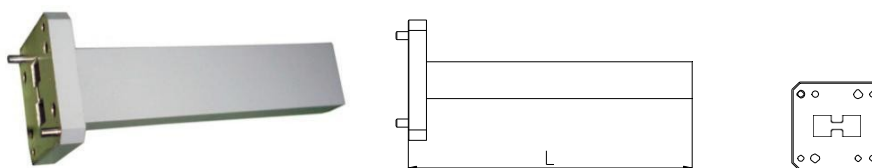
### 【Specifications】

| Model No*   | WG Type EIA | Freq Range<br>(GHz) | VSWR(Max)   | Length<br>L (mm) | Flange | Material |
|-------------|-------------|---------------------|-------------|------------------|--------|----------|
| VT5WUL...   | WR1800      | 0.41-0.62           | 1.2/1.5/2.0 | 1600             | FDP    | Al       |
| VT6WUL...   | WR1500      | 0.49-0.75           | 1.2/1.5/2.0 | 1300             | FDP    | Al       |
| VT8WUL...   | WR1150      | 0.64-0.98           | 1.2/1.5/2.0 | 1100             | FDP    | Al       |
| VT9WUL...   | WR975       | 0.75-1.15           | 1.2/1.5/2.0 | 660              | FDP    | Al       |
| VT12WUL...  | WR770       | 0.96-1.46           | 1.2/1.5/2.0 | 680              | FDP    | Al       |
| VT14WUL...  | WR650       | 1.13-1.73           | 1.2/1.5/2.0 | 570              | FDP    | Al       |
| VT18WUL...  | WR510       | 1.45-2.20           | 1.2/1.5/2.0 | 550              | FDP    | Al       |
| VT22WUL...  | WR430       | 1.72-2.61           | 1.2/1.5/2.0 | 470              | FDP    | Al       |
| VT26WUL...  | WR340       | 2.17-3.30           | 1.2/1.5/2.0 | 350              | FDP    | Al       |
| VT32WUL...  | WR284       | 2.60-3.95           | 1.2/1.5/2.0 | 278              | FDP    | Al       |
| VT40WUL...  | WR229       | 3.22-4.90           | 1.2/1.5/2.0 | 275              | FDP    | Al       |
| VT48WUL...  | WR187       | 3.94-5.99           | 1.2/1.5/2.0 | 170              | FDP    | Al       |
| VT58WUL...  | WR159       | 4.64-7.05           | 1.2/1.5/2.0 | 135              | FDP    | Al       |
| VT70WUL...  | WR137       | 5.38-8.17           | 1.2/1.5/2.0 | 180              | FDP    | Cu       |
| VT84WUL...  | WR112       | 6.57-9.99           | 1.2/1.5/2.0 | 100              | FBP    | Cu       |
| VT100WUL... | WR90        | 8.20-12.40          | 1.2/1.5/2.0 | 100              | FBP    | Cu       |
| VT120WUL... | WR75        | 9.84-15.0           | 1.2/1.5/2.0 | 90               | FBP    | Cu       |
| VT140WUL... | WR62        | 11.9-18.0           | 1.2/1.5/2.0 | 90               | FBP    | Cu       |
| VT180WUL... | WR51        | 14.5-22.0           | 1.2/1.5/2.0 | 75               | FBP    | Cu       |
| VT220WUL... | WR42        | 17.6-26.7           | 1.2/1.5/2.0 | 60               | FBP    | Cu       |
| VT260WUL... | WR34        | 21.7-33.0           | 1.2/1.5/2.0 | 55               | FBP    | Cu       |

|             |      |           |             |    |      |    |
|-------------|------|-----------|-------------|----|------|----|
| VT320WUL... | WR28 | 26.5-40.0 | 1.2/1.5/2.0 | 40 | FBP  | Cu |
| VT400WUL... | WR22 | 32.9-50.1 | 1.2/1.5/2.0 | 40 | FUGP | Cu |
| VT500WUL... | WR19 | 39.2-59.6 | 1.2/1.5/2.0 | 40 | FUGP | Cu |
| VT620WUL... | WR15 | 49.8-75.8 | 1.2/1.5/2.0 | 40 | FUGP | Cu |
| VT740WUL... | WR12 | 60.5-91.9 | 1.2/1.5/2.0 | 38 | FUGP | Cu |
| VT900WUL... | WR10 | 73.8-110  | 1.2/1.5/2.0 | 35 | FUGP | Cu |

\*Indicates Model Number. See Ordering Information for complete part number.

## 7.5 Double-Ridged Waveguide Termination



### 【Specifications】

| Model No*     | WG Type<br>EIA | Freq Range<br>(GHz) | Avg Power<br>(W) | VSWR<br>(Max) | Length<br>L(mm) | Flange | Material |
|---------------|----------------|---------------------|------------------|---------------|-----------------|--------|----------|
| VT84DRWL...   | WRD84          | 0.84-2              | 5                | 1.15          | 720             | FP     | Al       |
| VT150DRWL...  | WRD150         | 1.5-3.6             | 5                | 1.15          | 650             | FP     | Al       |
| VT200DRWL...  | WRD200         | 2-4.8               | 5                | 1.15          | 340             | FP     | Al       |
| VT250DRWL...  | WRD250         | 2.6-7.8             | 5                | 1.15          | 300             | FP     | Al       |
| VT350DRWL...  | WRD350         | 3.5-8.2             | 5                | 1.15          | 260             | FP     | Al       |
| VT475DRWL...  | WRD475         | 4.75-11             | 2                | 1.15          | 200             | FP     | Al       |
| VT500DRWL...  | WRD500         | 5-18                | 2                | 1.15          | 210             | FP     | Al       |
| VT580DRWL...  | WRD580         | 5.8-16              | 2                | 1.15          | 210             | FP     | Al       |
| VT650DRWL...  | WRD650         | 6.5-18              | 1                | 1.15          | 102             | FP     | Cu       |
| VT750DRWL...  | WRD750         | 7.5-18              | 1                | 1.15          | 140             | FP     | Cu       |
| VT700DRWL...  | WRD700         | 7-18.5              | 1                | 1.15          | 200             | FP     | Cu       |
| VT1100DRWL... | WRD110         | 11-26.5             | 1                | 1.15          | 150             | FP     | Cu       |
| VT1800DRWL... | WRD180         | 18-40               | 1                | 1.15          | 109             | FP     | Cu       |

\* Indicates Model Number. See Ordering Information for complete part number.

# 07

## Waveguide Termination





## 【Ordering Information】

**Example Part No:** VT 320 DRWL 1.03 P C

Vector Telecom ————  
WG Type: R320 ————  
Product Type: Double Ridged WG Termination ————

A=Aluminum C=Copper  
Flange Type: P=FBP320  
VSWR: 1.03

| Product Type | Description                         |
|--------------|-------------------------------------|
| WL           | Waveguide Termination               |
| DRWL         | Double Ridged Waveguide Termination |
| WSL          | Waveguide Sliding Termination       |
| WUL          | Waveguide Unmatched Termination     |
| DRWL         | Double Ridged Waveguide Termination |

- Flange type: Multiple types available - see VT Flanges page
- Finish: Corrosion protection plus black top coat

## 7.6 Circular Waveguide Termination



### 【Specifications】

| Model No*      | Freq Range (GHz) | Inner Diameter Φ(mm) | VSWR (Max) | Length L (mm) |
|----------------|------------------|----------------------|------------|---------------|
| VT114.58CWL... | 1.76~2.42        | 114.58               | 1.15       | 580           |
| VT97.87CWL...  | 2.1~2.8          | 97.87                | 1.15       | 470           |
| VT83.62CWL...  | 2.45~3.3         | 83.62                | 1.15       | 400           |
| VT71.42CWL...  | 2.83~3.88        | 71.42                | 1.15       | 360           |
| VT51.99CWL...  | 3.9~5.3          | 51.99                | 1.15       | 300           |
| VT44.45CWL...  | 4.55~6.23        | 44.45                | 1.15       | 250           |
| VT38.1CWL...   | 5.3~7.3          | 38.1                 | 1.15       | 190           |
| VT32.537CWL... | 6.3~8.5          | 32.537               | 1.15       | 170           |
| VT27.788CWL... | 7.3~9.5          | 27.788               | 1.15       | 160           |

|                |            |        |      |     |
|----------------|------------|--------|------|-----|
| VT23.825CWL... | 8.5~11.5   | 23.825 | 1.15 | 150 |
| VT17.415CWL... | 11.6~15.9  | 17.415 | 1.15 | 140 |
| VT15.088CWL... | 13.4~18.4  | 15.088 | 1.15 | 130 |
| VT12.7CWL...   | 15.9~21.8  | 12.7   | 1.15 | 120 |
| VT9.525CWL...  | 21.2~29.1  | 9.525  | 1.15 | 100 |
| VT8.331CWL...  | 24.3~33.2  | 8.331  | 1.15 | 80  |
| VT7.137CWL...  | 28.3~38.8  | 7.137  | 1.15 | 70  |
| VT5.563CWL...  | 36.4~49.8  | 5.563  | 1.15 | 65  |
| VT4.369CWL...  | 46.3~63.5  | 4.369  | 1.15 | 50  |
| VT3.581CWL...  | 56.6~77.5  | 3.581  | 1.15 | 45  |
| VT3.175CWL...  | 63.5~87.2  | 3.175  | 1.15 | 45  |
| VT2.388CWL...  | 84.8~116.0 | 2.388  | 1.15 | 45  |

*Indicates Model Number. See Ordering Information for complete part number.*

## 【Ordering Information】

**Example Part No:** VT 12.7 CWL 1.15 C

Vector Telecom ——— A=Aluminum C=Copper

Circular WG Inner Diameter:12.7mm ——— VSWR:1.15

Product Type:Circular WG Termination ———

- Flange type: Multiple types available - see VT Flanges page
- Finish: Corrosion protection plus black top coat

# 07

## Waveguide Termination



## 7.7 High Power Waveguide Termination



## 【Specifications】

| Model No*  | WG Type<br>EIA | Freq Range<br>(GHz) | Avg Power (W) | VSWR<br>(Max) | Flange | Material |
|------------|----------------|---------------------|---------------|---------------|--------|----------|
| VT3WHPL... | WR2300         | 0.32-0.49           | 10-4000       | 1.25          | FDP    | Al       |



|              |        |            |         |      |      |    |
|--------------|--------|------------|---------|------|------|----|
| VT4WHPL...   | WR2100 | 0.35-0.53  | 10-4000 | 1.25 | FDP  | Al |
| VT5WHPL...   | WR1800 | 0.41-0.62  | 10-4000 | 1.25 | FDP  | Al |
| VT6WHPL...   | WR1500 | 0.49-0.75  | 10-4000 | 1.25 | FDP  | Al |
| VT8WHPL...   | WR1150 | 0.64-0.98  | 10-4000 | 1.25 | FDP  | Al |
| VT9WHPL...   | WR975  | 0.75-1.15  | 10-4000 | 1.25 | FDP  | Al |
| VT12WHPL...  | WR770  | 0.96-1.46  | 10-4000 | 1.25 | FDP  | Al |
| VT14WHPL...  | WR650  | 1.13-1.73  | 10-4000 | 1.25 | FDP  | Al |
| VT18WHPL...  | WR510  | 1.45-2.20  | 10-4000 | 1.25 | FDP  | Al |
| VT22WHPL...  | WR430  | 1.72-2.61  | 10-4000 | 1.25 | FDP  | Al |
| VT26WHPL...  | WR340  | 2.17-3.30  | 10-4000 | 1.25 | FDP  | Al |
| VT32WHPL...  | WR284  | 2.60-3.95  | 10-4000 | 1.25 | FDP  | Al |
| VT40WHPL...  | WR229  | 3.22-4.90  | 10-4000 | 1.25 | FDP  | Al |
| VT48WHPL...  | WR187  | 3.94-5.99  | 10-4000 | 1.25 | FDP  | Al |
| VT58WHPL...  | WR159  | 4.64-7.05  | 10-4000 | 1.25 | FDP  | Al |
| VT70WHPL...  | WR137  | 5.38-8.17  | 10-3000 | 1.25 | FDP  | Cu |
| VT84WHPL...  | WR112  | 6.57-9.99  | 10-3000 | 1.25 | FBP  | Cu |
| VT100WHPL... | WR90   | 8.20-12.40 | 10-3000 | 1.25 | FBP  | Cu |
| VT120WHPL... | WR75   | 9.84-15.0  | 10-3000 | 1.25 | FBP  | Cu |
| VT140WHPL... | WR62   | 11.9-18.0  | 10-1000 | 1.25 | FBP  | Cu |
| VT180WHPL... | WR51   | 14.5-22.0  | 10-1000 | 1.25 | FBP  | Cu |
| VT220WHPL... | WR42   | 17.6-26.7  | 10-600  | 1.25 | FBP  | Cu |
| VT260WHPL... | WR34   | 21.7-33.0  | 10-600  | 1.25 | FBP  | Cu |
| VT320WHPL... | WR28   | 26.5-40.0  | 10-600  | 1.25 | FBP  | Cu |
| VT400WHPL... | WR22   | 32.9-50.1  | 10-600  | 1.25 | FUGP | Cu |
| VT500WHPL... | WR19   | 39.2-59.6  | 10-300  | 1.25 | FUGP | Cu |
| VT620WHPL... | WR15   | 49.8-75.8  | 10-300  | 1.25 | FUGP | Cu |
| VT740WHPL... | WR12   | 60.5-91.9  | 10-200  | 1.25 | FUGP | Cu |
| VT900WHPL... | WR10   | 73.8-112   | 10-200  | 1.25 | FUGP | Cu |

*\*Indicates Model Number. See Ordering Information for complete part number.*

## 7.8 Double-Ridged High Power Waveguide Termination



## 【Specifications】

| Model No*       | WG Type<br>EIA | Freq Range<br>(GHz) | Avg Power<br>(W) | VSWR<br>(Max) | Flange | Material |
|-----------------|----------------|---------------------|------------------|---------------|--------|----------|
| VT84DRWHPL...   | WRD84          | 0.84-2              | 10-2000          | 1.25          | FP     | Al       |
| VT150DRWHPL...  | WRD150         | 1.5-3.6             | 10-2000          | 1.25          | FP     | Al       |
| VT200DRWHPL...  | WRD200         | 2-4.8               | 10-2000          | 1.25          | FP     | Al       |
| VT250DRWHPL...  | WRD250         | 2.6-7.8             | 10-2000          | 1.25          | FP     | Al       |
| VT350DRWHPL...  | WRD350         | 3.5-8.2             | 10-2000          | 1.25          | FP     | Al       |
| VT475DRWHPL...  | WRD475         | 4.75-11             | 10-1000          | 1.25          | FP     | Al       |
| VT500DRWHPL...  | WRD500         | 5-18                | 10-1000          | 1.25          | FP     | Al       |
| VT580DRWHPL...  | WRD580         | 5.8-16              | 10-1000          | 1.25          | FP     | Al       |
| VT650DRWHPL...  | WRD650         | 6.5-18              | 10-1000          | 1.25          | FP     | Cu       |
| VT750DRWHPL...  | WRD750         | 7.5-18              | 10-1000          | 1.25          | FP     | Cu       |
| VT700DRWHPL...  | WRD700         | 7-18.5              | 10-1000          | 1.25          | FP     | Cu       |
| VT1100DRWHPL... | WRD110         | 11-26.5             | 10-600           | 1.25          | FP     | Cu       |
| VT1800DRWHPL... | WRD180         | 18-40               | 10-600           | 1.25          | FP     | Cu       |

\*Indicates Model Number. See Ordering Information for complete part number.

## 【Ordering Information】

**Example Part No:** VT 100 WHPL 500 C  
 Vector Telecom ——— Material: A=Aluminum, C=Copper  
 WG Type: WR90 ——— Power: 500W  
 Waveguide High Power Termination ———

| Product | Description                                    |
|---------|------------------------------------------------|
| WHPL    | Waveguide High Power Termination               |
| DRWHPL  | Double Ridged Waveguide High Power Termination |

- Flange type: Multiple types available - see VT Flanges page
- Finish: Corrosion protection plus black top coat



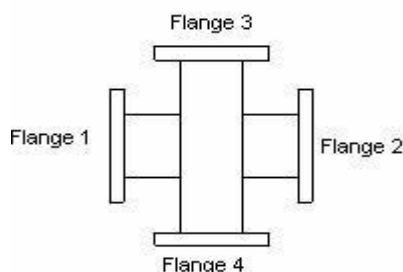
## 8 Waveguide Coupler

### 8.1 Crossguide Directional Coupler



Vector Telecom manufactures Crossguide Directional Couplers covering a wide frequency range. Couplers are available in 3 or 4 port configuration. Standard coupling values are 20, 30, 40, 50 and 60 dB, with minimum Directivity of 18 dB. The compactness of crossguide coupler suits many applications where space is at a premium and directivity is not the prime consideration. Models are available with combinations of waveguide and coaxial ports. Special multi-port crossguide couplers can be manufactured to suit customer's special requirements.

#### Style 1 — 4 Waveguide Ports



#### 【Specifications】

| Model No*  | Freq Range (GHz) | Operating Bandwidth (%)** | VSWR (Max) |           | Coupling *** (dB) | Dir. (Min) (dB) | WG Type |       | Flange  | Material |
|------------|------------------|---------------------------|------------|-----------|-------------------|-----------------|---------|-------|---------|----------|
|            |                  |                           | Main Line  | Sec. Line |                   |                 | IEC     | EIA   |         |          |
| VT22W+C... | 1.72-2.61        | 10-20                     | 1.10       | 1.15      | 18~60             | 18              | R22     | WR430 | FDP/FDM | Al/Cu    |
| VT26W+C... | 2.17-3.30        | 10-20                     | 1.10       | 1.15      | 18~60             | 18              | R26     | WR340 | FDP/FDM | Al/Cu    |
| VT32W+C... | 2.60-3.95        | 10-20                     | 1.10       | 1.15      | 18~60             | 18              | R32     | WR284 | FDP/FDM | Al/Cu    |
| VT40W+C... | 3.22-4.90        | 10-20                     | 1.10       | 1.15      | 18~60             | 18              | R40     | WR229 | FDP/FDM | Al/Cu    |
| VT48W+C... | 3.94-5.99        | 10-20                     | 1.10       | 1.15      | 18~60             | 18              | R48     | WR187 | FDP/FDM | Al/Cu    |



Vector Telecom

## Section 1

### Waveguide Components

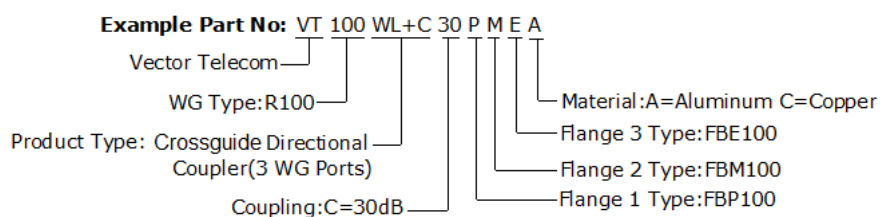
|             |            |       |      |      |       |    |      |       |             |       |
|-------------|------------|-------|------|------|-------|----|------|-------|-------------|-------|
| VT58W+C...  | 4.64-7.05  | 10-20 | 1.10 | 1.15 | 18~60 | 18 | R58  | WR159 | FDP/FDM     | Al/Cu |
| VT70W+C...  | 5.38-8.17  | 10-20 | 1.10 | 1.15 | 18~60 | 18 | R70  | WR137 | FDP/FDM     | Al/Cu |
| VT84W+C...  | 6.57-9.99  | 10-20 | 1.10 | 1.15 | 18~60 | 18 | R84  | WR112 | FBP/FBM     | Al/Cu |
| VT100W+C... | 8.20-12.40 | 10-20 | 1.10 | 1.15 | 18~60 | 18 | R100 | WR90  | FBP/FBM/FBE | Al/Cu |
| VT120W+C... | 9.84-15.0  | 10-20 | 1.10 | 1.15 | 18~60 | 18 | R120 | WR75  | FBP/FBM/FBE | Al/Cu |
| VT140W+C... | 11.9-18.0  | 10-20 | 1.10 | 1.15 | 18~60 | 18 | R140 | WR62  | FBP/FBM/FBE | Al/Cu |
| VT180W+C... | 14.5-22.0  | 10-20 | 1.10 | 1.15 | 18~60 | 18 | R180 | WR51  | FBP/FBM/FBE | Al/Cu |
| VT220W+C... | 17.6-26.7  | 10-20 | 1.10 | 1.15 | 18~60 | 18 | R220 | WR42  | FBP/FBM/FBE | Al/Cu |
| VT260W+C... | 21.7-33.0  | 10-20 | 1.10 | 1.15 | 18~60 | 18 | R260 | WR34  | FBP/FBM/FBE | Al/Cu |
| VT320W+C... | 26.3-40.0  | 10-20 | 1.15 | 1.15 | 18~60 | 18 | R320 | WR28  | FBP/FBM/FBE | Al/Cu |
| VT400W+C... | 33.0-50.0  | 10-20 | 1.15 | 1.15 | 18~60 | 18 | R400 | WR22  | FUGP        | Cu    |
| VT500W+C... | 40.0-60.0  | 10-20 | 1.15 | 1.15 | 18~60 | 18 | R500 | WR19  | FUGP        | Cu    |
| VT620W+C... | 50.0-75.0  | 10-20 | 1.15 | 1.15 | 18~60 | 18 | R620 | WR15  | FUGP        | Cu    |
| VT740W+C... | 60.0-90.0  | 10-20 | 1.15 | 1.15 | 18~60 | 18 | R740 | WR12  | FUGP        | Cu    |
| VT900W+C... | 90.0-110.0 | 10-20 | 1.15 | 1.15 | 18~60 | 18 | R900 | WR10  | FUGP        | Cu    |

*\*Indicates Model Number. See Ordering Information for complete part number.*

*\*\*Typical operating bandwidth of the crossguide coupler is up to 20% of waveguide bandwidth.*

*\*\*\*Nominal Accuracy:  $\pm 0.7\text{dB}$  Frequency Sensitivity:  $\pm 1\text{dB}$*

### 【Ordering Information】



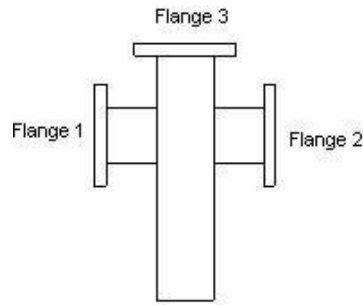
- Flange type: Multiple types available - see VT Flanges page
- Finish: Corrosion protection plus black top coat

# 08

## Waveguide Coupler



## Style 2 — 3 Waveguide Ports



### 【Specifications】

| Model No*    | Freq Range (GHz) | Operating Bandwidth (%)** | VSWR (Max) |           | Coupling *** (dB) | Dir. (Min) (dB) | WG Type |       | Flange      | Material |
|--------------|------------------|---------------------------|------------|-----------|-------------------|-----------------|---------|-------|-------------|----------|
|              |                  |                           | Main Line  | Sec. Line |                   |                 | IEC     | EIA   |             |          |
| VT22WL+C...  | 1.72-2.61        | 10-20                     | 1.10       | 1.15      | 18~60             | 18              | R22     | WR430 | FDP/FDM     | Al/Cu    |
| VT26WL+C...  | 2.17-3.30        | 10-20                     | 1.10       | 1.15      | 18~60             | 18              | R26     | WR340 | FDP/FDM     | Al/Cu    |
| VT32WL+C...  | 2.60-3.95        | 10-20                     | 1.10       | 1.15      | 18~60             | 18              | R32     | WR284 | FDP/FDM     | Al/Cu    |
| VT40WL+C...  | 3.22-4.90        | 10-20                     | 1.10       | 1.15      | 18~60             | 18              | R40     | WR229 | FDP/FDM     | Al/Cu    |
| VT48WL+C...  | 3.94-5.99        | 10-20                     | 1.10       | 1.15      | 18~60             | 18              | R48     | WR187 | FDP/FDM     | Al/Cu    |
| VT58WL+C...  | 4.64-7.05        | 10-20                     | 1.10       | 1.15      | 18~60             | 18              | R58     | WR159 | FDP/FDM     | Al/Cu    |
| VT70WL+C...  | 5.38-8.17        | 10-20                     | 1.10       | 1.15      | 18~60             | 18              | R70     | WR137 | FDP/FDM     | Al/Cu    |
| VT84WL+C...  | 6.57-9.99        | 10-20                     | 1.10       | 1.15      | 18~60             | 18              | R84     | WR112 | FBP/FBM/FBE | Al/Cu    |
| VT100WL+C... | 8.20-12.40       | 10-20                     | 1.10       | 1.15      | 18~60             | 18              | R100    | WR90  | FBP/FBM/FBE | Al/Cu    |
| VT120WL+C... | 9.84-15.0        | 10-20                     | 1.10       | 1.15      | 18~60             | 18              | R120    | WR75  | FBP/FBM/FBE | Al/Cu    |
| VT140WL+C... | 11.9-18.0        | 10-20                     | 1.10       | 1.15      | 18~60             | 18              | R140    | WR62  | FBP/FBM/FBE | Al/Cu    |
| VT180WL+C... | 14.5-22.0        | 10-20                     | 1.10       | 1.15      | 18~60             | 18              | R180    | WR51  | FBP/FBM/FBE | Al/Cu    |
| VT220WL+C... | 17.6-26.7        | 10-20                     | 1.10       | 1.15      | 18~60             | 18              | R220    | WR42  | FBP/FBM/FBE | Al/Cu    |
| VT260WL+C... | 21.7-33.0        | 10-20                     | 1.10       | 1.15      | 18~60             | 18              | R260    | WR34  | FBP/FBM/FBE | Al/Cu    |
| VT320WL+C... | 26.3-40.0        | 10-20                     | 1.15       | 1.15      | 18~60             | 18              | R320    | WR28  | FBP/FBM/FBE | Al/Cu    |
| VT400WL+C... | 33.0-50.0        | 10-20                     | 1.15       | 1.15      | 18~60             | 15              | R320    | WR28  | FUGP        | Al/Cu    |
| VT500WL+C... | 40.0-60.0        | 10-20                     | 1.15       | 1.15      | 18~60             | 15              | R320    | WR28  | FUGP        | Al/Cu    |
| VT620WL+C... | 50.0-75.0        | 10-20                     | 1.15       | 1.15      | 18~60             | 15              | R320    | WR28  | FUGP        | Al/Cu    |
| VT740WL+C... | 60.0-90.0        | 10-20                     | 1.15       | 1.15      | 18~60             | 15              | R320    | WR28  | FUGP        | Al/Cu    |
| VT900WL+C... | 75.0-110.0       | 10-20                     | 1.15       | 1.15      | 18~60             | 15              | R320    | WR28  | FUGP        | Al/Cu    |

\*Indicates Model Number. See Ordering Information for complete part number.

Section 1

### Waveguide Components

# 08

### Waveguide Coupler





**\*\*Typical operating bandwidth of the crossguide coupler is up to 20% of waveguide bandwidth.**

**\*\*\*Nominal Accuracy:  $\pm 0.7\text{dB}$  Frequency Sensitivity:  $\pm 1\text{dB}$**

### 【Ordering Information】

**Example Part No:** VT 100 WL+C 30 P M E A

Vector Telecom

WG Type: R100

Product Type: Crossguide Directional Coupler (2 WG Ports, 1 Coax Ports)

Coupling: C=30dB

Material: A=Aluminum C=Copper

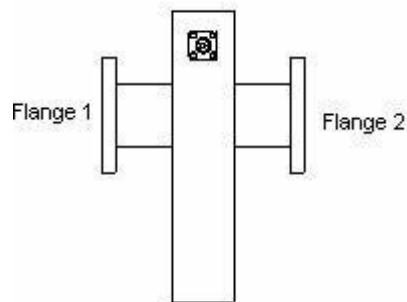
Flange 3 Type: FBE100

Flange 2 Type: FBM100

Flange 1 Type: FBP100

- Flange type: Multiple types available - see VT Flanges page
- Finish: Corrosion protection plus black top coat

### Style 3 — 2 Waveguide Ports, 1 Coax Port



### 【Specifications】

| Model No*   | Freq Range (GHz) | Operating Bandwidth (%)** | VSWR (Max) |           | Coupling *** (dB) | Dir. (Min) (dB) | WG Type |       | Flange      | Coax Type | Material |
|-------------|------------------|---------------------------|------------|-----------|-------------------|-----------------|---------|-------|-------------|-----------|----------|
|             |                  |                           | Main Line  | Sec. Line |                   |                 | IEC     | EIA   |             |           |          |
| VT22WL+C... | 1.72-2.61        | 10-20                     | 1.10       | 1.25      | 18~60             | 18              | R22     | WR430 | FDP/FDM     | N         | Al/Cu    |
| VT26WL+C... | 2.17-3.30        | 10-20                     | 1.10       | 1.25      | 18~60             | 18              | R26     | WR340 | FDP/FDM     | N         | Al/Cu    |
| VT32WL+C... | 2.60-3.95        | 10-20                     | 1.10       | 1.25      | 18~60             | 18              | R32     | WR284 | FDP/FDM     | N         | Al/Cu    |
| VT40WL+C... | 3.22-4.90        | 10-20                     | 1.10       | 1.25      | 18~60             | 18              | R40     | WR229 | FDP/FDM     | N         | Al/Cu    |
| VT48WL+C... | 3.94-5.99        | 10-20                     | 1.10       | 1.25      | 18~60             | 18              | R48     | WR187 | FDP/FDM     | N         | Al/Cu    |
| VT58WL+C... | 4.64-7.05        | 10-20                     | 1.10       | 1.25      | 18~60             | 18              | R58     | WR159 | FDP/FDM     | N         | Al/Cu    |
| VT70WL+C... | 5.38-8.17        | 10-20                     | 1.10       | 1.25      | 18~60             | 18              | R70     | WR137 | FDP/FDM     | N         | Al/Cu    |
| VT84WL+C... | 6.57-9.99        | 10-20                     | 1.10       | 1.25      | 18~60             | 18              | R84     | WR112 | FBP/FBM/FBE | N         | Al/Cu    |

|              |           |       |      |      |       |    |      |      |             |        |       |
|--------------|-----------|-------|------|------|-------|----|------|------|-------------|--------|-------|
| VT100WL+C... | 8.20-12.4 | 10-20 | 1.10 | 1.25 | 18~60 | 18 | R100 | WR90 | FBP/FBM/FBE | N      | Al/Cu |
| VT120WL+C... | 9.84-15.0 | 10-20 | 1.10 | 1.25 | 18~60 | 18 | R120 | WR75 | FBP/FBM/FBE | SMA    | Al/Cu |
| VT140WL+C... | 11.9-18.0 | 10-20 | 1.10 | 1.25 | 18~60 | 18 | R140 | WR62 | FBP/FBM/FBE | SMA    | Al/Cu |
| VT180WL+C... | 14.5-22.0 | 10-20 | 1.10 | 1.30 | 18~60 | 18 | R180 | WR51 | FBP/FBM/FBE | SMA    | Al/Cu |
| VT220WL+C... | 17.6-26.7 | 10-20 | 1.10 | 1.35 | 18~60 | 18 | R220 | WR42 | FBP/FBM/FBE | SMA, K | Al/Cu |
| VT320WL+C... | 26.3-40.0 | 10-20 | 1.15 | 1.35 | 18~60 | 18 | R320 | WR28 | FBP/FBM/FBE | SMA, K | Al/Cu |
| VT400WL+C... | 33-50.0   | 10-20 | 1.15 | 1.50 | 18~60 | 18 | R400 | WR22 | FUGP        | 2.4mm  | Al/Cu |
| VT500WL+C... | 40.0-60.0 | 10-20 | 1.15 | 1.50 | 18~60 | 18 | R500 | WR19 | FUGP        | 1.85m  | Al/Cu |

\*Indicates Model Number. See Ordering Information for complete part number.

\*\*Typical operating bandwidth of the crossguide coupler is up to 20% of waveguide bandwidth.

\*\*\*Nominal Accuracy:  $\pm 0.7\text{dB}$  Frequency Sensitivity:  $\pm 1\text{dB}$

## 【Ordering Information】

**Example Part No:** VT 100 WL+C 30 N K P M A

Vector Telecom ————

WG Type: R100 ————

Product Type: Broadwall Directional Coupler (3 WG Ports) ————

Coupling: C=30dB ————

Material: A=Aluminum, C=Copper ————

Flange 2 Type: FBM100 ————

Flange 1 Type: FBP100 ————

J=Male, K=Female ————

Coax Connector Type: N=Type N, S=SMA, 2.92=K 2.92mm, 2.4=2.4mm, TNC=TNC ————

- Flange type: Multiple types available - see VT Flanges page
- Finish: Corrosion protection plus black top coat

08

Waveguide  
Coupler



## 8.2 Waveguide Loop Coupler

Loop couplers are typically used for microwave measurements, power sampling and frequency monitoring. It features small volume, low VSWR, low frequency response and major waveguide bandwidth. The coupling level can be custom made ranging from 20dB to 60dB. The directivity is above 15dB. The flange type, connector type and sizes can be custom made as per customer's specific requirements.

### 8.2.1 Waveguide Loop Coupler



Vector Telecom

Section 1

## Waveguide Components

# 08

## Waveguide Coupler



### 【Product Type】

| Description         | Loop Coupler | Dual Directional Loop Coupler |             | Four Directional Loop Coupler |
|---------------------|--------------|-------------------------------|-------------|-------------------------------|
| Model               | WHC...c      | WHHC...c                      | WDHC...c    | WDHHC...c                     |
| Outline Drawings    |              |                               |             |                               |
| WG Type             | WR975-WR90   | WR975- WR90                   | WR975- WR90 | WR975- WR90                   |
| Operating Bandwidth | F0±10%       | F0±10%                        | F0±10%      | F0±10%                        |
| Optional            | 20-60        | 20-60                         | 20-60       | 20-60                         |
| Directivity (dB)    | 15           | 15                            | 15          | 15                            |
| VSWR (Main Line)    | 1.10         | 1.10                          | 1.10        | 1.10                          |
| VSWR (Sec. line)    | 1.25         | 1.25                          | 1.25        | 1.25                          |
| Connector           | N or SMA     | N or SMA                      | N or SMA    | N or SMA                      |

### 【WHC...c Specifications】

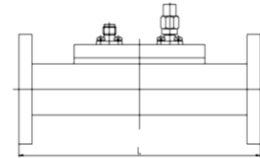
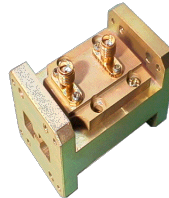
| Model No*      | WG Type | Freq Range (GHz) | Working Bandwidth (%)** | Optional Coupling. .. (dB) | Directivity (dB) | VSWR (Main Line) | VSWR (Sec. Line ) | Flange | Connector | Length (mm) | Material |
|----------------|---------|------------------|-------------------------|----------------------------|------------------|------------------|-------------------|--------|-----------|-------------|----------|
| VT9WHC .....N  | WR975   | 0.75-1.15        | ≤20                     | 20~60                      | ≥15              | 1.10             | 1.25              | FDP    | N Female  | 300         | Al       |
| VT12WHC .....N | WR770   | 0.96-1.46        | ≤20                     | 20~60                      | ≥15              | 1.10             | 1.25              | FDP    | N Female  | 200         | Al       |
| VT14WHC .....N | WR650   | 1.13-1.73        | ≤20                     | 20~60                      | ≥15              | 1.10             | 1.25              | FDP    | N Female  | 220         | Al       |
| VT18WHC .....N | WR510   | 1.45-2.20        | ≤20                     | 20~60                      | ≥15              | 1.10             | 1.25              | FDP    | N Female  | 210         | Al       |
| VT22WHC .....N | WR430   | 1.72-2.61        | ≤20                     | 20~60                      | ≥15              | 1.10             | 1.25              | FDP    | N Female  | 160         | Al       |
| VT26WHC .....N | WR340   | 2.17-3.30        | ≤20                     | 20~60                      | ≥15              | 1.10             | 1.25              | FDP    | N Female  | 160         | Al       |
| VT32WHC .....N | WR284   | 2.60-3.95        | ≤20                     | 20~60                      | ≥15              | 1.10             | 1.25              | FDP    | N Female  | 150         | Al       |
| VT40WHC .....N | WR229   | 3.22-4.90        | ≤20                     | 20~60                      | ≥15              | 1.10             | 1.25              | FDP    | N Female  | 130         | Al       |
| VT48WHC .....N | WR187   | 3.94-5.99        | ≤20                     | 20~60                      | ≥15              | 1.10             | 1.25              | FDP    | N Female  | 130         | Al       |
| VT58WHC .....N | WR159   | 4.64-7.05        | ≤20                     | 20~60                      | ≥15              | 1.10             | 1.25              | FDP    | N Female  | 130         | Al       |



|                |       |           |     |       |     |      |      |     |          |     |    |
|----------------|-------|-----------|-----|-------|-----|------|------|-----|----------|-----|----|
| VT70WHC .....N | WR137 | 5.38-8.17 | ≤20 | 20~60 | ≥15 | 1.10 | 1.25 | FDP | N Female | 130 | Al |
| VT84WHC .....N | WR112 | 6.57-9.99 | ≤20 | 20~60 | ≥15 | 1.10 | 1.25 | FBP | N Female | 130 | Cu |
| VT100WHC ...N  | WR90  | 8.2-12.4  | ≤20 | 20~60 | ≥15 | 1.10 | 1.25 | FBP | N Female | 100 | Cu |

\*Indicates Model Number. See Ordering Information for complete part number.

## 8.2.2 Double Ridged Waveguide Loop Couple



### 【DRWHC Series Specifications】

| Model No*    | WG Type | Freq Range (GHz) | Optional Coupling.. (dB) | Directivity (dB) | VSWR (Main Line) | VSWR (Sec. Line ) | Flange | Connector  | Length (mm) | Material |
|--------------|---------|------------------|--------------------------|------------------|------------------|-------------------|--------|------------|-------------|----------|
| VT84DRWHCN   | WRD84   | 0.84-2           | 20~60                    | ≥15              | ≤1.15            | ≤1.60             | FP     | N Female   | 300         | Al       |
| VT150DRWHCN  | WRD150  | 1.5-3.6          | 20~60                    | ≥15              | ≤1.15            | ≤1.60             | FP     | N Female   | 200         | Al       |
| VT200DRWHCN  | WRD200  | 2-4.8            | 20~60                    | ≥15              | ≤1.15            | ≤1.60             | FP     | N Female   | 180         | Al       |
| VT250DRWHN   | WRD250  | 2.6-7.8          | 20~60                    | ≥15              | ≤1.15            | ≤1.60             | FP     | N Female   | 150         | Al       |
| VT350DRWHCN  | WRD350  | 3.5-8.2          | 20~60                    | ≥15              | ≤1.15            | ≤1.60             | FP     | N Female   | 120         | Al       |
| VT475DRWHCN  | WRD475  | 4.75-11          | 20~60                    | ≥10              | ≤1.15            | ≤1.80             | FP     | N Female   | 100         | Al       |
| VT500DRWHCN  | WRD500  | 5-18             | 20~60                    | ≥10              | ≤1.15            | ≤1.80             | FP     | N Female   | 100         | Al       |
| VT580DRWHCN  | WRD580  | 5.8-16           | 20~60                    | ≥10              | ≤1.15            | ≤1.80             | FP     | N Female   | 100         | Al       |
| VT650DRWHCN  | WRD650  | 6.5-18           | 20~60                    | ≥10              | ≤1.15            | ≤1.80             | FP     | N Female   | 100         | Al       |
| VT750DRWHCN  | WRD750  | 7.5-18           | 20~60                    | ≥10              | ≤1.15            | ≤1.80             | FP     | N Female   | 100         | Al       |
| VT700DRWHCN  | WRD700  | 7-18.5           | 20~60                    | ≥10              | ≤1.15            | ≤1.80             | FP     | N Female   | 100         | Al       |
| VT1100DRWHCN | WRD110  | 11-26.5          | 20~60                    | ≥10              | ≤1.20            | ≤2.0              | FP     | SMA Female | 80          | Cu       |
| VT1800DRWHCN | WRD180  | 18-40            | 20~60                    | ≥10              | ≤1.20            | ≤2.0              | FP     | SMA Female | 80          | Cu       |

\*indicates Model Number. See Ordering Information for complete part number.

### 【Ordering Information】



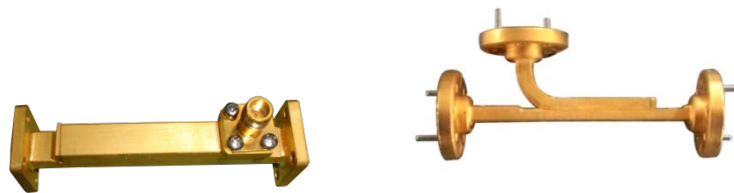
**Example Part No:** VT 100 WHC 30 S C

Vector Telecom —  
WG Type: R100 —  
Product Type: WG Loop Coupler —  
DRWHC: Double Ridge WG Loop Coupler —

Material: A=Aluminum C=Copper  
Coax Connector Type: N=Type N, S=SMA,  
2.92 =K 2.92mm, 2.4=2.4mm, TNC=TNC  
Coupling: C=30dB

- Flange type: Multiple types available - see VT Flanges page
- Finish: Corrosion protection plus black top coat

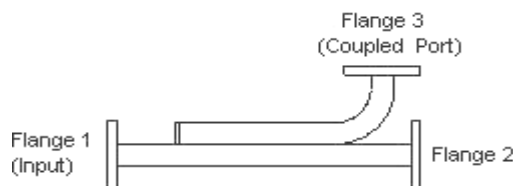
## 8.3 Broadwall Directional Coupler



Vector Telecom manufactures a standard product line of multi-hole broadwall directional couplers covering a wide frequency range. The optimum electrical characteristics of high directivity and coupling flatness are achieved utilizing a precision machined Tchebyscheff coupling hole distribution and a precision ground tapered load element in the secondary arm. Directional couplers are typically used for power sampling, frequency monitoring, especially in the test setups where power reflection measurements are required. Additional sizes and special configurations are available on request.

### 8.3.1 Broadwall Directional Coupler

#### Style 1 — 3 Waveguide Ports



#### 【Specifications】

## Section 1

### Waveguide Components

# 08

## Waveguide Coupler



| Model No*  | Freq Range (GHz) | VSWR (Max) |                | Coupling ** (dB) | Directivity (Min) (dB) | WG Type |       | Flange      | Material |
|------------|------------------|------------|----------------|------------------|------------------------|---------|-------|-------------|----------|
|            |                  | Main Line  | Secondary Line |                  |                        | IEC     | EIA   |             |          |
| VT14WC...  | 1.13-1.73        | 1.10       | 1.15           | 3-60             | 20-38                  | R14     | WR650 | FDP/FDM     | Al/Cu    |
| VT18WC...  | 1.45-2.20        | 1.10       | 1.15           | 3-60             | 20-38                  | R18     | WR510 | FDP/FDM     | Al/Cu    |
| VT22WC...  | 1.72-2.61        | 1.10       | 1.15           | 3-60             | 20-38                  | R22     | WR430 | FDP/FDM     | Al/Cu    |
| VT26WC...  | 2.17-3.30        | 1.10       | 1.15           | 3-60             | 20-38                  | R26     | WR340 | FDP/FDM     | Al/Cu    |
| VT32WC...  | 2.60-3.95        | 1.10       | 1.15           | 3-60             | 20-38                  | R32     | WR284 | FDP/FDM     | Al/Cu    |
| VT40WC...  | 3.22-4.90        | 1.08       | 1.12           | 3-60             | 20-38                  | R40     | WR229 | FDP/FDM     | Al/Cu    |
| VT48WC...  | 3.94-5.99        | 1.08       | 1.12           | 3-60             | 20-38                  | R48     | WR187 | FDP/FDM     | Al/Cu    |
| VT58WC...  | 4.64-7.05        | 1.08       | 1.12           | 3-60             | 20-38                  | R58     | WR159 | FDP/FDM     | Al/Cu    |
| VT70WC...  | 5.38-8.17        | 1.08       | 1.12           | 3-60             | 20-38                  | R70     | WR137 | FDP/FDM     | Al/Cu    |
| VT84WC...  | 6.57-9.99        | 1.08       | 1.12           | 3-60             | 20-38                  | R84     | WR112 | FBP/FBM/FBE | Al/Cu    |
| VT100WC... | 8.20-12.40       | 1.08       | 1.12           | 3-60             | 20-38                  | R100    | WR90  | FBP/FBM/FBE | Al/Cu    |
| VT120WC... | 9.84-15.0        | 1.08       | 1.12           | 3-60             | 20-38                  | R120    | WR75  | FBP/FBM/FBE | Al/Cu    |
| VT140WC... | 11.9-18.0        | 1.10       | 1.15           | 3-60             | 20-38                  | R140    | WR62  | FBP/FBM/FBE | Al/Cu    |
| VT180WC... | 14.5-22.0        | 1.10       | 1.15           | 3-60             | 20-38                  | R180    | WR51  | FBP/FBM/FBE | Al/Cu    |
| VT220WC... | 17.6-26.7        | 1.10       | 1.15           | 3-60             | 20-38                  | R220    | WR42  | FBP/FBM/FBE | Al/Cu    |
| VT260WC... | 21.7-33.0        | 1.10       | 1.15           | 3-60             | 20-38                  | R260    | WR34  | FBP/FBM/FBE | Al/Cu    |
| VT320WC... | 26.3-40.0        | 1.10       | 1.15           | 3-60             | 20-38                  | R320    | WR28  | FBP/FBM/FBE | Al/Cu    |
| VT400WC... | 33.0-50.0        | 1.10       | 1.25           | 3-60             | 20-38                  | R400    | WR22  | FUGP        | Cu       |
| VT500WC... | 40.0-60.0        | 1.10       | 1.25           | 3-60             | 20-38                  | R500    | WR19  | FUGP        | Cu       |
| VT620WC... | 50.0-75.0        | 1.10       | 1.25           | 3-60             | 20-38                  | R620    | WR15  | FUGP        | Cu       |
| VT740WC... | 60.0-90.0        | 1.10       | 1.25           | 3-60             | 20-38                  | R740    | WR12  | FUGP        | Cu       |
| VT900WC... | 75.0-110.0       | 1.10       | 1.25           | 3-60             | 20-38                  | R900    | WR10  | FUGP        | Cu       |

\*Indicates Model Number. See Ordering Information for complete part number.

\*\*Nominal Accuracy:  $\pm 0.7\text{dB}$  Frequency Sensitivity:  $\pm 1\text{ dB}$

### 【Ordering Information】

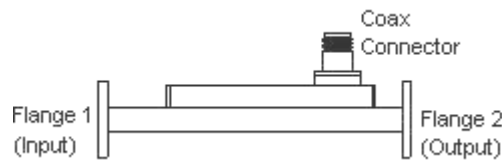


**Example Part No:** VT 100 WC 30 P P M A

Vector Telecom  
WG Type: R100  
Product Type: Broadwall Directional Coupler (3 WG ports)  
Coupling: C=30dB  
Material: A=Aluminum, C=Copper  
Flange 3 Type: FBM100  
Flange 2 Type: FBP100  
Flange 1 Type: FBP100

- Finish: Corrosion protection plus black top coat
- Flange type: Multiple types available - see VT Flanges page

## Style 2 — 2 Waveguide Ports, 1 Coax Port



### 【Specifications】

| Model No*   | Freq Range (GHz) | VSWR (Max) |           | Coupling ** (dB) | Directivity (Min) (dB) | Coax Type | WG Type |       | Flange      | Material |
|-------------|------------------|------------|-----------|------------------|------------------------|-----------|---------|-------|-------------|----------|
|             |                  | Main Line  | Sec. Line |                  |                        |           | IEC     | EIA   |             |          |
| VT14WC...N  | 1.13-1.73        | 1.10       | 1.25      | 3-40             | 20-38                  | N         | R14     | WR650 | FDP/FDM     | Al/Cu    |
| VT18WC...N  | 1.45-2.20        | 1.10       | 1.25      | 3-40             | 20-38                  | N         | R18     | WR510 | FDP/FDM     | Al/Cu    |
| VT22WC...N  | 1.72-2.61        | 1.10       | 1.25      | 3-40             | 20-38                  | N         | R22     | WR430 | FDP/FDM     | Al/Cu    |
| VT26WC...N  | 2.17-3.30        | 1.10       | 1.25      | 3-40             | 20-38                  | N         | R26     | WR340 | FDP/FDM     | Al/Cu    |
| VT32WC...N  | 2.60-3.95        | 1.10       | 1.25      | 3-40             | 20-38                  | N         | R32     | WR284 | FDP/FDM     | Al/Cu    |
| VT40WC...N  | 3.22-4.90        | 1.08       | 1.25      | 3-40             | 20-38                  | N         | R40     | WR229 | FDP/FDM     | Al/Cu    |
| VT48WC...N  | 3.94-5.99        | 1.08       | 1.25      | 3-40             | 20-38                  | N         | R48     | WR187 | FDP/FDM     | Al/Cu    |
| VT58WC...N  | 4.64-7.05        | 1.08       | 1.25      | 3-40             | 20-38                  | N         | R58     | WR159 | FDP/FDM     | Al/Cu    |
| VT70WC...N  | 5.38-8.17        | 1.08       | 1.25      | 3-40             | 20-38                  | N         | R70     | WR137 | FDP/FDM     | Al/Cu    |
| VT84WC...N  | 6.57-9.99        | 1.08       | 1.25      | 3-40             | 20-38                  | N         | R84     | WR112 | FBP/FBM/FBE | Al/Cu    |
| VT100WC...N | 8.20-12.40       | 1.08       | 1.25      | 3-40             | 20-38                  | N         | R100    | WR90  | FBP/FBM/FBE | Al/Cu    |
| VT120WC...S | 9.84-15.0        | 1.08       | 1.25      | 3-40             | 20-38                  | SMA       | R120    | WR75  | FBP/FBM/FBE | Al/Cu    |
| VT140WC...S | 11.9-18.0        | 1.10       | 1.25      | 3-40             | 20-38                  | SMA       | R140    | WR62  | FBP/FBM/FBE | Al/Cu    |
| VT180WC...S | 14.5-22.0        | 1.10       | 1.25      | 3-40             | 20-38                  | SMA       | R180    | WR51  | FBP/FBM/FBE | Al/Cu    |
| VT220WC...K | 17.6-26.7        | 1.10       | 1.50      | 3-40             | 20-38                  | K***      | R220    | WR42  | FBP/FBM/FBE | Al/Cu    |

|             |           |      |      |      |       |      |      |      |             |       |
|-------------|-----------|------|------|------|-------|------|------|------|-------------|-------|
| VT260WC...K | 21.7-33.0 | 1.10 | 1.50 | 3-40 | 20-38 | K*** | R260 | WR34 | FBP/FBM/FBE | Al/Cu |
| VT320WC...K | 26.3-40.0 | 1.10 | 1.50 | 3-40 | 20-38 | K*** | R320 | WR28 | FBP/FBM/FBE | Al/Cu |
| VT320WC...V | 33-50.0   | 1.10 | 1.50 | 3-40 | 20-38 | V*** | R400 | WR22 | FUGP        | Al/Cu |

\*Indicates Model Number. See Ordering Information for complete part number.

\*\*Nominal Accuracy:  $\pm 0.7\text{dB}$  Frequency Sensitivity:  $\pm 1\text{ dB}$

\*\*\* These units are supplied with 2.92mm (K-type) connectors

## 【Ordering Information】

**Example Part No:** VT 100 WC 30 N K P M A

Vector Telecom ———

WG Type: R100 ———

Product Type: Broadwall Directional Coupler (2 WG ports, 1 Coax Port) ———

Coupling: C=30dB ———

Material: A=Aluminum, C=Copper ———

Flange 2 Type: FBM100 ———

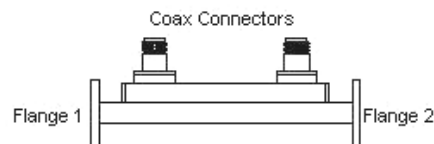
Flange 1 Type: FBP100 ———

J=Male, K=Female ———

Coax Connector Type: N=Type N, S=SMA, 2.92 =K 2.92mm, 2.4=2.4mm, TNC=TNC ———

- Flange type: Multiple types available - see VT Flanges page
- Finish: Corrosion protection plus black top coat

## Style 3 — 2 Waveguide Ports, 2 Coax Ports



## 【Specifications】

| Model No*   | Freq Range (GHz) | VSWR (Max) |           | Coupling ** (dB) | Directivity (Min) (dB) | Coax Type | WG Type |       | Flange  | Material |
|-------------|------------------|------------|-----------|------------------|------------------------|-----------|---------|-------|---------|----------|
|             |                  | Main Line  | Sec. Line |                  |                        |           | IEC     | EIA   |         |          |
| VT14WUC...N | 1.13-1.73        | 1.10       | 1.25      | 3-40             | 20-25                  | N         | R14     | WR650 | FDP/FDM | Al/Cu    |
| VT18WUC...N | 1.45-2.20        | 1.10       | 1.25      | 3-40             | 20-25                  | N         | R18     | WR510 | FDP/FDM | Al/Cu    |
| VT22WUC...N | 1.72-2.61        | 1.10       | 1.25      | 3-40             | 20-25                  | N         | R22     | WR430 | FDP/FDM | Al/Cu    |
| VT26WUC...N | 2.17-3.30        | 1.10       | 1.25      | 3-40             | 20-25                  | N         | R26     | WR340 | FDP/FDM | Al/Cu    |
| VT32WUC...N | 2.60-3.95        | 1.10       | 1.25      | 3-40             | 20-25                  | N         | R32     | WR284 | FDP/FDM | Al/Cu    |
| VT40WUC...N | 3.22-4.90        | 1.08       | 1.25      | 3-40             | 20-25                  | N         | R40     | WR229 | FDP/FDM | Al/Cu    |

08

Waveguide  
Coupler





|              |            |      |      |      |       |      |      |       |             |       |
|--------------|------------|------|------|------|-------|------|------|-------|-------------|-------|
| VT48WUC...N  | 3.94-5.99  | 1.08 | 1.25 | 3-40 | 20-25 | N    | R48  | WR187 | FDP/FDM     | Al/Cu |
| VT58WUC...N  | 4.64-7.05  | 1.08 | 1.25 | 3-40 | 20-25 | N    | R58  | WR159 | FDP/FDM     | Al/Cu |
| VT70WUC...N  | 5.38-8.17  | 1.08 | 1.25 | 3-40 | 20-25 | N    | R70  | WR137 | FDP/FDM     | Al/Cu |
| VT84WUC...N  | 6.57-9.99  | 1.08 | 1.25 | 3-40 | 20-25 | N    | R84  | WR112 | FBP/FBM/FBE | Al/Cu |
| VT100WUC...N | 8.20-12.40 | 1.08 | 1.25 | 3-40 | 20-25 | N    | R100 | WR90  | FBP/FBM/FBE | Al/Cu |
| VT120WUC...S | 9.84-15.0  | 1.08 | 1.25 | 3-40 | 20-25 | SMA  | R120 | WR75  | FBP/FBM/FBE | Al/Cu |
| VT140WUC...S | 11.9-18.0  | 1.10 | 1.25 | 3-40 | 20-25 | SMA  | R140 | WR62  | FBP/FBM/FBE | Al/Cu |
| VT180WUC...S | 14.5-22.0  | 1.10 | 1.25 | 3-40 | 20-25 | SMA  | R180 | WR51  | FBP/FBM/FBE | Al/Cu |
| VT220WUC...K | 17.6-26.7  | 1.10 | 1.50 | 3-40 | 20-25 | K*** | R220 | WR42  | FBP/FBM/FBE | Al/Cu |
| VT260WUC...K | 21.7-33.0  | 1.10 | 1.50 | 3-40 | 20-25 | K*** | R260 | WR34  | FBP/FBM/FBE | Al/Cu |
| VT320WUC...K | 26.3-40.0  | 1.10 | 1.50 | 3-40 | 20-25 | K*** | R320 | WR28  | FBP/FBM/FBE | Al/Cu |

\*Indicates Model Number. See Ordering Information for complete part number.

\*\*Nominal Accuracy:  $\pm 0.7\text{dB}$  Frequency Sensitivity:  $\pm 1\text{ dB}$

\*\*\* These units are supplied with 2.92mm (K-type) connectors.

## 【Ordering Information】

**Example Part No:** VT 100 WUC 30 N K P M A

Vector Telecom ———

WG Type: R100 ———

Product Type: Broadwall Directional Coupler (2 WG ports, 2 Coax Ports) ———

Coupling: C=30dB ———

Material: A=Aluminum, C=Copper ———

Flange 2 Type: FBM100 ———

Flange 1 Type: FBP100 ———

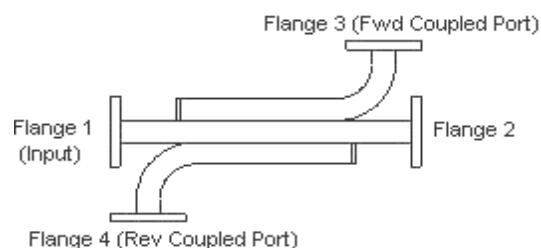
J=Male, K=Female ———

Coax Connector Type: N=Type N, S=SMA, 2.92 =K 2.92mm, 2.4=2.4mm, TNC=TNC ———

- Flange type: Multiple types available - see VT Flanges page
- Finish: Corrosion protection plus black top coat

## Style 4 — Dual-arm Broadwall Directional Coupler

### 4 Waveguide Ports





## 【Specifications】

| Model No*    | Freq<br>Range<br>(GHz) | VSWR (Max)   |                   | Coupling**<br>(dB) | Directivity<br>(Min)<br>(dB) | WG Type |       | Flange      | Material |
|--------------|------------------------|--------------|-------------------|--------------------|------------------------------|---------|-------|-------------|----------|
|              |                        | Main<br>Line | Secondary<br>Line |                    |                              | IEC     | EIA   |             |          |
| VT26WDXC...  | 2.17-3.30              | 1.08         | 1.12              | 3-40               | 20-38                        | R26     | WR340 | FDP/FDM     | Al/Cu    |
| VT32WDXC...  | 2.60-3.95              | 1.08         | 1.12              | 3-40               | 20-38                        | R32     | WR284 | FDP/FDM     | Al/Cu    |
| VT40WDXC...  | 3.22-4.90              | 1.08         | 1.12              | 3-40               | 20-38                        | R40     | WR229 | FDP/FDM     | Al/Cu    |
| VT48WDXC...  | 3.94-5.99              | 1.08         | 1.12              | 3-40               | 20-38                        | R48     | WR187 | FDP/FDM     | Al/Cu    |
| VT58WDXC...  | 4.64-7.05              | 1.08         | 1.12              | 3-40               | 20-38                        | R58     | WR159 | FDP/FDM     | Al/Cu    |
| VT70WDXC...  | 5.38-8.17              | 1.08         | 1.12              | 3-40               | 20-38                        | R70     | WR137 | FDP/FDM     | Al/Cu    |
| VT84WDXC...  | 6.57-9.99              | 1.08         | 1.12              | 3-40               | 20-38                        | R84     | WR112 | FBP/FBM/FBE | Al/Cu    |
| VT100WDXC... | 8.20-12.40             | 1.08         | 1.12              | 3-40               | 20-38                        | R100    | WR90  | FBP/FBM/FBE | Al/Cu    |
| VT120WDXC... | 9.84-15.0              | 1.08         | 1.12              | 3-40               | 20-38                        | R120    | WR75  | FBP/FBM/FBE | Al/Cu    |
| VT140WDXC... | 11.9-18.0              | 1.10         | 1.15              | 3-40               | 20-38                        | R140    | WR62  | FBP/FBM/FBE | Al/Cu    |
| VT180WDXC... | 14.5-22.0              | 1.10         | 1.15              | 3-40               | 20-38                        | R180    | WR51  | FBP/FBM/FBE | Al/Cu    |
| VT220WDXC... | 17.6-26.7              | 1.10         | 1.15              | 3-40               | 20-38                        | R220    | WR42  | FBP/FBM/FBE | Al/Cu    |
| VT260WDXC... | 21.7-33.0              | 1.10         | 1.15              | 3-40               | 20-38                        | R260    | WR34  | FBP/FBM/FBE | Al/Cu    |
| VT320WDXC... | 26.3-40.0              | 1.10         | 1.15              | 3-40               | 20-38                        | R320    | WR28  | FBP/FBM/FBE | Al/Cu    |

\*Indicates Model Number. See Ordering Information for complete part number.

\*\*Nominal Accuracy:  $\pm 0.7\text{dB}$  Frequency Sensitivity:  $\pm 1\text{dB}$

## 【Ordering Information】

**Example Part No:** VT 100 WDCX 30 P M E M A

Vector Telecom —

WG Type: R100 —

Product Type: Broadwall Directional Coupler (4 WG Ports) —

Coupling: C=30dB —

Material: A=Aluminum C=Copper —

Flange 4 Type: FBM100 —

Flange 3 Type: FBE100 —

Flange 2 Type: FBM100 —

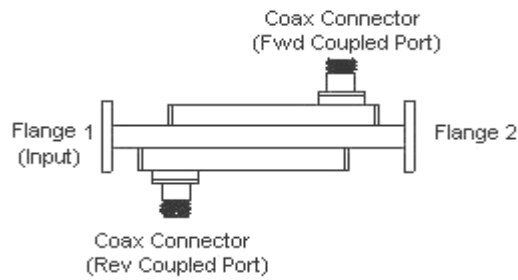
Flange 1 Type: FBP100 —

- Flange type: Multiple types available - see VT Flanges page
- Finish: Corrosion protection plus black top coat



## Style 5 — Dual-arm Broadwall Directional Coupler

### 2 Waveguide Ports, 2 Coax Ports



#### 【Specifications】

| Model No*     | Freq<br>Range<br>(GHz) | VSWR (Max)   |                   | Coupling<br>**(dB) | Directivity<br>(Min)<br>(dB) | Coax<br>Type | WG Type |       | Flange      | Material |
|---------------|------------------------|--------------|-------------------|--------------------|------------------------------|--------------|---------|-------|-------------|----------|
|               |                        | Main<br>Line | Secondary<br>Line |                    |                              |              | IEC     | EIA   |             |          |
| VT26WDXC...N  | 2.17-3.30              | 1.10         | 1.25              | 3-40               | 20-38                        | N            | R26     | WR340 | FDP/FDM     | Al/Cu    |
| VT32WDXC...N  | 2.60-3.95              | 1.10         | 1.25              | 3-40               | 20-38                        | N            | R32     | WR284 | FDP/FDM     | Al/Cu    |
| VT40WDXC...N  | 3.22-4.90              | 1.08         | 1.25              | 3-40               | 20-38                        | N            | R40     | WR229 | FDP/FDM     | Al/Cu    |
| VT48WDXC...N  | 3.94-5.99              | 1.08         | 1.25              | 3-40               | 20-38                        | N            | R48     | WR187 | FDP/FDM     | Al/Cu    |
| VT58WDXC...N  | 4.64-7.05              | 1.08         | 1.25              | 3-40               | 20-38                        | N            | R58     | WR159 | FDP/FDM     | Al/Cu    |
| VT70WDXC...N  | 5.38-8.17              | 1.08         | 1.25              | 3-40               | 20-38                        | N            | R70     | WR137 | FDP/FDM     | Al/Cu    |
| VT84WDXC...N  | 6.57-9.99              | 1.08         | 1.25              | 3-40               | 20-38                        | N            | R84     | WR112 | FBP/FBM/FBE | Al/Cu    |
| VT100WDXC...N | 8.20-12.40             | 1.08         | 1.25              | 3-40               | 20-38                        | N            | R100    | WR90  | FBP/FBM/FBE | Al/Cu    |
| VT120WDXC...S | 9.84-15.0              | 1.08         | 1.25              | 3-40               | 20-38                        | SMA          | R120    | WR75  | FBP/FBM/FBE | Al/Cu    |
| VT140WDXC...S | 11.9-18.0              | 1.10         | 1.25              | 3-40               | 20-38                        | SMA          | R140    | WR62  | FBP/FBM/FBE | Al/Cu    |
| VT180WDXC...S | 14.5-22.0              | 1.10         | 1.25              | 3-40               | 20-38                        | SMA          | R180    | WR51  | FBP/FBM/FBE | Al/Cu    |
| VT220WDXC...K | 17.6-26.7              | 1.10         | 1.50              | 3-40               | 20-38                        | K***         | R220    | WR42  | FBP/FBM/FBE | Al/Cu    |
| VT260WDXC...K | 21.7-33.0              | 1.10         | 1.50              | 3-40               | 20-38                        | K***         | R260    | WR34  | FBP/FBM/FBE | Al/Cu    |
| VT320WDXC...K | 26.3-40.0              | 1.10         | 1.50              | 3-40               | 20-38                        | K***         | R320    | WR28  | FBP/FBM/FBE | Al/Cu    |

\*Indicates Model Number. See Ordering Information for complete part number

\*\*Nominal Accuracy:  $\pm 0.7\text{dB}$  Frequency Sensitivity:  $\pm 1\text{ dB}$

\*\*\* These units are supplied with 2.92mm (K-type) connectors

#### 【Ordering Information】



**Example Part No:** VT 100 WDXC 30 N K P M A

Vector Telecom

WG Type: R100

Product Type: Broadwall Directional Coupler  
(2 WG ports, 2 Coax Port)

Coupling: C=30dB

Material: A=Aluminum, C=Copper

Flange 2 Type: FBM100

Flange 1 Type: FBP100

J=Male, K=Female

Coax Connector Type: N=Type N, S=SMA,  
2.92 =K 2.92mm, 2.4=2.4mm, TNC=TNC

- Flange type: Multiple types available - see VT Flanges page
- Finish: Corrosion protection plus black top coat

### 8.3.2 Double Ridged Broadwall Directional Coupler



#### 【DRWC Specifications】

| Model No*      | WG<br>Type<br>EIA | Freq<br>Range<br>(GHz) | Optional<br>Coupling..<br>(dB) | Coupling<br>Flatness<br>(dB) | Directivity<br>(dB) | Main<br>line<br>VSWR | Secondary<br>line VSWR | Flange | Connector  | Material |
|----------------|-------------------|------------------------|--------------------------------|------------------------------|---------------------|----------------------|------------------------|--------|------------|----------|
| VT84DRWC...N   | WRD84             | 0.84-2                 | 20~60                          | ±1.5                         | ≥25                 | 1.10                 | 1.50                   | FP     | N Female   | Al       |
| VT150DRWC...N  | WRD150            | 1.5-3.6                | 20~60                          | ±1.5                         | ≥25                 | 1.10                 | 1.50                   | FP     | N Female   | Al       |
| VT200DRWC...N  | WRD200            | 2-4.8                  | 20~60                          | ±1.5                         | ≥25                 | 1.10                 | 1.50                   | FP     | N Female   | Al       |
| VT250DRWC...N  | WRD250            | 2.6-7.8                | 20~60                          | ±1.5                         | ≥25                 | 1.10                 | 1.50                   | FP     | N Female   | Al       |
| VT350DRWC...N  | WRD350            | 3.5-8.2                | 20~60                          | ±1.5                         | ≥25                 | 1.10                 | 1.50                   | FP     | N Female   | Al       |
| VT475DRWC...N  | WRD475            | 4.75-11                | 20~60                          | ±1.5                         | ≥25                 | 1.10                 | 1.50                   | FP     | N Female   | Al       |
| VT500DRWC...N  | WRD500            | 5-18                   | 20~60                          | ±1.5                         | ≥25                 | 1.10                 | 1.50                   | FP     | N Female   | Al       |
| VT580DRWC...N  | WRD580            | 5.8-16                 | 20~60                          | ±1.5                         | ≥25                 | 1.10                 | 1.50                   | FP     | N Female   | Al       |
| VT650DRWC...N  | WRD650            | 6.5-18                 | 20~60                          | ±1.5                         | ≥25                 | 1.10                 | 1.5                    | FP     | N Female   | Al       |
| VT750DRWC...N  | WRD750            | 7.5-18                 | 20~60                          | ±1.5                         | ≥25                 | 1.10                 | 1.25                   | FP     | N Female   | Al       |
| VT700DRWC...N  | WRD700            | 7-18.5                 | 20~60                          | ±1.5                         | ≥25                 | 1.10                 | 1.25                   | FP     | N Female   | Al       |
| VT1100DRWC...N | WRD110            | 11-26.5                | 20~60                          | ±1.5                         | ≥25                 | 1.10                 | 1.25                   | FP     | SMA Female | Cu       |
| VT1800DRWC...N | WRD180            | 18-40                  | 20~60                          | ±1.5                         | ≥25                 | 1.10                 | 1.25                   | FP     | SMA Female | Cu       |

\*Indicates Model Number. See Ordering Information for complete part number.



## 【Ordering Information】

**Example Part No:** VT 650 DRWC 30 N K P M A

Vector Telecom — VT  
WG Type: WRD650 — 650  
Product Type: Double Ridged Broadwall Directional Coupler — DRWC  
Coupling: C=30dB — 30  
N — N  
K — K  
P — P  
M — M  
A — A

Material: A=Aluminum, C=Copper  
Flange 2 Type: FM  
Flange 1 Type: FP  
J=Male, K=Female  
Coax Connector Type: N=Type N, S=SMA, 2.92=K 2.92mm, 2.4=2.4mm, TNC=TNC

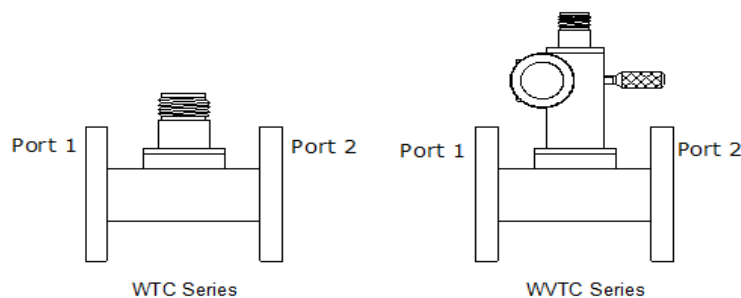
- Flange type: Multiple types available - see VT Flanges page
- Finish: Corrosion protection plus black top coat

## 8.4 Waveguide Probe Coupler



Vector Telecom offers waveguide probe couplers with two types of fixed probe couplers and adjustable probe couplers. It is no directionless and is commonly used for simple detection simple detection in waveguide systems.

### 8.4.1 Waveguide Probe Coupler



## 【Specifications】

| Model No*   | WG Type<br>EIA | Freq Range<br>(GHz) | Optional<br>Coupling...<br>(dB) | Connector | Main line<br>VSWR | Flange | Material |
|-------------|----------------|---------------------|---------------------------------|-----------|-------------------|--------|----------|
| VT40WTC...N | WR229          | 3.22-4.90           | 30~60                           | N Female  | 1.05              | FDP    | Al       |
| VT48WTC...N | WR187          | 3.94-5.99           | 30~60                           | N Female  | 1.05              | FDP    | Al       |
| VT58WTC...N | WR159          | 4.64-7.05           | 30~60                           | N Female  | 1.05              | FDP    | Al       |



|              |       |            |       |             |      |     |    |
|--------------|-------|------------|-------|-------------|------|-----|----|
| VT70WTC...N  | WR137 | 5.38-8.17  | 30~60 | N Female    | 1.05 | FDP | Al |
| VT84WTC...N  | WR112 | 6.57-9.99  | 30~60 | N Female    | 1.05 | FBP | Cu |
| VT100WTC...N | WR90  | 8.20-12.40 | 30~60 | N Female    | 1.05 | FBP | Cu |
| VT120WTC...N | WR75  | 9.84-15.0  | 30~60 | N Female    | 1.05 | FBP | Cu |
| VT140WTC...N | WR62  | 11.9-18.0  | 30~60 | SMA Female  | 1.05 | FBP | Cu |
| VT180WTC...N | WR51  | 14.5-22.0  | 30~60 | SMA Female  | 1.05 | FBP | Cu |
| VT220WTC...N | WR42  | 17.6-26.7  | 30~60 | 2.92 Female | 1.10 | FBP | Cu |
| VT260WTC...N | WR34  | 21.7-33.0  | 30~60 | 2.92 Female | 1.10 | FBP | Cu |
| VT320WTC...N | WR28  | 26.5-40.0  | 30~60 | 2.92 Female | 1.10 | FBP | Cu |

\*Indicates Model Number. See Ordering Information for complete part number.

### 【Ordering Information】

**Example Part No:** VT 100 WTC 30 N K P M A

Vector Telecom — VT  
WG Type: R100 — 100  
Product Type: WG Probe Coupler — WTC  
Coupling: C=30dB — 30  
Flange 2 Type: FM — N  
Flange 1 Type: FP — K  
J=Male, K=Female  
Coax Connector Type: N=Type N, S=SMA, 2.92 =K 2.92mm, 2.4=2.4mm, TNC=TNC  
Material: A=Aluminum, C=Copper — A

- Flange type: Multiple types available - see VT Flanges page
- Finish: Corrosion protection plus black top coat

### 8.4.2 Circular Waveguide Probe Coupler



### 【Specifications】

| Model No*      | Freq<br>Range<br>(GHz) | VSWR | Coupling<br>(dB) | Inner<br>Diameter<br>(mm) | Connector | Material | Finish              |
|----------------|------------------------|------|------------------|---------------------------|-----------|----------|---------------------|
| VT100CWTC...   | 2.0~4.0                | 1.1  | 30               | 100                       | N Female  | Al       | Chromate conversion |
| VT61.04CWTC... | 3.3~3.8                | 1.1  | 30               | 61.04                     | N Female  | Al       | Chromate conversion |
| VT51.99CWTC... | 3.89~5.33              | 1.1  | 30               | 51.99                     | N Female  | Al       | Chromate conversion |



|                 |           |     |    |        |            |    |                     |
|-----------------|-----------|-----|----|--------|------------|----|---------------------|
| VT37CWTC...     | 4.5~6.5   | 1.1 | 30 | 37     | N Female   | Al | Chromate conversion |
| VT27.78CWTC...  | 7.4~9.0   | 1.1 | 30 | 27.78  | SMA Female | Al | Chromate conversion |
| VT23.825CWTC... | 9.1~10.0  | 1.1 | 30 | 23.825 | SMA Female | Al | Chromate conversion |
| VT20.244CWTC... | 8.5~10.5  | 1.1 | 30 | 20.244 | SMA Female | Al | Chromate conversion |
| VT14CWTC...     | 15.0~17.0 | 1.1 | 30 | 14     | SMA Female | Cu | Silver Plating      |
| VT11.25CWTC...  | 18.2~24.9 | 1.1 | 30 | 11.25  | SMA Female | Cu | Silver Plating      |
| VT11CWTC...     | 17.7~21.2 | 1.1 | 30 | 11.00  | SMA Female | Cu | Silver Plating      |
| VT7.137CWTC...  | 27.5~31   | 1.1 | 30 | 7.14   | SMA Female | Cu | Silver Plating      |

\*Indicates Model Number. See Ordering Information for complete part number.

### 【Ordering Information】

**Example Part No:** VT 100 CWTC 30 N K P M A

Vector Telecom — VT  
Inner Diameter: 100mm — 100  
Product Type: Circular Waveguide — CWTC  
Probe Coupler — 30  
Coupling: C=30dB — 30  
Coax Connector Type: N=Type N, S=SMA, 2.92=K 2.92mm, 2.4=2.4mm, TNC=TNC — N  
J=Male, K=Female — K  
Flange 1 Type: FBP100 — P  
Flange 2 Type: FBM100 — M  
Material: A=Aluminum, C=Copper — A

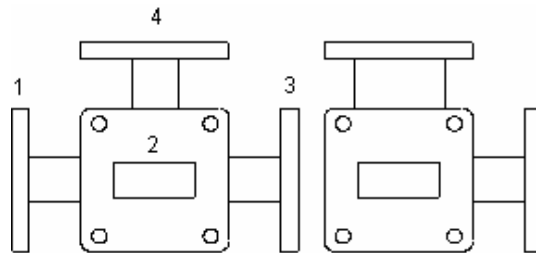
- Flange type: Multiple types available - see VT Flanges page
- Finish: Corrosion protection plus black top coat



# 9 Waveguide Power Divider/Combiner

## 9.1 Magic Hybrid Tee

Vector Telecom's Magic Hybrid Tee is four-port coupler for matching, balance and isolation. E- plane to H-plane Isolation is a function of the symmetry which is carefully balanced on each unit. If the E-plane port 4 or the H-plane port 2 are used as inputs the split is on the output collinear ports 1 and 3. When the input is E plane port 4 the outputs are out of phase 180 deg. When the input is H plane port 2 the outputs are in phase. The in-phase and equal amplitude signals inputting into two collinear ports can result combined signals at H-plane port and cancelled signal at E-plane port. This feature is widely used in monopulse antenna feed structure and phasing testing setup.



### 【Specifications】

| Model No*  | Freq Range (GHz) | Operating Bandwidth (%)** | VSWR (Max) |       | Isolation (H&E Arms)(dB) | Unbalance (Max) (dB) | WG Type |        | Flange | Material |
|------------|------------------|---------------------------|------------|-------|--------------------------|----------------------|---------|--------|--------|----------|
|            |                  |                           | H-Arm      | E-Arm |                          |                      | IEC     | EIA    |        |          |
| VT3WMT...  | 0.32-0.49        | ≤20%                      | 1.20       | 1.50  | 35                       | ≤0.25                | R3      | WR2300 | FDP    | Al       |
| VT4WMT...  | 0.35-0.53        | ≤20%                      | 1.20       | 1.50  | 35                       | ≤0.25                | R4      | WR2100 | FDP    | Al       |
| VT5WMT...  | 0.41-0.62        | ≤20%                      | 1.20       | 1.50  | 35                       | ≤0.25                | R5      | WR1800 | FDP    | Al       |
| VT6WMT...  | 0.49-0.75        | ≤20%                      | 1.20       | 1.50  | 35                       | ≤0.25                | R6      | WR1500 | FDP    | Al       |
| VT8WMT...  | 0.64-0.98        | ≤20%                      | 1.20       | 1.50  | 35                       | ≤0.25                | R8      | WR1150 | FDP    | Al       |
| VT9WMT...  | 0.75-1.15        | ≤20%                      | 1.20       | 1.50  | 35                       | ≤0.25                | R9      | WR975  | FDP    | Al       |
| VT12WMT... | 0.96-1.46        | ≤20%                      | 1.20       | 1.50  | 35                       | ≤0.25                | R12     | WR770  | FDP    | Al       |
| VT14WMT... | 1.13-1.73        | ≤20%                      | 1.20       | 1.50  | 35                       | ≤0.25                | R14     | WR650  | FDP    | Al       |



|             |           |      |      |      |    |       |      |       |      |    |
|-------------|-----------|------|------|------|----|-------|------|-------|------|----|
| VT18WMT...  | 1.45-2.20 | ≤20% | 1.20 | 1.50 | 35 | ≤0.25 | R18  | WR510 | FDP  | Al |
| VT22WMT...  | 1.72-2.61 | ≤20% | 1.20 | 1.50 | 35 | ≤0.4  | R22  | WR430 | FDP  | Al |
| VT26WMT...  | 2.17-3.30 | ≤20% | 1.20 | 1.50 | 35 | ≤0.4  | R26  | WR340 | FDP  | Al |
| VT32WMT...  | 2.60-3.95 | ≤20% | 1.20 | 1.50 | 35 | ≤0.4  | R32  | WR284 | FDP  | Al |
| VT40WMT...  | 3.22-4.90 | ≤20% | 1.20 | 1.50 | 35 | ≤0.4  | R40  | WR229 | FDP  | Al |
| VT48WMT...  | 3.94-5.99 | ≤20% | 1.20 | 1.50 | 35 | ≤0.4  | R48  | WR187 | FDP  | Al |
| VT58WMT...  | 4.64-7.05 | ≤20% | 1.20 | 1.50 | 35 | ≤0.4  | R58  | WR159 | FDP  | Al |
| VT70WMT...  | 5.38-8.17 | ≤20% | 1.20 | 1.50 | 35 | ≤0.4  | R70  | WR137 | FDP  | Cu |
| VT84WMT...  | 6.57-9.99 | ≤20% | 1.20 | 1.50 | 35 | ≤0.4  | R84  | WR112 | FBP  | Cu |
| VT100WMT... | 8.20-12.4 | ≤20% | 1.20 | 1.50 | 35 | ≤0.4  | R100 | WR90  | FBP  | Cu |
| VT120WMT... | 9.84-15.0 | ≤20% | 1.20 | 1.50 | 35 | ≤0.4  | R120 | WR75  | FBP  | Cu |
| VT140WMT... | 11.9-18.0 | ≤20% | 1.20 | 1.50 | 35 | ≤0.4  | R140 | WR62  | FBP  | Cu |
| VT180WMT... | 14.5-22.0 | ≤20% | 1.20 | 1.50 | 35 | ≤0.4  | R180 | WR51  | FBP  | Cu |
| VT220WMT... | 17.6-26.7 | ≤20% | 1.20 | 1.50 | 30 | ≤0.4  | R220 | WR42  | FBP  | Cu |
| VT260WMT... | 21.7-33.0 | ≤20% | 1.20 | 1.50 | 30 | ≤0.4  | R260 | WR34  | FBP  | Cu |
| VT320WMT... | 26.5-40.0 | ≤20% | 1.20 | 1.50 | 30 | ≤0.4  | R320 | WR28  | FBP  | Cu |
| VT400WMT... | 32.9-50.1 | ≤20% | 1.20 | 1.50 | 30 | ≤0.5  | R400 | WR22  | FUGP | Cu |
| VT500WMT... | 39.2-59.6 | ≤20% | 1.20 | 1.50 | 30 | ≤0.5  | R500 | WR19  | FUGP | Cu |
| VT620WMT... | 49.8-75.8 | ≤20% | 1.20 | 1.50 | 30 | ≤0.5  | R620 | WR15  | FUGP | Cu |
| VT740WMT... | 60.5-91.9 | ≤20% | 1.20 | 1.50 | 30 | ≤0.5  | R740 | WR12  | FUGP | Cu |
| VT900WMT... | 73.8-110  | ≤20% | 1.20 | 1.50 | 30 | ≤0.5  | R900 | WR10  | FUGP | Cu |

*\*Indicates Model Number. See Ordering Information for complete part number.*

*\*\*Typical operating bandwidth of the hybrid tee is up 15% of waveguide bandwidth.*

*\*\*\* Performance degradation may occur while it covers wider waveguide bandwidth.*

## 【Ordering Information】

**Example Part No:** VT 100 WMT A

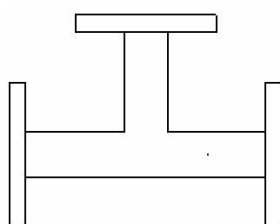
Vector Telecom ——— Material: A=Aluminum C=Copper  
WG Type: R100 ——— Product Type: WG Magic Tee

- Flange type: Multiple types available - see VT Flanges page
- Finish: Corrosion protection plus black top coat



## 9.2 E-Plane Tee

Vector Telecom manufactures a wide variety of E-Plane Tees. The junction of the auxiliary arm is made on the broad wall of the main waveguide.



### 【Specifications】

| Model No | Freq Range (GHz) | WG Type |        | Flange      | Material |
|----------|------------------|---------|--------|-------------|----------|
|          |                  | IEC     | EIA    |             |          |
| VT3WET   | 0.32-0.49        | R3      | WR2300 | FDP/FDM     | Al       |
| VT4WET   | 0.35-0.53        | R4      | WR2100 | FDP/FDM     | Al       |
| VT5WET   | 0.41-0.62        | R5      | WR1800 | FDP/FDM     | Al       |
| VT6WET   | 0.49-0.75        | R6      | WR1500 | FDP/FDM     | Al       |
| VT8WET   | 0.64-0.98        | R8      | WR1150 | FDP/FDM     | Al       |
| VT9WET   | 0.75-1.15        | R9      | WR975  | FDP/FDM     | Al       |
| VT12WET  | 0.96-1.46        | R12     | WR770  | FDP/FDM     | Al       |
| VT14WET  | 1.13-1.73        | R14     | WR650  | FDP/FDM     | Al       |
| VT18WET  | 1.45-2.20        | R18     | WR510  | FDP/FDM     | Al       |
| VT22WET  | 1.72-2.61        | R22     | WR430  | FDP/FDM     | Al/Cu    |
| VT26WET  | 2.17-3.30        | R26     | WR340  | FDP/FDM     | Al/Cu    |
| VT32WET  | 2.60-3.95        | R32     | WR284  | FDP/FDM     | Al/Cu    |
| VT40WET  | 3.22-4.90        | R40     | WR229  | FDP/FDM     | Al/Cu    |
| VT48WET  | 3.94-5.99        | R48     | WR187  | FDP/FDM     | Al/Cu    |
| VT58WET  | 4.64-7.05        | R58     | WR159  | FDP/FDM     | Al/Cu    |
| VT70WET  | 5.38-8.17        | R70     | WR137  | FDP/FDM     | Al/Cu    |
| VT84WET  | 6.57-9.99        | R84     | WR112  | FBP/FBM/FBE | Al/Cu    |

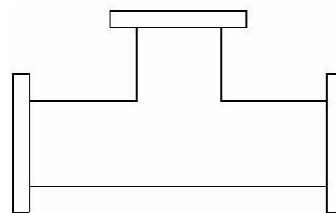


|          |           |      |      |             |       |
|----------|-----------|------|------|-------------|-------|
| VT100WET | 8.20-12.4 | R100 | WR90 | FBP/FBM/FBE | Al/Cu |
| VT120WET | 9.84-15.0 | R120 | WR75 | FBP/FBM/FBE | Al/Cu |
| VT140WET | 11.9-18.0 | R140 | WR62 | FBP/FBM/FBE | Al/Cu |
| VT180WET | 14.5-22.0 | R180 | WR51 | FBP/FBM/FBE | Al/Cu |
| VT220WET | 17.6-26.7 | R220 | WR42 | FBP/FBM/FBE | Al/Cu |
| VT260WET | 21.7-33.0 | R260 | WR34 | FBP/FBM/FBE | Al/Cu |
| VT320WET | 26.3-40.0 | R320 | WR28 | FBP/FBM/FBE | Al/Cu |
| VT400WET | 32.9-60.1 | R400 | WR22 | FUGP        | Cu    |
| VT500WET | 39.2-59.6 | R500 | WR19 | FUGP        | Cu    |
| VT620WET | 49.8-75.8 | R620 | WR15 | FUGP        | Cu    |
| VT740WET | 60.5-91.9 | R740 | WR12 | FUGP        | Cu    |
| VT900WET | 73.8-110  | R900 | WR10 | FUGP        | Cu    |

*\*Indicates Model Number. See Ordering Information for complete part number.*

### 9.3 H-Plane Tee

Vector Telecom manufactures a wide variety of H-Plane Tees. The junction of the auxiliary arm is made on the narrow wall of the main waveguide



#### 【Specifications】

| Model No | Freq Range (GHz) | WG Type |        | Flange  | Material |
|----------|------------------|---------|--------|---------|----------|
|          |                  | IEC     | EIA    |         |          |
| VT3WHT   | 0.32-0.49        | R3      | WR2300 | FDP/FDM | Al       |
| VT4WHT   | 0.35-0.53        | R4      | WR2100 | FDP/FDM | Al       |
| VT5WHT   | 0.41-0.62        | R5      | WR1800 | FDP/FDM | Al       |
| VT6WHT   | 0.49-0.75        | R6      | WR1500 | FDP/FDM | Al       |
| VT8WHT   | 0.64-0.98        | R8      | WR1150 | FDP/FDM | Al       |



|          |           |      |       |             |       |
|----------|-----------|------|-------|-------------|-------|
| VT9WHT   | 0.75-1.15 | R9   | WR975 | FDP/FDM     | Al    |
| VT12WHT  | 0.96-1.46 | R12  | WR770 | FDP/FDM     | Al    |
| VT14WHT  | 1.13-1.73 | R14  | WR650 | FDP/FDM     | Al    |
| VT18WHT  | 1.45-2.20 | R18  | WR510 | FDP/FDM     | Al    |
| VT22WHT  | 1.72-2.61 | R22  | WR430 | FDP/FDM     | Al/Cu |
| VT26WHT  | 2.17-3.30 | R26  | WR340 | FDP/FDM     | Al/Cu |
| VT32WHT  | 2.60-3.95 | R32  | WR284 | FDP/FDM     | Al/Cu |
| VT40WHT  | 3.22-4.90 | R40  | WR229 | FDP/FDM     | Al/Cu |
| VT48WHT  | 3.94-5.99 | R48  | WR187 | FDP/FDM     | Al/Cu |
| VT58WHT  | 4.64-7.05 | R58  | WR159 | FDP/FDM     | Al/Cu |
| VT70WHT  | 5.38-8.17 | R70  | WR137 | FDP/FDM     | Al/Cu |
| VT84WHT  | 6.57-9.99 | R84  | WR112 | FBP/FBM/FBE | Al/Cu |
| VT100WHT | 8.20-12.4 | R100 | WR90  | FBP/FBM/FBE | Al/Cu |
| VT120WHT | 9.84-15.0 | R120 | WR75  | FBP/FBM/FBE | Al/Cu |
| VT140WHT | 11.9-18.0 | R140 | WR62  | FBP/FBM/FBE | Al/Cu |
| VT180WHT | 14.5-22.0 | R180 | WR51  | FBP/FBM/FBE | Al/Cu |
| VT220WHT | 17.6-26.7 | R220 | WR42  | FBP/FBM/FBE | Al/Cu |
| VT260WHT | 21.7-33.0 | R260 | WR34  | FBP/FBM/FBE | Al/Cu |
| VT320WHT | 26.3-40.0 | R320 | WR28  | FBP/FBM/FBE | Al/Cu |
| VT400WHT | 32.9-60.1 | R400 | WR22  | FUGP        | Cu    |
| VT500WHT | 39.2-59.6 | R500 | WR19  | FUGP        | Cu    |
| VT620WHT | 49.8-75.8 | R620 | WR15  | FUGP        | Cu    |
| VT740WHT | 60.5-91.9 | R740 | WR12  | FUGP        | Cu    |
| VT900WHT | 73.8-110  | R900 | WR10  | FUGP        | Cu    |

*\*Indicates Model Number. See Ordering Information for complete part number.*

## 【Ordering Information】

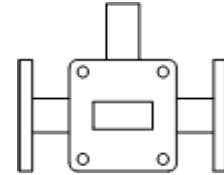
**Example Part No:** VT 100 WHT A

Vector Telecom ——— Material: A=Aluminum C=Copper  
WG Type: R100 ——— Product Type: WHT: H-Plane Tee  
WET: E-Plane Tee

- Flange type: Multiple types available - see VT Flanges page
- Finish: Corrosion protection plus black top coat



## 9.4 In-Phase Waveguide Power Divider / Combiner



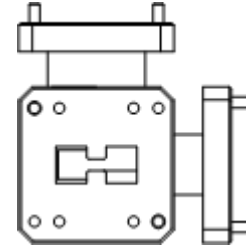
### 【Specifications】

| Model No*    | WG Type<br>EIA | Freq<br>Range<br>(GHz) | Operating<br>Bandwidth | VSWR (Max) |                | Isolation<br>(2 Balance<br>Arms)(dB) | Distributi<br>on<br>Ratio(dB) | Flange | Material |
|--------------|----------------|------------------------|------------------------|------------|----------------|--------------------------------------|-------------------------------|--------|----------|
|              |                |                        |                        | H-Arm      | Balance<br>Arm |                                      |                               |        |          |
| VT3WMTPC/D   | WR2300         | 0.32-0.49              | ≤20%                   | ≤1.20      | ≤1.50          | ≥17                                  | 3±0.25                        | FDP    | Al       |
| VT4WMTPC/D   | WR2100         | 0.35-0.53              | ≤20%                   | ≤1.20      | ≤1.50          | ≥17                                  | 3±0.25                        | FDP    | Al       |
| VT5WMTPC/D   | WR1800         | 0.41-0.62              | ≤20%                   | ≤1.20      | ≤1.50          | ≥17                                  | 3±0.25                        | FDP    | Al       |
| VT6WMTPC/D   | WR1500         | 0.49-0.75              | ≤20%                   | ≤1.20      | ≤1.50          | ≥17                                  | 3±0.25                        | FDP    | Al       |
| VT8WMTPC/D   | WR1150         | 0.64-0.98              | ≤20%                   | ≤1.20      | ≤1.50          | ≥17                                  | 3±0.25                        | FDP    | Al       |
| VT9WMTPC/D   | WR975          | 0.75-1.15              | ≤20%                   | ≤1.20      | ≤1.50          | ≥17                                  | 3±0.25                        | FDP    | Al       |
| VT12WMTPC/D  | WR770          | 0.96-1.46              | ≤20%                   | ≤1.20      | ≤1.50          | ≥17                                  | 3±0.25                        | FDP    | Al       |
| VT14WMTPC/D  | WR650          | 1.13-1.73              | ≤20%                   | ≤1.20      | ≤1.50          | ≥17                                  | 3±0.25                        | FDP    | Al       |
| VT18WMTPC/D  | WR510          | 1.45-2.20              | ≤20%                   | ≤1.20      | ≤1.50          | ≥17                                  | 3±0.25                        | FDP    | Al       |
| VT22WMTPC/D  | WR430          | 1.72-2.61              | ≤20%                   | ≤1.20      | ≤1.50          | ≥17                                  | 3±0.4                         | FDP    | Al       |
| VT26WMTPC/D  | WR340          | 2.17-3.30              | ≤20%                   | ≤1.20      | ≤1.50          | ≥17                                  | 3±0.4                         | FDP    | Al       |
| VT32WMTPC/D  | WR284          | 2.60-3.95              | ≤20%                   | ≤1.20      | ≤1.50          | ≥17                                  | 3±0.4                         | FDP    | Al       |
| VT40WMTPC/D  | WR229          | 3.22-4.90              | ≤20%                   | ≤1.20      | ≤1.50          | ≥17                                  | 3±0.4                         | FDP    | Al       |
| VT48WMTPC/D  | WR187          | 3.94-5.99              | ≤20%                   | ≤1.20      | ≤1.50          | ≥17                                  | 3±0.4                         | FDP    | Al       |
| VT58WMTPC/D  | WR159          | 4.64-7.05              | ≤20%                   | ≤1.20      | ≤1.50          | ≥17                                  | 3±0.4                         | FDP    | Al       |
| VT70WMTPC/D  | WR137          | 5.38-8.17              | ≤20%                   | ≤1.20      | ≤1.50          | ≥17                                  | 3±0.4                         | FDP    | Cu       |
| VT84WMTPC/D  | WR112          | 6.57-9.99              | ≤20%                   | ≤1.20      | ≤1.50          | ≥17                                  | 3±0.4                         | FBP    | Cu       |
| VT100WMTPC/D | WR90           | 8.20-12.4              | ≤20%                   | ≤1.20      | ≤1.50          | ≥17                                  | 3±0.4                         | FBP    | Cu       |
| VT120WMTPC/D | WR75           | 9.84-15.0              | ≤20%                   | ≤1.20      | ≤1.50          | ≥17                                  | 3±0.4                         | FBP    | Cu       |
| VT140WMTPC/D | WR62           | 11.9-18.0              | ≤20%                   | ≤1.20      | ≤1.50          | ≥17                                  | 3±0.4                         | FBP    | Cu       |
| VT180WMTPC/D | WR51           | 14.5-22.0              | ≤20%                   | ≤1.20      | ≤1.50          | ≥17                                  | 3±0.4                         | FBP    | Cu       |
| VT220WMTPC/D | WR42           | 17.6-26.7              | ≤20%                   | ≤1.20      | ≤1.50          | ≥15                                  | 3±0.4                         | FBP    | Cu       |
| VT260WMTPC/D | WR34           | 21.7-33.0              | ≤20%                   | ≤1.20      | ≤1.50          | ≥15                                  | 3±0.4                         | FBP    | Cu       |
| VT320WMTPC/D | WR28           | 26.5-40.0              | ≤20%                   | ≤1.20      | ≤1.50          | ≥15                                  | 3±0.4                         | FBP    | Cu       |
| VT400WMTPC/D | WR22           | 32.9-50.1              | ≤20%                   | ≤1.20      | ≤1.50          | ≥15                                  | 3±0.5                         | FUGP   | Cu       |
| VT500WMTPC/D | WR19           | 39.2-59.6              | ≤20%                   | ≤1.20      | ≤1.50          | ≥15                                  | 3±0.5                         | FUGP   | Cu       |
| VT620WMTPC/D | WR15           | 49.8-75.8              | ≤20%                   | ≤1.20      | ≤1.50          | ≥15                                  | 3±0.5                         | FUGP   | Cu       |
| VT740WMTPC/D | WR12           | 60.5-91.9              | ≤20%                   | ≤1.20      | ≤1.50          | ≥15                                  | 3±0.5                         | FUGP   | Cu       |
| VT900WMTPC/D | WR10           | 73.8-112               | ≤20%                   | ≤1.20      | ≤1.50          | ≥15                                  | 3±0.5                         | FUGP   | Cu       |



\*Indicates Model Number. See Ordering Information for complete part number.

## 9.5 Double-Ridged Waveguide Magic Tee and Power Divider / Combiner



### 【Specifications】

| Model No*      | WG Type<br>EIA | Freq<br>Range<br>(GHz) | VSWR (Max) |       | Isolation (2<br>Balance<br>Arm) (dB) | Distribution<br>Ratio<br>(dB) | Flange | Material |
|----------------|----------------|------------------------|------------|-------|--------------------------------------|-------------------------------|--------|----------|
|                |                |                        | H-Arm      | E-Arm |                                      |                               |        |          |
| VT200DRWMTPC/D | WRD200         | 2.0-4.8                | ≤1.50      | ≤1.50 | ≥12                                  | 3±0.6                         | FP     | Al       |
| VT250DRWMTPC/D | WRD250         | 2.6-7.8                | ≤1.50      | ≤1.50 | ≥12                                  | 3±0.6                         | FP     | Al       |
| VT350DRWMTPC/D | WRD350         | 3.5-8.2                | ≤1.50      | ≤1.50 | ≥12                                  | 3±0.6                         | FP     | Al       |
| VT475DRWMTPC/D | WRD475         | 4.75-11                | ≤1.50      | ≤1.50 | ≥12                                  | 3±0.6                         | FP     | Al       |
| VT500DRWMTPC/D | WRD500         | 5.0-18.0               | ≤1.50      | ≤1.50 | ≥12                                  | 3±0.6                         | FP     | Cu       |
| VT650DRWMTPC/D | WRD650         | 6.5-18.0               | ≤1.50      | ≤1.50 | ≥12                                  | 3±0.6                         | FP     | Cu       |
| VT750DRWMTPC/D | WRD750         | 7.5-18.0               | ≤1.50      | ≤1.50 | ≥12                                  | 3±0.6                         | FP     | Cu       |
| VT700DRWMTPC/D | WRD700         | 7.0-18.0               | ≤1.50      | ≤1.50 | ≥12                                  | 3±0.6                         | FP     | Cu       |

\*Indicates Model Number. See Ordering Information for complete part number.

### 【Ordering Information】

**Example Part No:** VT 100 WMTPC/D P M A

Vector Telecom \_\_\_\_\_  
 WG Type: R100 \_\_\_\_\_  
 Product Type: WG Magic Tee Combiner/ Divider \_\_\_\_\_  
 Material: A=Aluminum C=Copper  
 Flange 2 Type: M=FBM100  
 Flange 1 Type: P=FBP100

| Product Type | Description                                       |
|--------------|---------------------------------------------------|
| WMTPC/D      | Waveguide Magic Tee Power Combiner/Divider        |
| DRWMTPC/D    | Double Ridged WG Magic Tee Power Combiner/Divider |



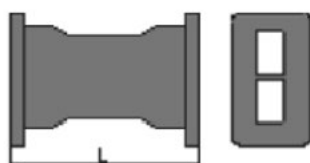
- Flange type: Multiple types available - see VT Flanges page
- Finish: Corrosion protection plus black top coat

## 9.6 Waveguide 90° Power Divider/Combiner

Vector Telecom manufactures a range of high-performance Waveguide 90° Power Dividers/Combiners, with frequency range of 1.8-40 GHz. The typical mainline Max VSWR within the operating bandwidth is 1.15. The Coupling is 3-7dB, and the Isolation is greater than 15-25dB.



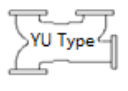
### 【Product Type】



E Plane Coupling (WSWC Series)



H Plane Coupling (WTWC Series)

| Model            | I Type                                                                              |                       | U Type                                                                              |                       | X Type                                                                               |                       | Y Type                                                                                |                       | YU Type                                                                               |                       |
|------------------|-------------------------------------------------------------------------------------|-----------------------|-------------------------------------------------------------------------------------|-----------------------|--------------------------------------------------------------------------------------|-----------------------|---------------------------------------------------------------------------------------|-----------------------|---------------------------------------------------------------------------------------|-----------------------|
|                  | WSWC                                                                                | WTWC                  | WSWUC                                                                               | WTWUC                 | WSWXC                                                                                | WTWXC                 | WSWYC                                                                                 | WTWYC                 | WSWYUC                                                                                | WTWYUC                |
| Descrip-<br>tion | Narrow<br>wall<br>coupling                                                          | Wide wall<br>coupling | Narrow<br>wall<br>coupling                                                          | Wide wall<br>coupling | Narrow<br>wall<br>coupling                                                           | Wide wall<br>coupling | Narrow<br>wall<br>coupling                                                            | Wide wall<br>coupling | Narrow<br>wall<br>coupling                                                            | Wide wall<br>coupling |
| Outline          |  |                       |  |                       |  |                       |  |                       |  |                       |

### 【Ordering Information】

**Example Part No:** VT 100 WSWUC 3 A

Vector Telecom ————  
WG Type: R100 ————  
Product Type: WG 90° Power Divider/Combiner (U Type) ————

Material: A=Aluminum C=Copper  
Coupling C=3dB

- Flange type: Multiple types available - see VT Flanges page
- Finish: Corrosion protection plus black top coat



## **【I Type Specifications】**

| Model No*    | WG Type<br>EIA | Freq Range<br>(GHz) | Operating<br>Bandwidth | VSWR<br>(Max) | Coupling...<br>(dB) | Material |
|--------------|----------------|---------------------|------------------------|---------------|---------------------|----------|
| VT40WSWC...  | WR229          | 3.22-4.90           | ≤10%                   | ≤1.25         | 3 ~7                | Al       |
| VT40WTWC...  | WR229          | 3.22-4.90           | ≤10%                   | ≤1.25         | 3 ~7                | Al       |
| VT48WSWC...  | WR187          | 3.94-5.99           | ≤10%                   | ≤1.25         | 3 ~7                | Al       |
| VT48WTWC...  | WR187          | 3.94-5.99           | ≤10%                   | ≤1.25         | 3 ~7                | Al       |
| VT58WSWC...  | WR159          | 4.64-7.05           | ≤10%                   | ≤1.25         | 3 ~7                | Al       |
| VT58WTWC...  | WR159          | 4.64-7.05           | ≤10%                   | ≤1.25         | 3 ~7                | Al       |
| VT70WSWC...  | WR137          | 5.38-8.17           | ≤10%                   | ≤1.25         | 3 ~7                | Cu       |
| VT70WTWC...  | WR137          | 5.38-8.17           | ≤10%                   | ≤1.25         | 3 ~7                | Cu       |
| VT84WSWC...  | WR112          | 6.57-9.99           | ≤10%                   | ≤1.25         | 3 ~7                | Cu       |
| VT84WTWC...  | WR112          | 6.57-9.99           | ≤10%                   | ≤1.25         | 3 ~7                | Cu       |
| VT100WSWC... | WR90           | 8.20-12.40          | ≤10%                   | ≤1.25         | 3 ~7                | Cu       |
| VT100WTWC... | WR90           | 8.20-12.40          | ≤10%                   | ≤1.25         | 3 ~7                | Cu       |
| VT120WSWC... | WR75           | 9.84-15.0           | ≤10%                   | ≤1.25         | 3 ~7                | Cu       |
| VT120WTWC... | WR75           | 9.84-15.0           | ≤10%                   | ≤1.25         | 3 ~7                | Cu       |
| VT140WSWC... | WR62           | 11.9-18.0           | ≤10%                   | ≤1.25         | 3 ~7                | Cu       |
| VT140WTWC... | WR62           | 11.9-18.0           | ≤10%                   | ≤1.25         | 3 ~7                | Cu       |
| VT180WSWC... | WR51           | 14.5-22.0           | ≤10%                   | ≤1.25         | 3 ~7                | Cu       |
| VT180WTWC... | WR51           | 14.5-22.0           | ≤10%                   | ≤1.25         | 3 ~7                | Cu       |
| VT220WSWC... | WR42           | 17.6-26.7           | ≤10%                   | ≤1.30         | 3 ~7                | Cu       |
| VT220WTWC... | WR42           | 17.6-26.7           | ≤10%                   | ≤1.30         | 3 ~7                | Cu       |
| VT260WSWC... | WR34           | 21.7-33.0           | ≤10%                   | ≤1.30         | 3 ~7                | Cu       |
| VT260WTWC... | WR34           | 21.7-33.0           | ≤10%                   | ≤1.30         | 3 ~7                | Cu       |
| VT320WSWC... | WR28           | 26.5-40.0           | ≤10%                   | ≤1.30         | 3 ~7                | Cu       |
| VT320WTWC... | WR28           | 26.5-40.0           | ≤10%                   | ≤1.30         | 3 ~7                | Cu       |

\*Indicates Model Number. See Ordering Information for complete part number.



# 10 Waveguide Rotary Joint

## 10.1 Waveguide Single Channel Rotary Joint

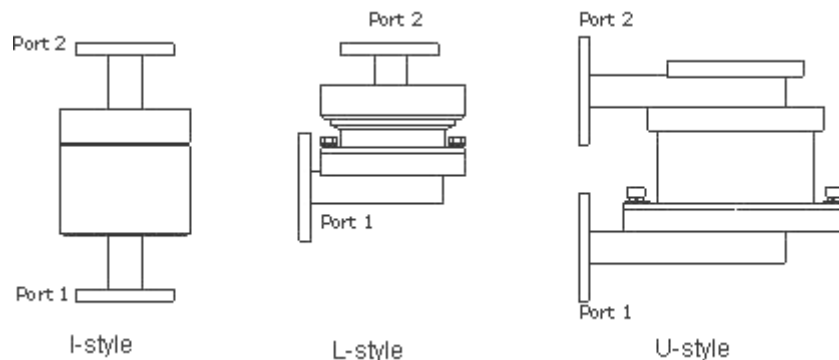


Rotary Joints (rotary couplers) are used to transmit microwave energy from stationary lines to rotating lines. The rotary joint is an electro-mechanical device with RF performance dependent upon rigorous electrical and mechanical design. Available styles are defined by physical geometry as follows:

**I-style** - Two in-line arms both collinear with the axis of rotation.

**L-style** - One arm is perpendicular to the axis of rotation.

**U-style** - Both arms are perpendicular to the axis of rotation.



### 【Ordering Information】

**Example Part No:** VT 100 WRJI P M A

Vector Telecom — VT  
WG Type: R100 — 100  
Product Type: WG Rotary Joint — WRJI (I-Style), WRJL (L-Style), WRJU (U-Style)  
Material: A=Aluminum C=Copper — A  
Port 2 Flange Type: M=FBM100 — M  
Port 1 Flange Type: P=FBP100 — P

- Flange type: Multiple types available - see VT Flanges page
- Finish: Corrosion protection plus black top coat



### 10.1.1 I Type Waveguide Rotary Joint

#### 【Specifications】

| Model No  | Freq Range<br>(GHz) | Operating<br>Bandwidth<br>(MHz) | VSWR<br>(Max) | VSWR<br>WOW | IL(dB)<br>(Max) | IL WOW<br>(dB) | WG Type |       | Material |
|-----------|---------------------|---------------------------------|---------------|-------------|-----------------|----------------|---------|-------|----------|
|           |                     |                                 |               |             |                 |                | IEC     | EIA   |          |
| VT32WRJI  | 2.60-3.95           | 200                             | 1.2           | 0.05        | 0.3             | 0.1            | R32     | WR284 | Al/Cu    |
| VT40WRJI  | 3.22-4.90           | 200                             | 1.2           | 0.05        | 0.3             | 0.1            | R40     | WR229 | Al/Cu    |
| VT48WRJI  | 3.94-5.99           | 200                             | 1.2           | 0.05        | 0.3             | 0.1            | R48     | WR187 | Al/Cu    |
| VT58WRJI  | 4.64-7.05           | 300                             | 1.25          | 0.05        | 0.25            | 0.1            | R58     | WR159 | Al/Cu    |
| VT70WRJI  | 5.38-8.17           | 700                             | 1.25          | 0.05        | 0.25            | 0.1            | R70     | WR137 | Al/Cu    |
| VT84WRJI  | 6.57-9.99           | 300                             | 1.2           | 0.05        | 0.3             | 0.1            | R84     | WR112 | Al/Cu    |
| VT100WRJI | 8.20-12.4           | 300                             | 1.2           | 0.05        | 0.3             | 0.1            | R100    | WR90  | Al/Cu    |
| VT120WRJI | 9.84-15.0           | 500                             | 1.25          | 0.05        | 0.3             | 0.1            | R120    | WR75  | Al/Cu    |
| VT140WRJI | 11.9-18.0           | 1000                            | 1.3           | 0.05        | 0.4             | 0.1            | R140    | WR62  | Al/Cu    |
| VT180WRJI | 14.5-22.0           | 1000                            | 1.3           | 0.05        | 0.4             | 0.1            | R180    | WR51  | Al/Cu    |
| VT220WRJI | 17.6-26.7           | 2000                            | 1.4           | 0.05        | 1               | 0.1            | R220    | WR42  | Al/Cu    |
| VT260WRJI | 21.7-33.0           | 2000                            | 1.4           | 0.05        | 1               | 0.1            | R260    | WR34  | Al/Cu    |
| VT320WRJI | 26.3-40.0           | 2000                            | 1.4           | 0.05        | 1               | 0.1            | R320    | WR28  | Al/Cu    |

\*Indicates Model Number. See Ordering Information for complete part number.

### 10.1.2 L Type Waveguide Rotary Joint

#### 【Specifications】

| Model No | Freq Range<br>(GHz) | Operating<br>Bandwidth<br>(MHz) | VSWR<br>(Max) | VSWR<br>WOW | IL(dB)<br>(Max) | IL<br>WOW<br>(dB) | WG Type |       | Material |
|----------|---------------------|---------------------------------|---------------|-------------|-----------------|-------------------|---------|-------|----------|
|          |                     |                                 |               |             |                 |                   | IEC     | EIA   |          |
| VT32WRJL | 2.60-3.95           | 200                             | 1.2           | 0.05        | 0.3             | 0.1               | R32     | WR284 | Al/Cu    |
| VT40WRJL | 3.22-4.90           | 200                             | 1.2           | 0.05        | 0.3             | 0.1               | R40     | WR229 | Al/Cu    |
| VT48WRJL | 3.94-5.99           | 200                             | 1.2           | 0.05        | 0.3             | 0.1               | R48     | WR187 | Al/Cu    |
| VT58WRJL | 4.64-7.05           | 300                             | 1.25          | 0.05        | 0.25            | 0.1               | R58     | WR159 | Al/Cu    |
| VT70WRJL | 5.38-8.17           | 700                             | 1.25          | 0.05        | 0.25            | 0.1               | R70     | WR137 | Al/Cu    |



|           |           |      |      |      |     |     |      |       |       |
|-----------|-----------|------|------|------|-----|-----|------|-------|-------|
| VT84WRJL  | 6.57-9.99 | 300  | 1.2  | 0.05 | 0.3 | 0.1 | R84  | WR112 | Al/Cu |
| VT100WRJL | 8.20-12.4 | 300  | 1.2  | 0.05 | 0.3 | 0.1 | R100 | WR90  | Al/Cu |
| VT120WRJL | 9.84-15.0 | 500  | 1.25 | 0.05 | 0.3 | 0.1 | R120 | WR75  | Al/Cu |
| VT140WRJL | 11.9-18.0 | 1000 | 1.3  | 0.05 | 0.4 | 0.1 | R140 | WR62  | Al/Cu |
| VT180WRJL | 14.5-22.0 | 1000 | 1.3  | 0.05 | 0.4 | 0.1 | R180 | WR51  | Al/Cu |
| VT220WRJL | 17.6-26.7 | 2000 | 1.4  | 0.05 | 1   | 0.1 | R220 | WR42  | Al/Cu |
| VT260WRJL | 21.7-33.0 | 2000 | 1.4  | 0.05 | 1   | 0.1 | R260 | WR34  | Al/Cu |
| VT320WRJL | 26.3-40.0 | 2000 | 1.4  | 0.05 | 1   | 0.1 | R320 | WR28  | Al/Cu |

*\*Indicates Model Number. See Ordering Information for complete part number.*

### 10.1.3 U Type Waveguide Rotary Joint

#### 【Specifications】

| Model No    | Freq Range (GHz) | Operating Bandwidth (MHz) | VSWR (Max) | VSWR WOW | IL(dB) (Max) | IL WOW (dB) | WG Type |       | Material |
|-------------|------------------|---------------------------|------------|----------|--------------|-------------|---------|-------|----------|
|             |                  |                           |            |          |              |             | IEC     | EIA   |          |
| VT32WRJU    | 2.60-3.95        | 200                       | 1.2        | 0.05     | 0.3          | 0.1         | R32     | WR284 | Al/Cu    |
| VT40WRJU    | 3.22-4.90        | 200                       | 1.2        | 0.05     | 0.3          | 0.1         | R40     | WR229 | Al/Cu    |
| VT48WRJU    | 3.94-5.99        | 200                       | 1.2        | 0.05     | 0.3          | 0.1         | R48     | WR187 | Al/Cu    |
| VT58WRJU    | 4.64-7.05        | 300                       | 1.25       | 0.05     | 0.25         | 0.1         | R58     | WR159 | Al/Cu    |
| VT70WRJU    | 5.38-8.17        | 700                       | 1.25       | 0.05     | 0.25         | 0.1         | R70     | WR137 | Al/Cu    |
| VT84WRJU    | 6.57-9.99        | 300                       | 1.2        | 0.05     | 0.3          | 0.1         | R84     | WR112 | Al/Cu    |
| VT100WRJU   | 8.20-12.4        | 300                       | 1.2        | 0.05     | 0.3          | 0.1         | R100    | WR90  | Al/Cu    |
| VT120WRJU   | 9.84-15.0        | 500                       | 1.25       | 0.05     | 0.3          | 0.1         | R120    | WR75  | Al/Cu    |
| VT140WRJU   | 11.9-18.0        | 1000                      | 1.3        | 0.05     | 0.4          | 0.1         | R140    | WR62  | Al/Cu    |
| VT180WRJU   | 14.5-22.0        | 1000                      | 1.3        | 0.05     | 0.4          | 0.1         | R180    | WR51  | Al/Cu    |
| VT220WRJU   | 17.6-26.7        | 2000                      | 1.4        | 0.05     | 1            | 0.1         | R220    | WR42  | Al/Cu    |
| VT260WRJU   | 21.7-33.0        | 2000                      | 1.4        | 0.05     | 1            | 0.1         | R260    | WR28  | Al/Cu    |
| VT320WRJU * | 26.3-40.0        | 2000                      | 1.4        | 0.05     | 1            | 0.1         | R320    | WR28  | Al/Cu    |

*\*Indicates Model Number. See Ordering Information for complete part number.*



## 10.2 High Power Waveguide Rotary Joint

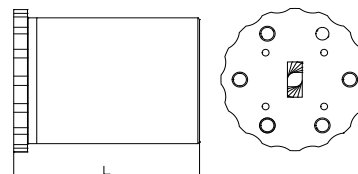


### 【Specifications】

| Model No*       | WG Type EIA | Freq Range (GHz) | Operating Bandwidth | VSWR  | IL (dB) | Avg Power(W) | Flange | Material |
|-----------------|-------------|------------------|---------------------|-------|---------|--------------|--------|----------|
| VT32WHPRJUTM01  | WR284       | 2.60-3.95        | ≤5%                 | ≤1.15 | ≤0.20   | 3000         | FDP    | Al       |
| VT40WHPRJUTM01  | WR229       | 3.22-4.90        | ≤5%                 | ≤1.15 | ≤0.20   | 3000         | FDP    | Al       |
| VT48WHPRJUTM01  | WR187       | 3.94-5.99        | ≤5%                 | ≤1.15 | ≤0.20   | 3000         | FDP    | Al       |
| VT58WHPRJUTM01  | WR159       | 4.64-7.05        | ≤5%                 | ≤1.15 | ≤0.20   | 3000         | FDP    | Al       |
| VT70WHPRJUTM01  | WR137       | 5.38-8.17        | ≤5%                 | ≤1.15 | ≤0.20   | 2000         | FDP    | Al       |
| VT84WHPRJUTM01  | WR112       | 6.57-9.99        | ≤5%                 | ≤1.20 | ≤0.20   | 2000         | FBP    | Cu       |
| VT100WHPRJUTM01 | WR90        | 8.20-12.5        | ≤5%                 | ≤1.20 | ≤0.20   | 2000         | FBP    | Cu       |
| VT120WHPRJUTM01 | WR75        | 9.84-15.0        | ≤5%                 | ≤1.20 | ≤0.20   | 1000         | FBP    | Cu       |
| VT140WHPRJUTM01 | WR62        | 11.9-18.0        | ≤5%                 | ≤1.25 | ≤0.20   | 2000         | FBP    | Cu       |
| VT180WHPRJUTM01 | WR51        | 14.5-22.0        | ≤5%                 | ≤1.25 | ≤0.25   | 500          | FBP    | Cu       |
| VT220WHPRJUTM01 | WR42        | 17.6-26.7        | ≤5%                 | ≤1.25 | ≤0.25   | 500          | FBP    | Cu       |
| VT260WHPRJUTM01 | WR34        | 21.7-33.0        | ≤5%                 | ≤1.25 | ≤0.25   | 300          | FBP    | Cu       |
| VT320WHPRJUTM01 | WR28        | 26.5-40.0        | ≤5%                 | ≤1.25 | ≤0.25   | 300          | FBP    | Cu       |

\*Indicates Model Number. See Ordering Information for complete part number.

## 10.3 90° Polarized Rotary Joint

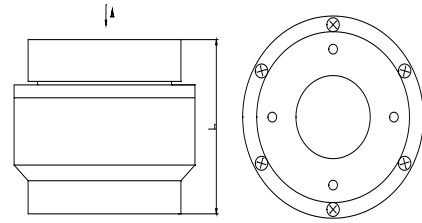


### 【Specifications】

| Model No*  | WG Type<br>EIA | Freq Range<br>(GHz) | VSWR<br>(Max) | IL(dB) | Avg Power(W) | Flange | Material |
|------------|----------------|---------------------|---------------|--------|--------------|--------|----------|
| VT70WRJIT  | WR137          | 5.38-8.17           | ≤1.25         | ≤0.3   | 200W         | FDP    | Cu       |
| VT84WRJIT  | WR112          | 6.57-9.99           | ≤1.25         | ≤0.3   | 100W         | FBP    | Cu       |
| VT100WRJIT | WR90           | 8.20-12.5           | ≤1.25         | ≤0.3   | 100W         | FBP    | Cu       |
| VT120WRJIT | WR75           | 9.84-15.0           | ≤1.25         | ≤0.3   | 100W         | FBP    | Cu       |
| VT140WRJIT | WR62           | 11.9-18.0           | ≤1.25         | ≤0.3   | 100W         | FBP    | Cu       |
| VT180WRJIT | WR51           | 14.5-22.0           | ≤1.25         | ≤0.3   | 50W          | FBP    | Cu       |
| VT220WRJIT | WR42           | 17.6-26.7           | ≤1.4          | ≤0.3   | 50W          | FBP    | Cu       |
| VT260WRJIT | WR34           | 21.7-33.0           | ≤1.5          | ≤0.3   | 50W          | FBP    | Cu       |
| VT320WRJIT | WR28           | 26.5-40.0           | ≤1.5          | ≤0.3   | 50W          | FBP    | Cu       |

\*Indicates Model Number. See Ordering Information for complete part number.

## 10.4 Circular Waveguide Rotary Joint



### 【Specifications】

| Model No*     | Freq<br>Range<br>(GHz) | VSWR<br>(Max) | IL(dB) | Avg<br>Power | Circular<br>Waveguide<br>Diameter<br>(mm) | Flange | Material | Finish              |
|---------------|------------------------|---------------|--------|--------------|-------------------------------------------|--------|----------|---------------------|
| VT100CWRJI    | 2.0-4.0                | ≤1.20         | ≤0.2   | 200W         | 100                                       | FAP    | Al       | Chromate conversion |
| VT61.04CWRJI  | 3.3-3.8                | ≤1.20         | ≤0.2   | 200W         | 61.04                                     | FAP    | Al       | Chromate conversion |
| VT51.99CWRJI  | 3.89-5.33              | ≤1.20         | ≤0.2   | 200W         | 51.99                                     | FAP    | Al       | Chromate conversion |
| VT37CWRJI     | 4.5-6.5                | ≤1.20         | ≤0.2   | 200W         | 37                                        | FAP    | Al       | Chromate conversion |
| VT27.78CWRJI  | 7.4-9.0                | ≤1.20         | ≤0.2   | 200W         | 27.78                                     | FAP    | Al       | Chromate conversion |
| VT23.825CWRJI | 9.1-10.0               | ≤1.20         | ≤0.2   | 100W         | 23.825                                    | FAP    | Al       | Chromate conversion |
| VT20.244CWRJI | 8.5-10.5               | ≤1.20         | ≤0.2   | 100W         | 20.244                                    | FAP    | Al       | Chromate conversion |

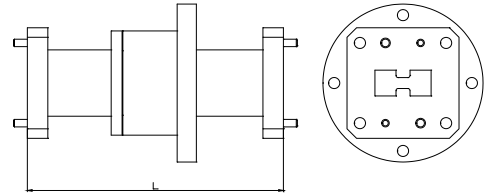




|              |           |       |      |      |       |     |    |                |
|--------------|-----------|-------|------|------|-------|-----|----|----------------|
| VT14CWRJI    | 15.0-17.0 | ≤1.20 | ≤0.2 | 100W | 14    | FAP | Cu | Silver Plating |
| VT11.25CWRJI | 18.2-24.9 | ≤1.20 | ≤0.2 | 100W | 11.25 | FAP | Cu | Silver Plating |
| VT11CWRJI    | 17.7-21.2 | ≤1.20 | ≤0.2 | 100W | 11    | FAP | Cu | Silver Plating |
| VT7.137CWRJI | 27.5-31   | ≤1.20 | ≤0.2 | 100W | 7.137 | FAP | Cu | Silver Plating |

\*Indicates Model Number. See Ordering Information for complete part number.

## 10.5 Double-Ridged Waveguide Rotary Joint



### 【Specifications】

| Model No*    | WG Type<br>EIA | Freq Range<br>(GHz) | VSWR<br>(Max) | IL(dB) | Avg Power | Flange | Material |
|--------------|----------------|---------------------|---------------|--------|-----------|--------|----------|
| VT84DRWRJI   | WRD84          | 0.84-2              | ≤1.5          | ≤0.5   | 200W      | FP     | Cu       |
| VT150DRWRJI  | WRD150         | 1.5-3.6             | ≤1.5          | ≤0.5   | 200W      | FP     | Cu       |
| VT200DRWRJI  | WRD200         | 2-4.8               | ≤1.5          | ≤0.5   | 200W      | FP     | Cu       |
| VT250DRWRJI  | WRD250         | 2.6-7.8             | ≤1.5          | ≤0.5   | 200W      | FP     | Cu       |
| VT350DRWRJI  | WRD350         | 3.5-8.2             | ≤1.5          | ≤0.5   | 200W      | FP     | Cu       |
| VT475DRWRJI  | WRD475         | 4.75-11             | ≤1.5          | ≤0.5   | 100W      | FP     | Cu       |
| VT500DRWRJI  | WRD500         | 5-18                | ≤1.5          | ≤0.5   | 100W      | FP     | Cu       |
| VT580DRWRJI  | WRD580         | 5.8-16              | ≤1.5          | ≤0.5   | 100W      | FP     | Cu       |
| VT650DRWRJI  | WRD650         | 6.5-18              | ≤1.5          | ≤0.5   | 100W      | FP     | Cu       |
| VT700DRWRJI  | WRD750         | 7-18.5              | ≤1.5          | ≤0.5   | 100W      | FP     | Cu       |
| VT750DRWRJI  | WRD700         | 7.5-18              | ≤1.5          | ≤0.5   | 100W      | FP     | Cu       |
| VT1100DRWRJI | WRD110         | 11-26.5             | ≤1.8          | ≤0.8   | 50W       | FP     | Cu       |
| VT1800DRWRJI | WRD180         | 18-40               | ≤2.0          | ≤0.8   | 30W       | FP     | Cu       |

\*Indicates Model Number. See Ordering Information for complete part number.

### 【Ordering Information】

**Example Part No:** VT 100 DRWRJ I P M A  
 Vector Telecom | 100 | DRWRJ | I | P | M | A  
 WG Type: R100 | Material: A=Aluminum C=Copper  
 Product Type: Double Ridged | Port 2 Flange Type: FBM  
 WG Rotary Joint | Port 1 Flange Type: FBP  
 | WRJI (I-style), WRJL (L-style), WRJU (U-style)

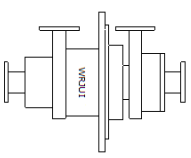
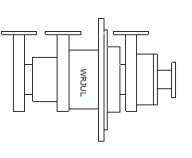
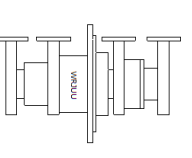
| Product Type | Description                          |
|--------------|--------------------------------------|
| WHPRJUTM01   | High Power Waveguide Rotary Joint    |
| WRJIT        | 90° Polarized Rotary Joint           |
| CWRJI        | Circular Waveguide Rotary Joint      |
| DRWRJI       | Double-Ridged Waveguide Rotary Joint |

- Flange type: Multiple types available - see VT Flanges page
- Finish: Corrosion protection plus black top coat

## 10.6 Waveguide Dual-Channel Rotary Joint



### 【Structure Type】

| Model             | UI                                                                                  | UL                                                                                   | UU                                                                                    |
|-------------------|-------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------|
| Description       | Dual-Channel U+I Type                                                               | Dual-Channel U+L Type                                                                | Dual-Channel U+U Type                                                                 |
| Drawing           |  |  |  |
| Channel Isolation | ≥50dB                                                                               | ≥50dB                                                                                | ≥50dB                                                                                 |

# 10

## Waveguide Rotary

## Joint





### 【WRJUI Specifications】

| Model No*  | WG Type EIA | Freq Range (GHz) | Operating Bandwidth | VSWR (Max) | IL(dB ) | Avg Power (W) | Peak power (KW) | Flange | Material |
|------------|-------------|------------------|---------------------|------------|---------|---------------|-----------------|--------|----------|
| VT32WRJUI  | WR284       | 2.60-3.95        | ≤10%                | ≤1.25      | ≤0.3    | 600           | 600             | FDP    | Al       |
| VT40WRJUI  | WR229       | 3.22-4.90        | ≤10%                | ≤1.25      | ≤0.3    | 600           | 600             | FDP    | Al       |
| VT48WRJUI  | WR187       | 3.94-5.99        | ≤10%                | ≤1.25      | ≤0.3    | 600           | 600             | FDP    | Al       |
| VT58WRJUI  | WR159       | 4.64-7.05        | ≤10%                | ≤1.25      | ≤0.3    | 500           | 150             | FDP    | Al       |
| VT70WRJUI  | WR137       | 5.38-8.17        | ≤10%                | ≤1.25      | ≤0.3    | 500           | 150             | FDP    | Cu       |
| VT84WRJUI  | WR112       | 6.57-9.99        | ≤10%                | ≤1.25      | ≤0.3    | 400           | 150             | FBP    | Cu       |
| VT100WRJUI | WR90        | 8.20-12.5        | ≤10%                | ≤1.25      | ≤0.3    | 400           | 150             | FBP    | Cu       |
| VT120WRJUI | WR75        | 9.84-15.0        | ≤10%                | ≤1.25      | ≤0.3    | 100           | 10              | FBP    | Cu       |
| VT140WRJUI | WR62        | 11.9-18.0        | ≤10%                | ≤1.25      | ≤0.3    | 100           | 4               | FBP    | Cu       |
| VT180WRJUI | WR51        | 14.5-22.0        | ≤10%                | ≤1.30      | ≤0.4    | 100           | 3               | FBP    | Cu       |
| VT220WRJUI | WR42        | 17.6-26.7        | ≤10%                | ≤1.30      | ≤0.5    | 50            | 0.5             | FBP    | Cu       |
| VT260WRJUI | WR34        | 21.7-33.0        | ≤10%                | ≤1.30      | ≤0.5    | 30            | 0.3             | FBP    | Cu       |
| VT320WRJUI | WR28        | 26.5-40.0        | ≤10%                | ≤1.50      | ≤0.7    | 30            | 0.3             | FBP    | Cu       |

\*Indicates Model Number. See Ordering Information for complete part number.

### 【Ordering Information】

**Example Part No:** VT 100 WRJ UI P M A

Vector Telecom ————

WG Type: R100 ————

Product Type: Rotary Joint ————

Material: A=Aluminum C=Copper

Port 2 Flange Type: FBM

Port 1 Flange Type: FBP

Dual-Channel U+I Type, Dual-Channel U+L Type, Dual-Channel U+U Type

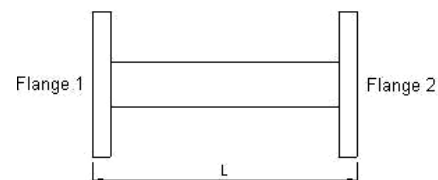
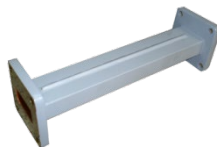
- Flange type: Multiple types available - see VT Flanges page
- Finish: Corrosion protection plus black top coat



## 11 Waveguide Attenuator

Vector Telecom offers a series of rectangular waveguide attenuators. Typical Attenuation values are 3dB, 6dB, 10dB, 20dB and 30dB (other attenuation values available, consult sales engineers for details). The assembly construction includes a precision element for optimum electrical performance, but note that Attenuation vs. Frequency can vary greatly depending on the attenuation at a given frequency. Waveguide Fixed Attenuators with normal and high power units are also available. For more information feel free to call us and discuss your needs with one of our sales engineers.

### 11.1 Waveguide Fixed Attenuator



#### 【Specifications】

| Model No*  | Freq Range<br>(GHz) | VSWR<br>(Max) | Power<br>(W) | Attenuation**<br>(dB) | WG Type |        | Flange | Material |
|------------|---------------------|---------------|--------------|-----------------------|---------|--------|--------|----------|
|            |                     |               |              |                       | IEC     | EIA    |        |          |
| VT3WFA...  | 0.32-0.49           | 1.25          | 2            | 3/6/10/20/30          | R3      | WR2300 | FDP    | Al       |
| VT4WFA...  | 0.35-0.53           | 1.25          | 2            | 3/6/10/20/30          | R4      | WR2100 | FDP    | Al       |
| VT5WFA...  | 0.41-0.62           | 1.25          | 2            | 3/6/10/20/30          | R5      | WR1800 | FDP    | Al       |
| VT6WFA...  | 0.49-0.75           | 1.25          | 2            | 3/6/10/20/30          | R6      | WR1500 | FDP    | Al       |
| VT8WFA...  | 0.64-0.98           | 1.25          | 2            | 3/6/10/20/30          | R8      | WR1150 | FDP    | Al       |
| VT9WFA...  | 0.75-1.15           | 1.25          | 2            | 3/6/10/20/30          | R9      | WR975  | FDP    | Al       |
| VT12WFA... | 0.96-1.46           | 1.25          | 2            | 3/6/10/20/30          | R12     | WR770  | FDP    | Al       |
| VT14WFA... | 1.13-1.73           | 1.25          | 2            | 3/6/10/20/30          | R14     | WR650  | FDP    | Al       |
| VT18WFA... | 1.45-2.20           | 1.25          | 2            | 3/6/10/20/30          | R18     | WR510  | FDP    | Al       |
| VT22WFA... | 1.72-2.61           | 1.25          | 2            | 3/6/10/20/30          | R22     | WR430  | FDP    | Al       |
| VT26WFA... | 2.17-3.30           | 1.25          | 2            | 3/6/10/20/30          | R26     | WR340  | FDP    | Al       |
| VT32WFA... | 2.60-3.95           | 1.25          | 2            | 3/6/10/20/30          | R32     | WR284  | FDP    | Al       |



|             |            |      |   |              |      |       |      |    |
|-------------|------------|------|---|--------------|------|-------|------|----|
| VT40WFA...  | 3.22-4.90  | 1.25 | 2 | 3/6/10/20/30 | R40  | WR229 | FDP  | Al |
| VT48WFA...  | 3.94-5.99  | 1.25 | 2 | 3/6/10/20/30 | R48  | WR187 | FDP  | Al |
| VT58WFA...  | 4.64-7.05  | 1.25 | 2 | 3/6/10/20/30 | R58  | WR159 | FDP  | Al |
| VT70WFA...  | 5.38-8.17  | 1.25 | 2 | 3/6/10/20/30 | R70  | WR137 | FDP  | Cu |
| VT84WFA...  | 6.57-9.99  | 1.25 | 2 | 3/6/10/20/30 | R84  | WR112 | FBP  | Cu |
| VT100WFA... | 8.20-12.40 | 1.25 | 2 | 3/6/10/20/30 | R100 | WR90  | FBP  | Cu |
| VT120WFA... | 9.84-15.0  | 1.25 | 2 | 3/6/10/20/30 | R120 | WR75  | FBP  | Cu |
| VT140WFA... | 11.9-18.0  | 1.25 | 2 | 3/6/10/20/30 | R140 | WR62  | FBP  | Cu |
| VT180WFA... | 14.5-22.0  | 1.25 | 2 | 3/6/10/20/30 | R180 | WR51  | FBP  | Cu |
| VT220WFA... | 17.6-26.7  | 1.25 | 2 | 3/6/10/20/30 | R220 | WR42  | FBP  | Cu |
| VT260WFA... | 21.7-33.0  | 1.25 | 2 | 3/6/10/20/30 | R260 | WR34  | FBP  | Cu |
| VT320WFA... | 26.5-40.0  | 1.25 | 2 | 3/6/10/20/30 | R320 | WR28  | FBP  | Cu |
| VT400WFA... | 32.9-50.1  | 1.30 | 2 | 3/6/10/20/30 | R400 | WR22  | FUGP | Cu |
| VT500WFA... | 39.2-59.6  | 1.30 | 2 | 3/6/10/20/30 | R500 | WR19  | FUGP | Cu |
| VT620WFA... | 49.8-75.8  | 1.30 | 2 | 3/6/10/20/30 | R620 | WR15  | FUGP | Cu |
| VT740WFA... | 60.5-91.9  | 1.35 | 2 | 3/6/10/20/30 | R740 | WR12  | FUGP | Cu |
| VT900WFA... | 73.8-110   | 1.35 | 2 | 3/6/10/20/30 | R900 | WR10  | FUGP | Cu |

*\*Indicates Model Number. See Ordering Information for complete part number*

*\*\* Nominal Attenuation Accuracy:  $\pm 0.5\text{dB}$  Frequency Sensitivity:  $\pm 0.7\text{dB}$*

### 【Ordering Information】

**Example Part No: VT 100 WFA 30 P M A**

Vector Telecom ———

WG Type: R100 ———

Product Type: Waveguide Fixed Attenuator ———

Attenuation: 30dB ———

Material: A=Aluminum C=Copper ———

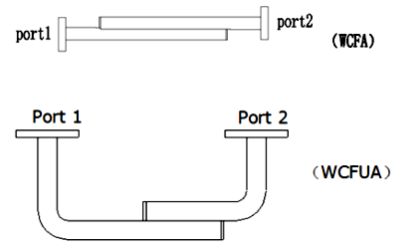
Flange 2 Type: M=FBM100 ———

Flange 1 Type: P=FBP100 ———

- Flange type: Multiple types available - see VT Flanges page
- Finish: Corrosion protection plus black top coat



## 11.2 Waveguide Coupling Fixed Attenuators



### 【Specifications】

| Model No* | WG Type<br>EIA | Freq Range<br>(GHz) | VSWR<br>(Max) | Optional<br>Attenuation (dB) | Frequency<br>Response (dB) | Flange | Material |
|-----------|----------------|---------------------|---------------|------------------------------|----------------------------|--------|----------|
| VT12WCFA  | WR770          | 0.96-1.46           | ≤1.20         | 3-60                         | ±0.5~1.8                   | FDP    | Al       |
| VT12WCFUA | WR770          | 0.96-1.46           | ≤1.20         | 3-60                         | ±0.5~1.8                   | FDP    | Al       |
| VT14WCFA  | WR650          | 1.13-1.73           | ≤1.20         | 3-60                         | ±0.5~1.8                   | FDP    | Al       |
| VT14WCFUA | WR650          | 1.13-1.73           | ≤1.20         | 3-60                         | ±0.5~1.8                   | FDP    | Al       |
| VT18WCFA  | WR510          | 1.45-2.20           | ≤1.20         | 3-60                         | ±0.5~1.8                   | FDP    | Al       |
| VT18WCFUA | WR510          | 1.45-2.20           | ≤1.20         | 3-60                         | ±0.5~1.8                   | FDP    | Al       |
| VT22WCFA  | WR430          | 1.72-2.61           | ≤1.20         | 3-60                         | ±0.5~1.8                   | FDP    | Al       |
| VT22WCFUA | WR430          | 1.72-2.61           | ≤1.20         | 3-60                         | ±0.5~1.8                   | FDP    | Al       |
| VT26WCFA  | WR340          | 2.17-3.30           | ≤1.20         | 3-60                         | ±0.5~1.8                   | FDP    | Al       |
| VT26WCFUA | WR340          | 2.17-3.30           | ≤1.20         | 3-60                         | ±0.5~1.8                   | FDP    | Al       |
| VT32WCFA  | WR284          | 2.60-3.95           | ≤1.20         | 3-60                         | ±0.5~1.8                   | FDP    | Al       |
| VT32WCFUA | WR284          | 2.60-3.95           | ≤1.20         | 3-60                         | ±0.5~1.8                   | FDP    | Al       |
| VT40WCFA  | WR229          | 3.22-4.90           | ≤1.20         | 3-60                         | ±0.5~1.8                   | FDP    | Al       |
| VT40WCFUA | WR229          | 3.22-4.90           | ≤1.20         | 3-60                         | ±0.5~1.8                   | FDP    | Al       |
| VT48WCFA  | WR187          | 3.94-5.99           | ≤1.20         | 3-60                         | ±0.5~1.8                   | FDP    | Al       |
| VT48WCFUA | WR187          | 3.94-5.99           | ≤1.20         | 3-60                         | ±0.5~1.8                   | FDP    | Al       |
| VT58WCFA  | WR159          | 4.64-7.05           | ≤1.20         | 3-60                         | ±0.5~1.8                   | FDP    | Al       |
| VT58WCFUA | WR159          | 4.64-7.05           | ≤1.20         | 3-60                         | ±0.5~1.8                   | FDP    | Al       |
| VT70WCFA  | WR137          | 5.38-8.17           | ≤1.20         | 3-60                         | ±0.5~1.8                   | FDP    | Cu       |
| VT70WCFUA | WR137          | 5.38-8.17           | ≤1.20         | 3-60                         | ±0.5~1.8                   | FDP    | Cu       |
| VT84WCFA  | WR112          | 6.57-9.99           | ≤1.20         | 3-60                         | ±0.5~1.8                   | FBP    | Cu       |
| VT84WCFUA | WR112          | 6.57-9.99           | ≤1.20         | 3-60                         | ±0.5~1.8                   | FBP    | Cu       |



|             |      |            |       |      |          |      |    |
|-------------|------|------------|-------|------|----------|------|----|
| VT100WCFAX  | WR90 | 8.20-12.40 | ≤1.20 | 3-60 | ±0.5~1.8 | FBP  | Cu |
| VT100WCFUAX | WR90 | 8.20-12.40 | ≤1.20 | 3-60 | ±0.5~1.8 | FBP  | Cu |
| VT120WCFAX  | WR75 | 9.84-15.0  | ≤1.20 | 3-60 | ±0.5~1.8 | FBP  | Cu |
| VT120WCFUAX | WR75 | 9.84-15.0  | ≤1.20 | 3-60 | ±0.5~1.8 | FBP  | Cu |
| VT140WCFAX  | WR62 | 11.9-18.0  | ≤1.20 | 3-60 | ±0.5~1.8 | FBP  | Cu |
| VT140WCFUAX | WR62 | 11.9-18.0  | ≤1.20 | 3-60 | ±0.5~1.8 | FBP  | Cu |
| VT180WCFAX  | WR51 | 14.5-22.0  | ≤1.20 | 3-60 | ±0.5~1.8 | FBP  | Cu |
| VT180WCFUAX | WR51 | 14.5-22.0  | ≤1.20 | 3-60 | ±0.5~1.8 | FBP  | Cu |
| VT220WCFAX  | WR42 | 17.6-26.7  | ≤1.20 | 3-60 | ±0.5~1.8 | FBP  | Cu |
| VT220WCFUAX | WR42 | 17.6-26.7  | ≤1.20 | 3-60 | ±0.5~1.8 | FBP  | Cu |
| VT260WCFAX  | WR34 | 21.7-33.0  | ≤1.20 | 3-60 | ±0.5~1.8 | FBP  | Cu |
| VT260WCFUAX | WR34 | 21.7-33.0  | ≤1.20 | 3-60 | ±0.5~1.8 | FBP  | Cu |
| VT320WCFAX  | WR28 | 26.5-40.0  | ≤1.20 | 3-60 | ±0.5~1.8 | FBP  | Cu |
| VT320WCFUAX | WR28 | 26.5-40.0  | ≤1.20 | 3-60 | ±0.5~1.8 | FBP  | Cu |
| VT400WCFAX  | WR22 | 32.9-50.1  | ≤1.20 | 3-60 | ±0.5~1.8 | FUGP | Cu |
| VT400WCFUAX | WR22 | 32.9-50.1  | ≤1.20 | 3-60 | ±0.5~1.8 | FUGP | Cu |
| VT500WCFAX  | WR19 | 39.2-59.6  | ≤1.25 | 3-60 | ±0.5~1.8 | FUGP | Cu |
| VT500WCFUAX | WR19 | 39.2-59.6  | ≤1.25 | 3-60 | ±0.5~1.8 | FUGP | Cu |
| VT620WCFAX  | WR15 | 49.8-75.8  | ≤1.25 | 3-60 | ±0.5~1.8 | FUGP | Cu |
| VT620WCFUAX | WR15 | 49.8-75.8  | ≤1.25 | 3-60 | ±0.5~1.8 | FUGP | Cu |
| VT740WCFAX  | WR12 | 60.5-91.9  | ≤1.25 | 3-60 | ±0.5~1.8 | FUGP | Cu |
| VT740WCFUAX | WR12 | 60.5-91.9  | ≤1.25 | 3-60 | ±0.5~1.8 | FUGP | Cu |
| VT900WCFAX  | WR10 | 73.8-110   | ≤1.25 | 3-60 | ±0.5~1.8 | FUGP | Cu |
| VT900WCFUAX | WR10 | 73.8-110   | ≤1.25 | 3-60 | ±0.5~1.8 | FUGP | Cu |

*\*Indicates Model Number. See Ordering Information for complete part number.*

### 【Ordering Information】

**Example Part No:** VT 100 WCFAX 30 P M A

Vector Telecom ——— Material: A=Aluminum C=Copper

WG Type: R100 ——— Flange 2 Type: M=FBM100

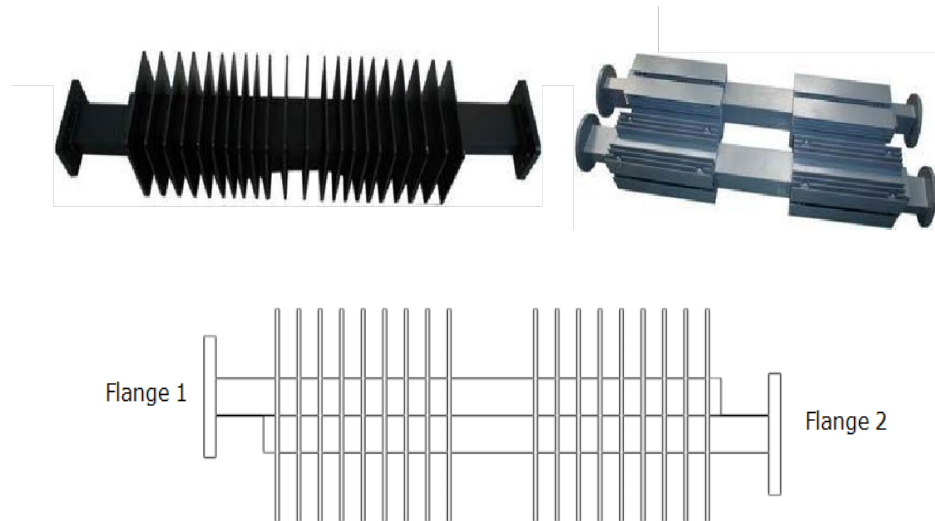
Product Type: WG Coupling Fixed Attenuators ——— Flange 1 Type: P=FBP100

Attenuation: 30dB

- Flange type: Multiple types available - see VT Flanges page
- Finish: Corrosion protection plus black top coat



## 11.3 High Power Waveguide Coupling Fixed Attenuators



### 【Specifications】

| Model No*      | Freq Range (GHz) | VSWR (Max) | Avg Power Range (W) | Optional Attenuation (dB) | WG Type |       | Flange | Material |
|----------------|------------------|------------|---------------------|---------------------------|---------|-------|--------|----------|
|                |                  |            |                     |                           | IEC     | EIA   |        |          |
| VT40WHPCFA...  | 3.22-4.90        | 1.20       | 10-4000             | 3-60                      | R40     | WR229 | FDP    | Al       |
| VT48WHPFA...   | 5.4-5.9          | 1.25       | 10-4000             | 3-60                      | R48     | WR187 | FDP    | Al       |
| VT70WHPFA...   | 5.85-7.025       | 1.20       | 10-4000             | 3-60                      | R70     | WR137 | FDP    | Al       |
| VT100WHPFA...  | 8.5-9.6          | 1.10       | 10-3000             | 3-60                      | R100    | WR90  | FDP    | Cu       |
| VT120WHPFA...  | 9.84-15.0        | 1.15       | 10-3000             | 3-60                      | R120    | WR75  | FBP    | Cu       |
| VT100WHPFA...  | 8.5-9.6          | 1.10       | 10-3000             | 3-60                      | R100    | WR90  | FDP    | Cu       |
| VT120WHPFA...  | 9.84-15.0        | 1.15       | 10-3000             | 3-60                      | R120    | WR75  | FBP    | Cu       |
| VT140WHPFA...  | 14.5-15.5        | 1.25       | 10-3000             | 3-60                      | R140    | WR62  | FBP    | Cu       |
| VT320WHPFA...  | 26.3-40.0        | 1.25       | 10-3000             | 3-60                      | R320    | WR28  | FBP    | Cu       |
| VT400WHPCFA... | 32.9-50.1        | 1.20       | 10-1000             | 3-60                      | R400    | WR22  | FBP    | Cu       |
| VT500WHPCFA... | 39.2-59.6        | 1.25       | 10-1000             | 3-60                      | R500    | WR19  | FBP    | Cu       |
| VT620WHPCFA... | 49.8-75.8        | 1.25       | 10-600              | 3-60                      | R620    | WR15  | FBP    | Cu       |
| VT740WHPCFA... | 60.5-91.9        | 1.25       | 10-600              | 3-60                      | R740    | WR12  | FBP    | Cu       |
| VT900WHPCFA... | 73.8-110         | 1.25       | 10-600              | 3-60                      | R900    | WR10  | FBP    | Cu       |

\*Indicates Model Number. See Ordering Information for complete part number.

\*\* Nominal Attenuation Accuracy:  $\pm 0.5\text{dB}$  Frequency Sensitivity:  $\pm 0.7\text{dB}$

### 【Ordering Information】

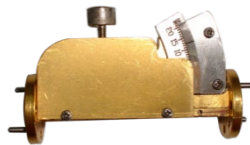


**Example Part No:** VT 100 WHPFA 30 P M A 250

Vector Telecom —  
WG Type: R100 —  
Product Type: Waveguide High Power Fixed Attenuator —  
Attenuation: 30dB —  
Avg Power: 250W —  
Material: A=Aluminum C=Copper —  
Flange 2 Type: M=FBM100 —  
Flange 1 Type: P=FBP100 —

- Flange type: Multiple types available - see VT Flanges page
- Finish: Corrosion protection plus black top coat

## 11.4 Waveguide Variable Attenuator



### 【Specifications】

| Model No*  | WG Type<br>EIA | Freq Range<br>(GHz) | VSWR<br>(Max) | Optional<br>Attenuation<br>(dB) | Flange | Material |
|------------|----------------|---------------------|---------------|---------------------------------|--------|----------|
| VT12WVA30  | WR770          | 0.96-1.46           | ≤1.25         | 0~30                            | FDP    | Al       |
| VT14WVA30  | WR650          | 1.13-1.73           | ≤1.25         | 0~30                            | FDP    | Al       |
| VT18WVA30  | WR510          | 1.45-2.20           | ≤1.25         | 0~30                            | FDP    | Al       |
| VT22WVA30  | WR430          | 1.72-2.61           | ≤1.25         | 0~30                            | FDP    | Al       |
| VT26WVA30  | WR340          | 2.17-3.30           | ≤1.25         | 0~30                            | FDP    | Al       |
| VT32WVA30  | WR284          | 2.60-3.95           | ≤1.25         | 0~30                            | FDP    | Al       |
| VT40WVA30  | WR229          | 3.22-4.90           | ≤1.25         | 0~30                            | FDP    | Al       |
| VT48WVA30  | WR187          | 3.94-5.99           | ≤1.25         | 0~30                            | FDP    | Al       |
| VT58WVA30  | WR159          | 4.64-7.05           | ≤1.25         | 0~30                            | FDP    | Al       |
| VT70WVA30  | WR137          | 5.38-8.17           | ≤1.25         | 0~30                            | FDP    | Cu       |
| VT84WVA30  | WR112          | 6.57-9.99           | ≤1.25         | 0~30                            | FBP    | Cu       |
| VT100WVA30 | WR90           | 8.20-12.40          | ≤1.25         | 0~30                            | FBP    | Cu       |
| VT120WVA30 | WR75           | 9.84-15.0           | ≤1.25         | 0~30                            | FBP    | Cu       |
| VT140WVA30 | WR62           | 11.9-18.0           | ≤1.25         | 0~30                            | FBP    | Cu       |
| VT180WVA30 | WR51           | 14.5-22.0           | ≤1.25         | 0~30                            | FBP    | Cu       |
| VT220WVA30 | WR42           | 17.6-26.7           | ≤1.30         | 0~30                            | FBP    | Cu       |
| VT260WVA30 | WR34           | 21.7-33.0           | ≤1.30         | 0~30                            | FBP    | Cu       |

|           |      |           |       |      |      |    |
|-----------|------|-----------|-------|------|------|----|
| VT320WVA0 | WR28 | 26.5-40.0 | ≤1.30 | 0~30 | FBP  | Cu |
| VT400WVA0 | WR22 | 32.9-50.1 | ≤1.30 | 0~30 | FUGP | Cu |
| VT500WVA0 | WR19 | 39.2-59.6 | ≤1.30 | 0~30 | FUGP | Cu |
| VT620WVA0 | WR15 | 49.8-75.8 | ≤1.30 | 0~30 | FUGP | Cu |
| VT740WVA0 | WR12 | 60.5-91.9 | ≤1.30 | 0~30 | FUGP | Cu |
| VT900WVA0 | WR10 | 73.8-110  | ≤1.30 | 0~30 | FUGP | Cu |

*\*Indicates Model Number. See Ordering Information for complete part number.*

## 【Ordering Information】

**Example Part No:** VT 100 WVA 30 P M A

Vector Telecom ——— Material: A=Aluminum C=Copper

WG Type: R100 ——— Flange 2 Type: M=FBM100

Product Type: WG Variable Attenuator ——— Flange 1 Type: P=FBP100

————— Attenuation: 30dB

- Flange type: Multiple types available - see VT Flanges page
- Finish: Corrosion protection plus black top coat

# 14

## Waveguide Attenuator





# 12 Waveguide Isolator

## 12.1 Waveguide Isolator



### 【Specifications】

| Model No*    | WG Type<br>EIA | Freq Range<br>(GHz) | Operating<br>Bandwidth | VSWR  | IL<br>(dB) | Isolation<br>(dB) | Flange | Material |
|--------------|----------------|---------------------|------------------------|-------|------------|-------------------|--------|----------|
| VT14WISO...  | WR650          | 1.13-1.73           | ≤5%                    | ≤1.2  | ≤0.3       | ≥20               | FDP    | Al       |
| VT18WISO...  | WR510          | 1.45-2.20           | ≤5%                    | ≤1.2  | ≤0.3       | ≥20               | FDP    | Al       |
| VT22WISO...  | WR430          | 1.72-2.61           | ≤5%                    | ≤1.2  | ≤0.3       | ≥20               | FDP    | Al       |
| VT26WISO...  | WR340          | 2.17-3.30           | ≤5%                    | ≤1.2  | ≤0.3       | ≥20               | FDP    | Al       |
| VT32WISO...  | WR284          | 2.60-3.95           | ≤5%                    | ≤1.2  | ≤0.3       | ≥20               | FDP    | Al       |
| VT40WISO...  | WR229          | 3.22-4.90           | ≤10%                   | ≤1.2  | ≤0.3       | ≥20               | FDP    | Al       |
| VT48WISO...  | WR187          | 3.94-5.99           | ≤10%                   | ≤1.2  | ≤0.3       | ≥20               | FDP    | Al       |
| VT58WISO...  | WR159          | 4.64-7.05           | ≤10%                   | ≤1.2  | ≤0.3       | ≥20               | FDP    | Al       |
| VT70WISO...  | WR137          | 5.38-8.17           | ≤10%                   | ≤1.2  | ≤0.3       | ≥20               | FDP    | Al       |
| VT84WISO...  | WR112          | 6.57-9.99           | ≤15%                   | ≤1.2  | ≤0.3       | ≥20               | FBP    | Al       |
| VT100WISO... | WR90           | 8.2-12.5            | ≤15%                   | ≤1.2  | ≤0.3       | ≥20               | FBP    | Al       |
| VT120WISO... | WR75           | 9.84-15.0           | ≤15%                   | ≤1.2  | ≤0.3       | ≥20               | FBP    | Al       |
| VT140WISO... | WR62           | 11.9-18.0           | ≤15%                   | ≤1.2  | ≤0.3       | ≥20               | FBP    | Al       |
| VT180WISO... | WR51           | 14.5-22.0           | ≤15%                   | ≤1.2  | ≤0.3       | ≥20               | FBP    | Al       |
| VT220WISO... | WR42           | 17.6-26.7           | ≤15%                   | ≤1.25 | ≤0.4       | ≥20               | FBP    | Cu       |
| VT260WISO... | WR34           | 21.7-33.0           | ≤15%                   | ≤1.25 | ≤0.4       | ≥20               | FBP    | Cu       |
| VT320WISO... | WR28           | 26.5-40.0           | ≤15%                   | ≤1.25 | ≤0.4       | ≥20               | FBP    | Cu       |
| VT400WISO... | WR22           | 32.9-50.1           | ≤5%                    | ≤1.5  | ≤0.6       | ≥17               | FUGP   | Cu       |
| VT500WISO... | WR19           | 39.2-59.6           | ≤5%                    | ≤1.5  | ≤0.6       | ≥15               | FUGP   | Cu       |
| VT620WISO... | WR15           | 49.8-75.8           | ≤5%                    | ≤1.5  | ≤0.6       | ≥15               | FUGP   | Cu       |
| VT740WISO... | WR12           | 60.5-91.9           | ≤5%                    | ≤1.5  | ≤0.8       | ≥15               | FUGP   | Cu       |
| VT900WISO... | WR10           | 73.8-110            | ≤5%                    | ≤1.5  | ≤1.0       | ≥15               | FUGP   | Cu       |

\*Indicates Model Number. See Ordering Information for complete part number.



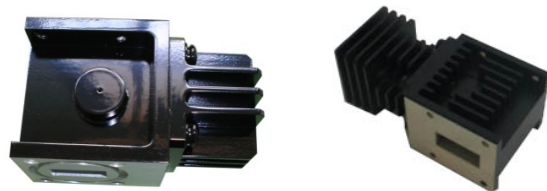
## 12.2 Full bandwidth Waveguide Isolator

### 【Specifications】

| Model No*      | WG<br>Type EIA | Freq<br>Range<br>(GHz) | VSWR<br>(Max) | IL<br>(dB) | Isolation<br>(dB) | Avg<br>Power<br>(W) | Flange | Material |
|----------------|----------------|------------------------|---------------|------------|-------------------|---------------------|--------|----------|
| VT70WISO18...  | WR137          | 5.38-8.17              | 1.35          | ≤0.4       | ≥18               | 150                 | FBP    | Al       |
| VT84WISO18...  | WR112          | 6.57-9.99              | 1.35          | ≤0.3       | ≥18               | 150                 | FBP    | Al       |
| VT100WISO18... | WR90           | 8.2-12.5               | 1.25          | ≤0.3       | ≥20               | 100                 | FBP    | Al       |
| VT120WISO18... | WR75           | 9.84-15.0              | 1.25          | ≤0.3       | ≥20               | 100                 | FBP    | Al       |
| VT140WISO18... | WR62           | 11.9-18.0              | 1.25          | ≤0.3       | ≥20               | 50                  | FBP    | Al       |
| VT180WISO18... | WR51           | 14.5-22.0              | 1.3           | ≤0.3       | ≥18               | 50                  | FBP    | Al       |
| VT220WISO18... | WR42           | 17.6-26.7              | 1.3           | ≤0.3       | ≥18               | 30                  | FBP    | Cu       |
| VT260WISO18... | WR34           | 21.7-33.0              | 1.3           | ≤0.3       | ≥18               | 20                  | FBP    | Cu       |
| VT320WISO18... | WR28           | 26.5-40.0              | 1.4           | ≤0.4       | ≥16               | 15                  | FUGP   | Cu       |

\*Indicates Model Number. See Ordering Information for complete part number.

## 12.3 High Power Waveguide Isolator



### 【Specifications】

| Model No*      | WG<br>Type EIA | Freq<br>Range<br>(GHz) | Operating<br>Bandwidth | VSWR  | IL<br>(dB) | Isolation<br>(dB) | Avg<br>Power<br>(W) | Flange | Material |
|----------------|----------------|------------------------|------------------------|-------|------------|-------------------|---------------------|--------|----------|
| VT14WHPIISO... | WR650          | 1.13-1.73              | ≤5%                    | ≤1.20 | ≤0.3       | ≥20               | ≤2500               | FDP    | Al       |
| VT18WHPIISO... | WR510          | 1.45-2.20              | ≤5%                    | ≤1.20 | ≤0.3       | ≥20               | ≤2500               | FDP    | Al       |



|               |       |           |      |       |      |     |       |      |    |
|---------------|-------|-----------|------|-------|------|-----|-------|------|----|
| VT22WHPISO... | WR430 | 1.72-2.61 | ≤5%  | ≤1.20 | ≤0.3 | ≥20 | ≤2000 | FDP  | Al |
| VT32WHPISO... | WR284 | 2.60-3.95 | ≤5%  | ≤1.20 | ≤0.3 | ≥20 | ≤2000 | FDP  | Al |
| VT40WHPISO... | WR229 | 3.22-4.90 | ≤10% | ≤1.20 | ≤0.3 | ≥20 | ≤1500 | FDP  | Al |
| VT48WHPISO... | WR187 | 3.94-5.99 | ≤10% | ≤1.20 | ≤0.3 | ≥20 | ≤1500 | FDP  | Al |
| VT58WHPISO... | WR159 | 4.64-7.05 | ≤10% | ≤1.20 | ≤0.3 | ≥20 | ≤1500 | FDP  | Al |
| VT70WHPISO... | WR137 | 5.38-8.17 | ≤10% | ≤1.20 | ≤0.3 | ≥20 | ≤500  | FDP  | Al |
| VT84WHPISO... | WR112 | 6.57-9.99 | ≤10% | ≤1.25 | ≤0.3 | ≥20 | ≤500  | FBP  | Al |
| VT100WHPIS... | WR90  | 8.2-12.5  | ≤10% | ≤1.25 | ≤0.3 | ≥20 | ≤300  | FBP  | Al |
| VT120WHPIS... | WR75  | 9.84-15   | ≤10% | ≤1.25 | ≤0.3 | ≥20 | ≤200  | FBP  | Al |
| VT140WHPIS... | WR62  | 11.9-18   | ≤10% | ≤1.25 | ≤0.3 | ≥20 | ≤200  | FBP  | Al |
| VT180WHPIS... | WR51  | 14.5-22.0 | ≤10% | ≤1.25 | ≤0.3 | ≥20 | ≤100  | FBP  | Al |
| VT220WHPIS... | WR42  | 17.6-26.7 | ≤10% | ≤1.25 | ≤0.4 | ≥20 | ≤80   | FBP  | Cu |
| VT260WHPIS... | WR34  | 21.7-33.0 | ≤10% | ≤1.25 | ≤0.4 | ≥20 | ≤80   | FBP  | Cu |
| VT320WHPIS... | WR28  | 26.5-40.0 | ≤10% | ≤1.25 | ≤0.4 | ≥20 | ≤50   | FBP  | Cu |
| VT400WHPIS... | WR22  | 32.9-50.1 | ≤5%  | ≤1.35 | ≤0.6 | ≥17 | ≤3    | FUGP | Cu |
| VT500WHPIS... | WR19  | 39.2-59.6 | ≤5%  | ≤1.50 | ≤0.6 | ≥15 | ≤2    | FUGP | Cu |
| VT620WHPIS... | WR15  | 49.8-75.8 | ≤5%  | ≤1.50 | ≤0.6 | ≥15 | ≤1    | FUGP | Cu |
| VT740WHPIS... | WR12  | 60.5-91.9 | ≤5%  | ≤1.50 | ≤0.8 | ≥15 | ≤1    | FUGP | Cu |
| VT900WHPIS... | WR10  | 73.8-110  | ≤5%  | ≤1.50 | ≤1.0 | ≥15 | ≤1    | FUGP | Cu |

\*Indicates Model Number. See Ordering Information for complete part number.

### 12.4 High Power Waveguide Differential Phase Shift Isolator



#### 【Specifications】

| Model No*       | WG Type EIA | Freq Range (GHz) | Operating Bandwidth | VSWR | IL (dB) | Isolation (dB) | Avg Power (W) | Flange Type | Material |
|-----------------|-------------|------------------|---------------------|------|---------|----------------|---------------|-------------|----------|
| VT14WHPDPSI40KW | WR650       | 1.13-1.73        | ≤5%                 | ≤1.2 | ≤0.3    | ≥20            | 40k           | FDP         | Al       |
| VT18WHPDPSI30KW | WR510       | 1.45-2.20        | ≤5%                 | ≤1.2 | ≤0.3    | ≥20            | 30k           | FDP         | Al       |



|                   |       |           |     |       |      |     |      |     |    |
|-------------------|-------|-----------|-----|-------|------|-----|------|-----|----|
| VT22WHPDPSI20KW   | WR430 | 1.72-2.61 | ≤5% | ≤1.2  | ≤0.3 | ≥20 | 20k  | FDP | Al |
| VT26WHPDPSI20KW   | WR340 | 2.17-3.30 | ≤5% | ≤1.2  | ≤0.3 | ≥20 | 20k  | FDP | Al |
| VT32WHPDPSI10KW   | WR284 | 2.60-3.95 | ≤5% | ≤1.2  | ≤0.4 | ≥20 | 10k  | FDP | Al |
| VT40WHPDPSI5KW    | WR229 | 3.22-4.90 | ≤5% | ≤1.2  | ≤0.4 | ≥20 | 5k   | FDP | Al |
| VT48WHPDPSI8KW    | WR187 | 3.94-5.99 | ≤5% | ≤1.2  | ≤0.4 | ≥20 | 8k   | FDP | Al |
| VT84WHPDPSI1200W  | WR112 | 6.57-9.99 | 7%  | ≤1.25 | ≤0.4 | ≥20 | 1.2k | FBP | Cu |
| VT100WHPDPSI1000W | WR90  | 8.2-12.5  | 7%  | ≤1.25 | ≤0.5 | ≥20 | 1k   | FBP | Cu |
| VT120WHPDPSI1000W | WR75  | 9.84-15.0 | 7%  | ≤1.25 | ≤0.5 | ≥20 | 1k   | FBP | Cu |
| VT140WHPDPSI800W  | WR62  | 11.9-18.0 | 7%  | ≤1.25 | ≤0.5 | ≥20 | 800  | FBP | Cu |
| VT180WHPDPSI800W  | WR51  | 14.5-22.0 | 7%  | ≤1.25 | ≤0.5 | ≥20 | 800  | FBP | Cu |

\*Indicates Model Number. See Ordering Information for complete part number.

### 【Ordering Information】

**Example Part No:** VT 100 WHPDPSI 1000 P M A  
 Vector Telecom ———  
 WG Type: R100 ———  
 Product Type: High Power WG Differential Phase Shift Isolator ———  
 Material: A=Aluminum C=Copper ———  
 Flange 2 Type: M=FBM100 ———  
 Flange 1 Type: P=FBP100 ———  
 Avg Power: 1000W ———

| Product Type | Description                                            |
|--------------|--------------------------------------------------------|
| WISO         | Waveguide Isolator                                     |
| WHPISO       | Waveguide High Power Termination                       |
| WHPDPSI      | High Power Waveguide Differential Phase Shift Isolator |

- Flange type: Multiple types available - see VT Flanges page
- Finish: Corrosion protection plus black top coat



## 13 Waveguide Circulator

Vector Telecom offers a standard product line of waveguide circulators ranging from WR10 to WR137. For more information feel free to call us and discuss your needs with one of our sales engineers.



### 13.1 Waveguide Circulator

#### 【Specifications】

| Model No  | Freq Range (GHz) | Working Bandwidth | VSWR (Max) | IL (dB) (Max) | Isolation (dB) (Min) | WG Type |       | Flange | Material |
|-----------|------------------|-------------------|------------|---------------|----------------------|---------|-------|--------|----------|
|           |                  |                   |            |               |                      | IEC     | EIA   |        |          |
| VT14WCIC  | 1.13-1.73        | ≤5%               | 1.20       | 0.3           | 20                   | R14     | WR650 | FDP    | Al       |
| VT18WCIC  | 1.45-2.20        | ≤5%               | 1.20       | 0.3           | 20                   | R18     | WR510 | FDP    | Al       |
| VT22WCIC  | 1.72-2.61        | ≤5%               | 1.20       | 0.3           | 20                   | R22     | WR430 | FDP    | Al       |
| VT26WCIC  | 2.17-3.30        | ≤5%               | 1.20       | 0.3           | 20                   | R26     | WR340 | FDP    | Al       |
| VT32WCIC  | 2.60-3.95        | ≤5%               | 1.20       | 0.3           | 20                   | R32     | WR284 | FDP    | Al       |
| VT40WCIC  | 3.22-4.90        | ≤10%              | 1.20       | 0.3           | 20                   | R40     | WR229 | FDP    | Al       |
| VT48WCIC  | 3.94-5.99        | ≤10%              | 1.20       | 0.3           | 20                   | R48     | WR187 | FDP    | Al       |
| VT58WCIC  | 4.64-7.05        | ≤10%              | 1.20       | 0.3           | 20                   | R58     | WR159 | FDP    | Al       |
| VT70WCIC  | 5.38-8.17        | ≤10%              | 1.20       | 0.3           | 20                   | R70     | WR137 | FDP    | Al       |
| VT84WCIC  | 6.57-9.99        | ≤15%              | 1.20       | 0.3           | 20                   | R84     | WR112 | FBP    | Al       |
| VT100WCIC | 8.20-12.40       | ≤15%              | 1.20       | 0.3           | 20                   | R100    | WR90  | FBP    | Al       |
| VT120WCIC | 9.84-15.0        | ≤15%              | 1.20       | 0.3           | 20                   | R120    | WR75  | FBP    | Al       |
| VT140WCIC | 11.9-18.0        | ≤15%              | 1.20       | 0.3           | 20                   | R140    | WR62  | FBP    | Al       |
| VT180WCIC | 14.5-22.0        | ≤15%              | 1.25       | 0.3           | 20                   | R180    | WR51  | FBP    | Al       |
| VT220WCIC | 17.6-26.7        | ≤15%              | 1.25       | 0.3           | 20                   | R220    | WR42  | FBP    | Cu       |
| VT260WCIC | 21.7-33.0        | ≤15%              | 1.25       | 0.3           | 20                   | R260    | WR34  | FBP    | Cu       |
| VT320WCIC | 26.3-40.0        | ≤15%              | 1.25       | 0.4           | 20                   | R320    | WR28  | FBP    | Cu       |
| VT400WCIC | 32.9-50.1        | ≤5%               | 1.35       | 0.6           | 17                   | R400    | WR22  | FUGP   | Cu       |

|           |           |     |      |     |    |      |      |      |    |
|-----------|-----------|-----|------|-----|----|------|------|------|----|
| VT500WCIC | 39.2-59.6 | ≤5% | 1.50 | 0.6 | 15 | R500 | WR19 | FUGP | Cu |
| VT620WCIC | 49.8-75.8 | ≤5% | 1.50 | 0.6 | 15 | R620 | WR15 | FUGP | Cu |
| VT740WCIC | 60.5-91.9 | ≤5% | 1.50 | 0.8 | 15 | R740 | WR12 | FUGP | Cu |
| VT900WCIC | 73.8-110  | ≤5% | 1.50 | 1.0 | 15 | R900 | WR10 | FUGP | Cu |

\*Indicates Model Number. See Ordering Information for complete part number.

## 【Ordering Information】

**Example Part No:** VT 100 WCIC P M A  
 Vector Telecom ——— Material: A=Aluminum C=Copper  
 WG Type: R100 ——— Flange 2 Type: M=FBM100  
 Product Type: WG Circulator ——— Flange 1 Type: P=FBP100

- Flange type: Multiple types available - see VT Flanges page
- Finish: Corrosion protection plus black top coat

## 13.2 Full band Waveguide Circulator

| Model No      | Freq Range (GHz) | WG Type |       | VSWR (Max) | IL (dB) (Max) | Isolation (dB) (Min) | Avg. Power (W) | Flange | Material |
|---------------|------------------|---------|-------|------------|---------------|----------------------|----------------|--------|----------|
|               |                  | IEC     | EIA   |            |               |                      |                |        |          |
| VT70WHPCIC18  | 5.38-8.17        | R70     | WR137 | 1.35       | 0.4           | 18                   | 150            | FDP    | Al       |
| VT84WHPCIC18  | 6.57-9.99        | R84     | WR112 | 1.35       | 0.3           | 18                   | 150            | FBP    | Al       |
| VT100WHPCIC18 | 8.20-12.4        | R100    | WR90  | 1.25       | 0.3           | 20                   | 100            | FBP    | Al       |
| VT120WHPCIC18 | 9.84-15.0        | R120    | WR75  | 1.25       | 0.3           | 20                   | 100            | FBP    | Al       |
| VT140WHPCIC18 | 11.9-18.0        | R140    | WR62  | 1.25       | 0.3           | 20                   | 50             | FBP    | Al       |
| VT180WHPCIC18 | 14.5-22.0        | R180    | WR51  | 1.3        | 0.3           | 18                   | 50             | FBP    | Al       |
| VT220WHPCIC18 | 17.6-26.7        | R220    | WR42  | 1.3        | 0.3           | 18                   | 30             | FBP    | Cu       |
| VT260WHPCIC18 | 21.7-33.0        | R260    | WR34  | 1.3        | 0.3           | 18                   | 20             | FBP    | Cu       |
| VT320WHPCIC18 | 26.3-40.0        | R320    | WR28  | 1.4        | 0.4           | 16                   | 15             | FBP    | Cu       |

\*Indicates Model Number. See Ordering Information for complete part number.

## 13.3 High Power Waveguide Circulator



## 【Specifications】

| Model No*      | WG Type EIA | Freq Range (GHz) | Operating Bandwidth | VSWR  | IL (dB) | Isolation (dB) | Avg Power (W) | Flange | Material |
|----------------|-------------|------------------|---------------------|-------|---------|----------------|---------------|--------|----------|
| VT14WHPCIC20K  | WR650       | 1.13-1.73        | ≤5%                 | ≤1.2  | ≤0.3    | ≥20            | 20K           | FDP    | Al       |
| VT18WHPCIC1000 | WR510       | 1.45-2.20        | ≤5%                 | ≤1.2  | ≤0.3    | ≥20            | 1000          | FDP    | Al       |
| VT22WHPCIC1000 | WR430       | 2.2-2.55         | ≤5%                 | ≤1.2  | ≤0.3    | ≥20            | 1000          | FDP    | Al       |
| VT26WHPCIC1000 | WR340       | 2.17-3.3         | ≤5%                 | ≤1.2  | ≤0.3    | ≥20            | 1000          | FDP    | Al       |
| VT32WHPCIC1000 | WR284       | 2.60-3.95        | ≤5%                 | ≤1.2  | ≤0.3    | ≥20            | 1000          | FDP    | Al       |
| VT48WHPCIC1000 | WR187       | 3.94-5.99        | ≤10%                | ≤1.2  | ≤0.3    | ≥20            | 1000          | FDP    | Al       |
| VT58WHPCIC1000 | WR159       | 4.64-7.05        | ≤10%                | ≤1.2  | ≤0.3    | ≥20            | 1000          | FDP    | Al       |
| VT70WHPCIC400  | WR137       | 5.38-8.17        | ≤10%                | ≤1.2  | ≤0.3    | ≥20            | 400           | FDP    | Al       |
| VT84WHPCIC400  | WR112       | 6.57-9.99        | ≤10%                | ≤1.2  | ≤0.3    | ≥20            | 400           | FBP    | Al       |
| VT100WHPCIC300 | WR90        | 8.2-12.4         | ≤15%                | ≤1.2  | ≤0.3    | ≥20            | 300           | FBP    | Al       |
| VT120WHPCIC100 | WR75        | 9.84-15.0        | ≤15%                | ≤1.2  | ≤0.3    | ≥20            | 100           | FBP    | Al       |
| VT140WHPCIC150 | WR62        | 11.9-18.0        | ≤15%                | ≤1.2  | ≤0.3    | ≥20            | 150           | FBP    | Al       |
| VT180WHPCIC100 | WR51        | 14.5-22.0        | ≤15%                | ≤1.25 | ≤0.3    | ≥20            | 100           | FBP    | Al       |
| VT220WHPCIC80  | WR42        | 17.6-26.7        | ≤15%                | ≤1.25 | ≤0.3    | ≥20            | 80            | FBP    | Cu       |
| VT260WHPCIC40  | WR34        | 21.7-33.0        | ≤15%                | ≤1.25 | ≤0.3    | ≥20            | 80            | FBP    | Cu       |
| VT320WHPCIC40  | WR28        | 26.5-40          | ≤15%                | ≤1.25 | ≤0.3    | ≥20            | 50            | FBP    | Cu       |
| VT400WHPCIC3   | WR22        | 32.9-50.1        | ≤5%                 | ≤1.25 | ≤0.5    | ≥20            | 3             | FUGP   | Cu       |

\*Indicates Model Number. See Ordering Information for complete part number.

## 【Ordering Information】

**Example Part No:** VT 100 WHPCIC 300 P M A

Vector Telecom ————

WG Type: R100 ————

Product Type: High Power WG Circulator ————

Material: A=Aluminum C=Copper ————

Flange 2 Type: M=FBM100 ————

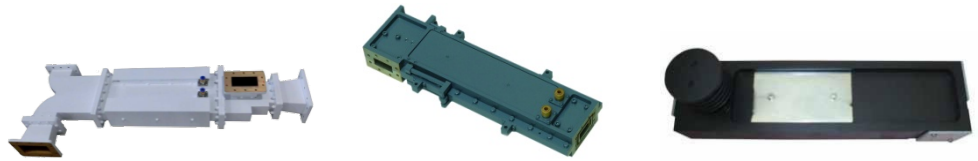
Flange 1 Type: P=FBP100 ————

Avg Power: 300W ————

- Flange type: Multiple types available - see VT Flanges page
- Finish: Corrosion protection plus black top coat



## 13.4 High Power Waveguide Differential Phase Shift Circulator



### 【Specifications】

| Model No*         | WG<br>Type<br>EIA | Freq<br>Range<br>(GHz) | Operating<br>Bandwidth | VSWR  | IL<br>(dB) | Isolation<br>(dB) | Avg<br>Power<br>(W) | Flange | Material |
|-------------------|-------------------|------------------------|------------------------|-------|------------|-------------------|---------------------|--------|----------|
| VT14WHPDPSI40KW   | WR650             | 1.13-1.73              | ≤5%                    | ≤1.2  | ≤0.3       | ≥20               | 40k                 | FDP    | Al       |
| VT18WHPDPSI30KW   | WR510             | 1.45-2.20              | ≤5%                    | ≤1.2  | ≤0.3       | ≥20               | 30k                 | FDP    | Al       |
| VT22WHPDPSI20KW   | WR430             | 1.72-2.61              | ≤5%                    | ≤1.2  | ≤0.3       | ≥20               | 20k                 | FDP    | Al       |
| VT26WHPDPSI20KW   | WR340             | 2.17-3.30              | ≤5%                    | ≤1.2  | ≤0.3       | ≥20               | 20k                 | FDP    | Al       |
| VT32WHPDPSI10KW   | WR284             | 2.60-3.95              | ≤5%                    | ≤1.2  | ≤0.4       | ≥20               | 10k                 | FDP    | Al       |
| VT40WHPDPSI5KW    | WR229             | 3.22-4.90              | ≤5%                    | ≤1.2  | ≤0.4       | ≥20               | 5k                  | FDP    | Al       |
| VT48WHPDPSI8KW    | WR187             | 3.94-5.99              | ≤5%                    | ≤1.2  | ≤0.4       | ≥20               | 8k                  | FDP    | Al       |
| VT84WHPDPSI1200W  | WR112             | 6.57-9.99              | ≤7%                    | ≤1.25 | ≤0.4       | ≥20               | 1.2k                | FBP    | Cu       |
| VT100WHPDPSI1000W | WR90              | 8.2-12.5               | ≤7%                    | ≤1.25 | ≤0.5       | ≥20               | 1k                  | FBP    | Cu       |
| VT120WHPDPSI1000W | WR75              | 9.84-15.0              | ≤7%                    | ≤1.25 | ≤0.5       | ≥20               | 1k                  | FBP    | Cu       |
| VT140WHPDPSI800W  | WR62              | 11.9-18.0              | ≤7%                    | ≤1.25 | ≤0.5       | ≥20               | 800                 | FBP    | Cu       |
| VT180WHPDPSI800W  | WR51              | 14.5-22.0              | ≤7%                    | ≤1.25 | ≤0.5       | ≥20               | 800                 | FBP    | Cu       |

\*Indicates Model Number. See Ordering Information for complete part number.

### 【Ordering Information】

**Example Part No:** VT 100 WHPDPSC 300 P M A  
 Vector Telecom ————  
 WG Type: R100 ————  
 Product Type: High Power WG Differential Phase Shift Circulator ————  
 Material: A=Aluminum C=Copper ————  
 Flange 2 Type: M=FBM100 ————  
 Flange 1 Type: P=FBP100 ————  
 Avg Power: 300W ————

- Flange type: Multiple types available - see VT Flanges page
- Finish: Corrosion protection plus black top coat



## 14 Waveguide Filter

### 14.1 Waveguide Band-pass Filter



#### 【Specifications】

| Model No* | WG Type EIA | Band | Pass Band (GHz) | Rejection Band (GHz) | VSWR  | IL (dB) | Isolation (dB) | Material |
|-----------|-------------|------|-----------------|----------------------|-------|---------|----------------|----------|
| VT70WBPF  | WR137       | C    | 5.85-6.425      | 3.4-4.2              | ≤1.20 | ≤0.4    | ≥70            | Cu       |
| VT84WBPF  | WR112       | X    | 7.9-8.4         | 7.25-7.75            | ≤1.20 | ≤0.6    | ≥60            | Cu       |
| VT100WBPF | WR90        | X    | 8-9             | 7.125-7.235          | ≤1.20 | ≤0.5    | ≥30            | Cu       |
| VT120WBPF | WR75        | Ku   | 11.7-12.75      | 14-14.5              | ≤1.20 | ≤0.3    | ≥55            | Cu       |
| VT140WBPF | WR62        | Ku   | 13.3-13.7       | 15.3-15.5            | ≤1.20 | ≤0.3    | ≥50            | Cu       |
| VT220WBPF | WR42        | Ka   | 20-22           | 30-31                | ≤1.25 | ≤0.5    | ≥50            | Cu       |
| VT260WBPF | WR34        | Ka   | 24.5~27         | ≤22GHz               | ≤1.20 | ≤0.3    | ≥40            | Cu       |
| VT320WBPF | WR28        | Ka   | 30.5-31.3       | 26-28.35GHz          | ≤1.20 | ≤0.6    | ≥70            | Cu       |

\*Indicates Model Number. See Ordering Information for complete part number.

### 14.2 Waveguide High-pass Filter



#### 【Specifications】

| Model No* | WG Type EIA | Band | Pass Band (GHz) | Rejection Band (GHz) | VSWR | IL (dB) | Isolation (dB) | Material |
|-----------|-------------|------|-----------------|----------------------|------|---------|----------------|----------|
| VT260WHPF | WR34        | Ka   | 25-26           | 16                   | ≤1.2 | ≤0.2    | ≥80            | Cu       |
| VT320WHPF | WR28        | Ka   | 29-31.2         | 19-21                | ≤1.2 | ≤0.2    | ≥70            | Cu       |

\*Indicates Model Number. See Ordering Information for complete part number.



### 14.3 Waveguide Low-pass Filter



#### 【Specifications】

| Model No* | WG Type<br>EIA | Band | Pass Band<br>(GHz) | Rejection Band (GHz) | VSWR | IL(dB) | Isolation (dB) | Material |
|-----------|----------------|------|--------------------|----------------------|------|--------|----------------|----------|
| VT40WLPF  | WR229          | C    | 4.5-4.8            | 6.725-7.025          | ≤1.2 | ≤0.3   | ≥55            | Al       |
| VT120WLPF | WR75           | Ku   | 11.6-12.8          | 13.5-15              | ≤1.2 | ≤0.25  | ≥60            | Cu       |
| VT220WLPF | WR42           | Ka   | 20.4-20.9          | 30-31                | ≤1.2 | ≤0.3   | ≥55            | Cu       |

\*Indicates Model Number. See Ordering Information for complete part number.

#### 【Ordering Information】

**Example Part No:** VT 100 WLPF C  
 Vector Telecom ——— Material: A=Aluminum C=Copper  
 WG Type: R100 ——— Product Type: WG Low Pass Filter

| Product Type | Description                |
|--------------|----------------------------|
| WBPF         | Waveguide Band-pass Filter |
| WHPF         | Waveguide High-pass Filter |
| WLPF         | Waveguide Low-pass Filter  |

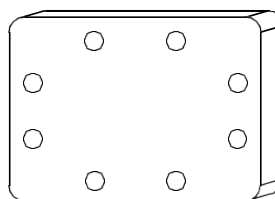
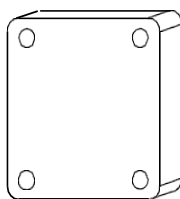
- Flange type: Multiple types available - see VT Flanges page
- Finish: Corrosion protection plus black top coat



## 15 Waveguide Short

Vector Telecom offers a standard product line of waveguide short plates which provide high reflection short circuits for terminating all standard waveguides. Vector Telecom offers a cover, all-clear configuration as a standard product. Alternate materials and configurations are available upon request.

### 15.1 Waveguide Short Plate



#### 【Specifications】

| Model No* | Freq Range<br>(GHz) | VSWR<br>(Min) | Thickness<br>(mm) | WG Type |        | Flange | Material |
|-----------|---------------------|---------------|-------------------|---------|--------|--------|----------|
|           |                     |               |                   | IEC     | EIA    |        |          |
| VT3WS...  | 0.32-0.49           | 60            | 23                | R3      | WR2300 | FDP    | Al       |
| VT4WS...  | 0.35-0.53           | 60            | 23                | R4      | WR2100 | FDP    | Al       |
| VT5WS...  | 0.41-0.62           | 60            | 18                | R5      | WR1800 | FDP    | Al       |
| VT6WS...  | 0.49-0.75           | 60            | 18                | R6      | WR1500 | FDP    | Al       |
| VT8WS...  | 0.64-0.98           | 60            | 14                | R8      | WR1150 | FDP    | Al       |
| VT9WS...  | 0.75-1.15           | 60            | 14                | R9      | WR975  | FDP    | Al       |
| VT12WS... | 0.96-1.46           | 60            | 12                | R12     | WR770  | FDP    | Al       |
| VT14WS... | 1.13-1.73           | 60            | 12                | R14     | WR650  | FDP    | Al       |
| VT18WS... | 1.45-2.20           | 60            | 12                | R18     | WR510  | FDP    | Al/Cu    |
| VT22WS... | 1.72-2.61           | 60            | 10                | R22     | WR430  | FDP    | Al/Cu    |
| VT26WS... | 2.17-3.30           | 60            | 10                | R26     | WR340  | FDP    | Al/Cu    |

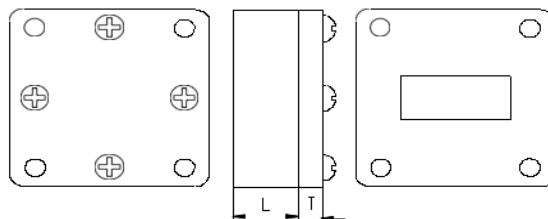
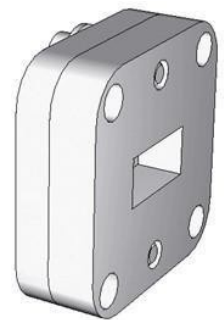


|            |            |    |   |      |       |      |       |
|------------|------------|----|---|------|-------|------|-------|
| VT32WS...  | 2.60-3.95  | 60 | 8 | R32  | WR284 | FDP  | Al/Cu |
| VT40WS...  | 3.22-4.90  | 60 | 8 | R40  | WR229 | FDP  | Al/Cu |
| VT48WS...  | 3.94-5.99  | 60 | 7 | R48  | WR187 | FDP  | Al/Cu |
| VT58WS...  | 4.64-7.05  | 60 | 7 | R58  | WR159 | FDP  | Al/Cu |
| VT70WS...  | 5.38-8.17  | 60 | 7 | R70  | WR137 | FDP  | Al/Cu |
| VT84WS...  | 6.57-9.99  | 60 | 5 | R84  | WR112 | FBP  | Al/Cu |
| VT100WS... | 8.20-12.40 | 60 | 5 | R100 | WR90  | FBP  | Al/Cu |
| VT120WS... | 9.84-15.0  | 60 | 5 | R120 | WR75  | FBP  | Al/Cu |
| VT140WS... | 11.9-18.0  | 60 | 5 | R140 | WR62  | FBP  | Al/Cu |
| VT180WS... | 14.5-22.0  | 60 | 5 | R180 | WR51  | FBP  | Al/Cu |
| VT220WS... | 17.6-26.7  | 60 | 4 | R220 | WR42  | FBP  | Al/Cu |
| VT260WS... | 21.7-33.0  | 60 | 4 | R260 | WR34  | FBP  | Al/Cu |
| VT320WS... | 26.3-40.0  | 60 | 4 | R320 | WR28  | FBP  | Al/Cu |
| VT400WS... | 32.9-50.1  | 60 | 4 | R400 | WR22  | FUGP | Cu    |
| VT500WS... | 39.2-59.6  | 60 | 4 | R500 | WR19  | FUGP | Cu    |
| VT620WS... | 49.8-75.8  | 60 | 4 | R620 | WR15  | FUGP | Cu    |
| VT740WS... | 60.5-91.9  | 60 | 4 | R740 | WR12  | FUGP | Cu    |
| VT900WS... | 73.8-110   | 60 | 4 | R900 | WR10  | FUGP | Cu    |

*\*Indicates Model Number. See Ordering Information for complete part number.*

## 15.2 Waveguide Offset Short

Waveguide offset shorts are available on special order. These are designed to have a specific shorting distance as required.



### 【Specifications】



| Model No* | WG Type<br>EIA | Freq Range<br>(GHz) | VSWR | Dimension (mm) |       | Flange | Material |
|-----------|----------------|---------------------|------|----------------|-------|--------|----------|
|           |                |                     |      | T              | L     |        |          |
| VT3WOFS   | WR2300         | 0.32-0.49           | ≥50  | 23             | 239.5 | FDP    | Al       |
| VT4WOFS   | WR2100         | 0.35-0.53           | ≥50  | 23             | 221.6 | FDP    | Al       |
| VT5WOFS   | WR1800         | 0.41-0.62           | ≥50  | 18             | 188.9 | FDP    | Al       |
| VT6WOFS   | WR1500         | 0.49-0.75           | ≥50  | 18             | 156.6 | FDP    | Al       |
| VT8WOFS   | WR1150         | 0.64-0.98           | ≥50  | 14             | 122.3 | FDP    | Al       |
| VT9WOFS   | WR975          | 0.75-1.15           | ≥50  | 14             | 101.6 | FDP    | Al       |
| VT12WOFS  | WR770          | 0.96-1.46           | ≥50  | 12             | 81.1  | FDP    | Al       |
| VT14WOFS  | WR650          | 1.13-1.73           | ≥50  | 12             | 67.9  | FDP    | Al       |
| VT18WOFS  | WR510          | 1.45-2.20           | ≥50  | 12             | 53.2  | FDP    | Al       |
| VT22WOFS  | WR430          | 1.72-2.61           | ≥50  | 10             | 44.8  | FDP    | Al       |
| VT26WOFS  | WR340          | 2.17-3.30           | ≥50  | 10             | 35.5  | FDP    | Al       |
| VT32WOFS  | WR284          | 2.60-3.95           | ≥50  | 8              | 29.6  | FDP    | Al       |
| VT40WOFS  | WR229          | 3.22-4.90           | ≥50  | 8              | 23.9  | FDP    | Al       |
| VT48WOFS  | WR187          | 3.94-5.99           | ≥50  | 7              | 19.6  | FDP    | Al       |
| VT58WOFS  | WR159          | 4.64-7.05           | ≥50  | 7              | 16.6  | FDP    | Al       |
| VT70WOFS  | WR137          | 5.38-8.17           | ≥50  | 7              | 14.3  | FDP    | Cu       |
| VT84WOFS  | WR112          | 6.57-9.99           | ≥50  | 5              | 11.7  | FBP    | Cu       |
| VT100WOFS | WR90           | 8.20-12.40          | ≥50  | 5              | 9.5   | FBP    | Cu       |
| VT120WOFS | WR75           | 9.84-15.0           | ≥50  | 5              | 7.8   | FBP    | Cu       |
| VT140WOFS | WR62           | 11.9-18.0           | ≥50  | 5              | 6.5   | FBP    | Cu       |
| VT180WOFS | WR51           | 14.5-22.0           | ≥50  | 5              | 5.3   | FBP    | Cu       |
| VT220WOFS | WR42           | 17.6-26.7           | ≥50  | 4              | 4.4   | FBP    | Cu       |
| VT260WOFS | WR34           | 21.7-33.0           | ≥50  | 4              | 3.55  | FBP    | Cu       |
| VT320WOFS | WR28           | 26.5-40.0           | ≥50  | 4              | 2.9   | FBP    | Cu       |
| VT400WOFS | WR22           | 32.9-50.1           | ≥50  | 4              | 2.3   | FUGP   | Cu       |
| VT500WOFS | WR19           | 39.2-59.6           | ≥50  | 4              | 1.97  | FUGP   | Cu       |
| VT620WOFS | WR15           | 49.8-75.8           | ≥50  | 4              | 1.55  | FUGP   | Cu       |
| VT740WOFS | WR12           | 60.5-91.9           | ≥50  | 4              | 1.3   | FUGP   | Cu       |
| VT900WOFS | WR10           | 73.8-110            | ≥50  | 4              | 1.05  | FUGP   | Cu       |



\*Indicates Model Number. See Ordering Information for complete part number.

## 15.3 Waveguide Sliding Short

Waveguide sliding shorts are available. Please consult sales engineer for more information.



### 【Specifications】

| Model No* | WG Type<br>EIA | Freq Range<br>(GHz) | VSWR | Sliding<br>Distance<br>(mm) | Flange | Material |
|-----------|----------------|---------------------|------|-----------------------------|--------|----------|
| VT3WSS    | WR2300         | 0.32-0.49           | ≥50  | 300                         | FDP    | Al       |
| VT4WSS    | WR2100         | 0.35-0.53           | ≥50  | 240                         | FDP    | Al       |
| VT5WSS    | WR1800         | 0.41-0.62           | ≥50  | 220                         | FDP    | Al       |
| VT6WSS    | WR1500         | 0.49-0.75           | ≥50  | 180                         | FDP    | Al       |
| VT8WSS    | WR1150         | 0.64-0.98           | ≥50  | 150                         | FDP    | Al       |
| VT9WSS    | WR975          | 0.75-1.15           | ≥50  | 130                         | FDP    | Al       |
| VT12WSS   | WR770          | 0.96-1.46           | ≥50  | 100                         | FDP    | Al       |
| VT14WSS   | WR650          | 1.13-1.73           | ≥50  | 90                          | FDP    | Al       |
| VT18WSS   | WR510          | 1.45-2.20           | ≥50  | 80                          | FDP    | Al       |
| VT22WSS   | WR430          | 1.72-2.61           | ≥50  | 70                          | FDP    | Al       |
| VT26WSS   | WR340          | 2.17-3.30           | ≥50  | 60                          | FDP    | Al       |
| VT32WSS   | WR284          | 2.60-3.95           | ≥50  | 60                          | FDP    | Al       |
| VT40WSS   | WR229          | 3.22-4.90           | ≥50  | 50                          | FDP    | Al       |
| VT48WSS   | WR187          | 3.94-5.99           | ≥50  | 50                          | FDP    | Al       |
| VT58WSS   | WR159          | 4.64-7.05           | ≥50  | 50                          | FDP    | Al       |
| VT70WSS   | WR137          | 5.38-8.17           | ≥50  | 40                          | FDP    | Cu       |
| VT84WSS   | WR112          | 6.57-9.99           | ≥50  | 40                          | FBP    | Cu       |
| VT100WSS  | WR90           | 8.20-12.40          | ≥50  | 30                          | FBP    | Cu       |
| VT120WSS  | WR75           | 9.84-15.0           | ≥50  | 30                          | FBP    | Cu       |
| VT140WSS  | WR62           | 11.9-18.0           | ≥50  | 25                          | FBP    | Cu       |



|          |      |           |     |    |      |    |
|----------|------|-----------|-----|----|------|----|
| VT180WSS | WR51 | 14.5-22.0 | ≥50 | 20 | FBP  | Cu |
| VT220WSS | WR42 | 17.6-26.7 | ≥50 | 20 | FBP  | Cu |
| VT260WSS | WR34 | 21.7-33.0 | ≥50 | 10 | FBP  | Cu |
| VT320WSS | WR28 | 26.5-40.0 | ≥50 | 10 | FBP  | Cu |
| VT400WSS | WR22 | 32.9-50.1 | ≥50 | 10 | FUGP | Cu |
| VT500WSS | WR19 | 39.2-59.6 | ≥50 | 10 | FUGP | Cu |
| VT620WSS | WR15 | 49.8-75.8 | ≥50 | 10 | FUGP | Cu |
| VT740WSS | WR12 | 60.5-91.9 | ≥50 | 10 | FUGP | Cu |
| VT900WSS | WR10 | 73.8-110  | ≥50 | 10 | FUGP | Cu |

*\*Indicates Model Number. See Ordering Information for complete part number.*

## 【Ordering Information】

**Example Part No:** VT 100 WS A

Vector Telecom ——— Material: A=Aluminum C=Copper  
WG Type: R100 ——— Product Type: Waveguide Short Plate

| Product Type | Description             |
|--------------|-------------------------|
| WS           | Waveguide Short Plate   |
| WOFS         | Waveguide Offset Short  |
| WSS          | Waveguide Sliding Short |

- Flange type: Multiple types available - see VT Flanges page
- Finish: Corrosion protection plus black top coat



# 16 Waveguide Pressure Window



## 【Specifications】

| Model No*      | WG Type EIA | Freq Range<br>(GHz) | VSWR  | Flange  | Material |
|----------------|-------------|---------------------|-------|---------|----------|
| VT3WPW...PM    | WR2300      | 0.32-0.49           | ≤1.25 | FDP/FDM | Al       |
| VT4WPW... PM   | WR2100      | 0.35-0.53           | ≤1.25 | FDP/FDM | Al       |
| VT5WPW... PM   | WR1800      | 0.41-0.62           | ≤1.25 | FDP/FDM | Al       |
| VT6WPW... PM   | WR1500      | 0.49-0.75           | ≤1.25 | FDP/FDM | Al       |
| VT8WPW... PM   | WR1150      | 0.64-0.98           | ≤1.25 | FDP/FDM | Al       |
| VT9WPW... PM   | WR975       | 0.75-1.15           | ≤1.25 | FDP/FDM | Al       |
| VT12WPW... PM  | WR770       | 0.96-1.46           | ≤1.25 | FDP/FDM | Al       |
| VT14WPW... PM  | WR650       | 1.13-1.73           | ≤1.25 | FDP/FDM | Al       |
| VT18WPW... PM  | WR510       | 1.45-2.20           | ≤1.25 | FDP/FDM | Al       |
| VT22WPW... PM  | WR430       | 1.72-2.61           | ≤1.25 | FDP/FDM | Al       |
| VT26WPW... PM  | WR340       | 2.17-3.30           | ≤1.25 | FDP/FDM | Al       |
| VT32WPW... PM  | WR284       | 2.60-3.95           | ≤1.25 | FDP/FDM | Al       |
| VT40WPW... PM  | WR229       | 3.22-4.90           | ≤1.25 | FDP/FDM | Al       |
| VT48WPW... PM  | WR187       | 3.94-5.99           | ≤1.25 | FDP/FDM | Al       |
| VT58WPW... PM  | WR159       | 4.64-7.05           | ≤1.25 | FDP/FDM | Al       |
| VT70WPW... PM  | WR137       | 5.38-8.17           | ≤1.25 | FDP/FDM | Cu       |
| VT84WPW... PM  | WR112       | 6.57-9.99           | ≤1.25 | FBP/FBM | Cu       |
| VT100WPW... PM | WR90        | 8.20-12.40          | ≤1.25 | FBP/FBM | Cu       |
| VT120WPW... PM | WR75        | 9.84-15.0           | ≤1.25 | FBP/FBM | Cu       |
| VT140WPW... PM | WR62        | 11.9-18.0           | ≤1.25 | FBP/FBM | Cu       |
| VT180WPW... PM | WR51        | 14.5-22.0           | ≤1.25 | FBP/FBM | Cu       |
| VT220WPW... PM | WR42        | 17.6-26.7           | ≤1.25 | FBP/FBM | Cu       |
| VT260WPW... PM | WR34        | 21.7-33.0           | ≤1.25 | FBP/FBM | Cu       |
| VT320WPW... PM | WR28        | 26.5-40.0           | ≤1.25 | FBP/FBM | Cu       |
| VT400WPW...    | WR22        | 32.9-50.1           | ≤1.3  | FUGP    | Cu       |
| VT500WPW...    | WR19        | 39.2-59.6           | ≤1.3  | FUGP    | Cu       |
| VT620WPW...    | WR15        | 49.8-75.8           | ≤1.4  | FUGP    | Cu       |
| VT740WPW...    | WR12        | 60.5-91.9           | ≤1.4  | FUGP    | Cu       |
| *VT900WPW...   | WR10        | 73.8-110            | ≤1.4  | FUGP    | Cu       |



## Section 1

### Waveguide Components

# 16

## Waveguide Pressure Window



*\*Indicates Model Number. See Ordering Information for complete part number.*

### 【Ordering Information】

**Example Part No:** VT 100 WPW 10 P M C

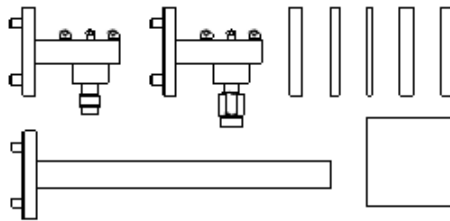
Vector Telecom — VT  
WG Type: R100 — 100  
Product Type: WG Pressure Window — WPW  
Thickness: 10mm — 10  
Flange 1 Type: P=FBP100 — P  
Flange 2 Type: M=FBM100 — M  
Material: A=Aluminum C=Copper — C

- Flange type: Multiple types available - see VT Flanges page
- Finish: Corrosion protection plus black top coat



# 17 Waveguide Calibration Kits

## 17.1 Waveguide Calibration Kits



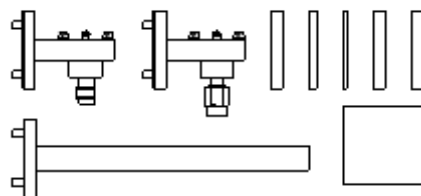
### 【Specifications】

| Model No*   | WG Type<br>EIA | Freq Range<br>(GHz) | Connector       | Flange | Material |
|-------------|----------------|---------------------|-----------------|--------|----------|
| VT9VNAWKN   | WR975          | 0.75-1.15           | N Male/Female   | FDP    | Al       |
| VT12VNAWKN  | WR770          | 0.96-1.46           | N Male/Female   | FDP    | Al       |
| VT14VNAWKN  | WR650          | 1.13-1.73           | N Male/Female   | FDP    | Al       |
| VT18VNAWKN  | WR510          | 1.45-2.20           | N Male/Female   | FDP    | Al       |
| VT22VNAWKN  | WR430          | 1.72-2.61           | N Male/Female   | FDP    | Al       |
| VT26VNAWKN  | WR340          | 2.17-3.30           | N Male/Female   | FDP    | Al       |
| VT32VNAWKN  | WR284          | 2.60-3.95           | N Male/Female   | FDP    | Al       |
| VT40VNAWKN  | WR229          | 3.22-4.90           | N Male/Female   | FDP    | Al       |
| VT48VNAWKN  | WR187          | 3.94-5.99           | N Male/Female   | FDP    | Al       |
| VT58VNAWKN  | WR159          | 4.64-7.05           | N Male/Female   | FDP    | Al       |
| VT70VNAWKN  | WR137          | 5.38-8.17           | N Male/Female   | FDP    | Cu       |
| VT84VNAWKN  | WR112          | 6.57-9.99           | N Male/Female   | FBP    | Cu       |
| VT100VNAWKN | WR90           | 8.20-12.4           | N Male/Female   | FBP    | Cu       |
| VT120VNAWKN | WR75           | 9.84-15.0           | N Male/Female   | FBP    | Cu       |
| VT140VNAWKS | WR62           | 11.9-18.0           | SMA Male/Female | FBP    | Cu       |

|                |      |           |                  |      |    |
|----------------|------|-----------|------------------|------|----|
| VT180VNAWKS    | WR51 | 14.5-22.0 | SMA Male/Female  | FBP  | Cu |
| VT220VNAWKK    | WR42 | 17.6-26.7 | 2.92 Male/Female | FBP  | Cu |
| VT260VNAWKK    | WR34 | 21.7-33.0 | 2.92 Male/Female | FBP  | Cu |
| VT320VNAWKK    | WR28 | 26.5-40.0 | 2.92 Male/Female | FBP  | Cu |
| VT400VNAWKV    | WR22 | 32.9-50.1 | 2.4 Male/Female  | FUGP | Cu |
| VT500VNAWK1.85 | WR19 | 39.2-59.6 | 2.4 Male/Female  | FUGP | Cu |
| VT620VNAWK1.85 | WR15 | 49.8-75.8 | 1.85 Male/Female | FUGP | Cu |
| VT740VNAWK1.0  | WR12 | 60.5-91.9 | 1.0 Male/Female  | FUGP | Cu |
| VT900VNAWK1.0  | WR10 | 73.8-110  | 1.0 Male/Female  | FUGP | Cu |

*\*Indicates Model Number. See Ordering Information for complete part number.*

## 17.2 Double-Ridged Waveguide Calibration Kits



### 【Specifications】

| Model No*    | Freq Range<br>(GHz) | WG TYPE<br>EIA | Connector  | Flange | Material | Finish              |
|--------------|---------------------|----------------|------------|--------|----------|---------------------|
| VT84DRVNAWKN | 0.84-2              | WRD84          | N Female   | FP     | Al       | Chromate conversion |
| VT150DRVNAWN | 1.5-3.6             | WRD150         | N Female   | FP     | Al       | Chromate conversion |
| VT200DRVNAWN | 2-4.8               | WRD200         | N Female   | FP     | Al       | Chromate conversion |
| VT250DRVNAWN | 2.6-7.8             | WRD250         | N Female   | FP     | Al       | Chromate conversion |
| VT350DRVNAWN | 3.5-8.2             | WRD350         | N Female   | FP     | Al       | Chromate conversion |
| VT475DRVNAWN | 4.75-11             | WRD475         | N Female   | FP     | Cu       | Silver Plating      |
| VT500DRVNAWS | 5-18                | WRD500         | SMA Female | FP     | Cu       | Silver Plating      |
| VT580DRVNAWS | 5.8-16              | WRD580         | SMA Female | FP     | Cu       | Silver Plating      |

# 17

## Waveguide Calibration Kits





|               |         |         |             |    |    |                |
|---------------|---------|---------|-------------|----|----|----------------|
| VT650DRVNAWS  | 6.5-18  | WRD650  | SMA Female  | FP | Cu | Silver Plating |
| VT750DRVNAWS  | 7.5-18  | WRD750  | SMA Female  | FP | Cu | Silver Plating |
| VT700DRVNAWS  | 7-18.5  | WRD700  | SMA Female  | FP | Cu | Silver Plating |
| VT1100DRVNAKK | 11-26.5 | WRD1100 | 2.92 Female | FP | Cu | Silver Plating |
| VT1800DRVNAKK | 18-40   | WRD1800 | 2.92 Female | FP | Cu | Silver Plating |

*\*Indicates Model Number. See Ordering Information for complete part number.*

## 【Ordering Information】

**Example Part No:** VT 100 VNAWK N

Vector Telecom ———

WG Type:R100 ———

Product Type:WG Calibration Kits ———

Coax Connector Type:N=Type N  
S=SMA, K=2.92mm, V=2.4mm  
1.85=1.85mm, 1.0=1.0mm

| Product Type | Description                              |
|--------------|------------------------------------------|
| VNAW         | Waveguide Calibration Kits               |
| DRVNAW       | Double-Ridged Waveguide Calibration Kits |

- Flange type: Multiple types available - see VT Flanges page
- Finish: Corrosion protection plus black top coat



## 18 Electric Waveguide Switch

Waveguide switch is commonly used in microwave electronics device, its function is choose microwave channel as needed and realize the high quality of the signal transmission, with the features of small size, wide band, high power, low VSWR, small loss, high isolation characteristics, widely used in radar, electronic countermeasures system, satellite, military and commercial ground stations fields.



### 【Specifications】

| Model No   | Freq<br>Range | VSWR | Insertion<br>loss | Isolation | Switching<br>Time | Flange | Material | WG Type   |
|------------|---------------|------|-------------------|-----------|-------------------|--------|----------|-----------|
|            | (GHz)         | Max  | (dB) Max          | (dB) Min  | (ms) Max          |        |          | (IEC/EIA) |
| VT22WDESMD | 1.72-2.61     | 1.1  | 0.1               | 70        | 300               | UDR    | AL       | R22/WR430 |
| VT32WDESMD | 2.60-3.95     | 1.1  | 0.1               | 70        | 300               | UDR    | AL       | R32/WR284 |
| VT40WDESMD | 3.22-4.90     | 1.1  | 0.1               | 70        | 150               | UDR    | AL       | R40/WR229 |
| VT48WDESMD | 3.94-5.99     | 1.1  | 0.1               | 70        | 150               | UDR    | AL       | R48/WR187 |
| VT58WDESMD | 4.64-7.05     | 1.15 | 0.15              | 70        | 150               | UDR    | AL       | R58/WR159 |
| VT70WDESMD | 5.38-8.17     | 1.15 | 0.15              | 70        | 80                | UDR    | AL       | R70/WR137 |
| VT84WDESMD | 6.57-9.99     | 1.15 | 0.15              | 70        | 80                | UBR    | AL       | R84/WR112 |
| VT100WDESM | 8.20-12.5     | 1.15 | 0.15              | 70        | 80                | UBR    | AL       | R100/WR90 |
| VT120WDESM | 9.84-15.0     | 1.15 | 0.15              | 70        | 80                | UBR    | AL       | R120/WR75 |
| VT140WDESM | 11.9-18.0     | 1.15 | 0.15              | 70        | 80                | UBR    | AL       | R140/WR62 |
| VT180WDESM | 14.5-22.0     | 1.15 | 0.2               | 60        | 80                | UBR    | AL       | R180/WR51 |
| VT220WDESM | 18-26.5       | 1.15 | 0.2               | 55        | 80                | UBR    | Cu/AL    | R220/WR42 |
| VT260WDESM | 21.7-33.0     | 1.15 | 0.3               | 55        | 80                | UBR    | Cu/AL    | R260/WR34 |
| VT320WDESM | 26.5-40.0     | 1.15 | 0.3               | 55        | 80                | UBR    | Cu/AL    | R320/WR28 |
| VT400WDESM | 33-50         | 1.15 | 0.3               | 45        | 80                | UG-38  | Cu       | R400/WR22 |
| VT500WDESM | 40-60         | 1.2  | 0.5               | 45        | 80                | UG-38  | Cu       | R500/WR22 |

|            |        |     |     |    |    |       |    |           |
|------------|--------|-----|-----|----|----|-------|----|-----------|
| VT620WDESM | 50-75  | 1.2 | 0.5 | 45 | 80 | UG-38 | Cu | R620/WR22 |
| VT740WDESM | 60-90  | 1.2 | 0.8 | 40 | 80 | UG-38 | Cu | R740/WR22 |
| VT900WDESM | 75-110 | 1.2 | 1   | 40 | 80 | UG-38 | Cu | R900/WR22 |

*\*Indicates Model Number. See Ordering Information for complete part number.*

## 【Ordering Information】

Vector Telecom **VT** **120** **WDESM** **C**  
 WG Type: R120/WR75      Material: Brass      Product Type: Waveguide Electric Switch

- Flange type: Multiple types available - see VT Flanges page
- Finish: Corrosion protection plus black top coat

# 18

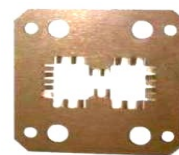
**Electric  
Waveguide  
Switch**





# 19 Waveguide Gasket

## 19.1 Waveguide Anti-leak Gasket

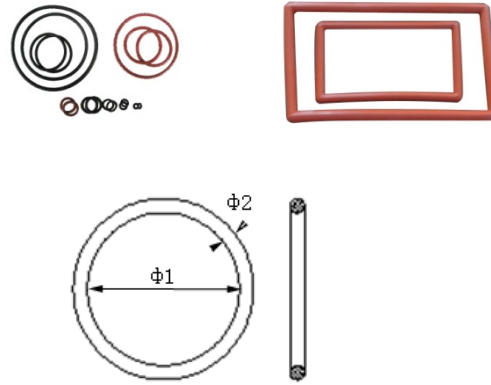


### 【Specifications】

| Model No*   | WG Type EIA | Freq Range(GHz) | Flange | Thickness(mm) | Material |
|-------------|-------------|-----------------|--------|---------------|----------|
| VT3WG0.2F   | WR2300      | 0.32-0.49       | FDP    | 0.2           | Cu       |
| VT4WG0.2F   | WR2100      | 0.35-0.53       | FDP    | 0.2           | Cu       |
| VT5WG0.2F   | WR1800      | 0.41-0.62       | FDP    | 0.2           | Cu       |
| VT6WG0.2F   | WR1500      | 0.49-0.75       | FDP    | 0.2           | Cu       |
| VT8WG0.2F   | WR1150      | 0.64-0.98       | FDP    | 0.2           | Cu       |
| VT9WG0.2F   | WR975       | 0.75-1.15       | FDP    | 0.2           | Cu       |
| VT12WG0.2F  | WR770       | 0.96-1.46       | FDP    | 0.2           | Cu       |
| VT14WG0.2F  | WR650       | 1.13-1.73       | FDP    | 0.2           | Cu       |
| VT18WG0.2F  | WR510       | 1.45-2.20       | FDP    | 0.2           | Cu       |
| VT22WG0.2F  | WR430       | 1.72-2.61       | FDP    | 0.2           | Cu       |
| VT26WG0.2F  | WR340       | 2.17-3.30       | FDP    | 0.2           | Cu       |
| VT32WG0.2F  | WR284       | 2.60-3.95       | FDP    | 0.2           | Cu       |
| VT40WG0.2F  | WR229       | 3.22-4.90       | FDP    | 0.2           | Cu       |
| VT48WG0.2F  | WR187       | 3.94-5.99       | FDP    | 0.2           | Cu       |
| VT58WG0.2F  | WR159       | 4.64-7.05       | FDP    | 0.2           | Cu       |
| VT70WG0.2F  | WR137       | 5.38-8.17       | FDP    | 0.2           | Cu       |
| VT84WG0.1F  | WR112       | 6.57-9.99       | FBP    | 0.1           | Cu       |
| VT100WG0.1F | WR90        | 8.20-12.40      | FBP    | 0.1           | Cu       |
| VT120WG0.1F | WR75        | 9.84-15.0       | FBP    | 0.1           | Cu       |
| VT140WG0.1F | WR62        | 11.9-18.0       | FBP    | 0.1           | Cu       |
| VT180WG0.1F | WR51        | 14.5-22.0       | FBP    | 0.1           | Cu       |
| VT220WG0.1F | WR42        | 17.6-26.7       | FBP    | 0.1           | Cu       |
| VT260WG0.1F | WR34        | 21.7-33.0       | FBP    | 0.1           | Cu       |
| VT320WG0.1F | WR28        | 26.5-40.0       | FBP    | 0.1           | Cu       |
| VT400WG0.1F | WR22        | 32.9-50.1       | FUGP   | 0.1           | Cu       |
| VT500WG0.1F | WR19        | 39.2-59.6       | FUGP   | 0.1           | Cu       |
| VT620WG0.1F | WR15        | 49.8-75.8       | FUGP   | 0.1           | Cu       |
| VT740WG0.1F | WR12        | 60.5-91.9       | FUGP   | 0.1           | Cu       |
| VT900WG0.1F | WR10        | 73.8-112        | FUGP   | 0.1           | Cu       |



## 19.2 Waveguide Sealing Gasket



### 19.2.1 O-Ring

#### Standard O-Ring 【Specifications】

| Model No* | WG Type<br>EIA | Dimensions<br>( $\phi 1 \times \phi 2$ ) | Model No* | Dimensions<br>( $\phi 1 \times \phi 2$ ) |
|-----------|----------------|------------------------------------------|-----------|------------------------------------------|
| VT32MFOA  | WR284          | 101X5.4                                  | VT120MFO  | 28X2.6                                   |
| VT40MFOA  | WR229          | 82X5.4                                   | VT140MFO  | 23.5X2.6                                 |
| VT48MFOA  | WR187          | 68.5X3.5                                 | VT180MFO  | 20X2.4                                   |
| VT70MFOA  | WR137          | 53X3.5                                   | VT220MFO  | 15.5X1.8                                 |
| VT84MFO   | WR112          | 40X2.6                                   | VT260MFO  | 14X1.8                                   |
| VT100MFO  | WR90           | 33X2.6                                   | VT320MFO  | 10.5X1.8                                 |

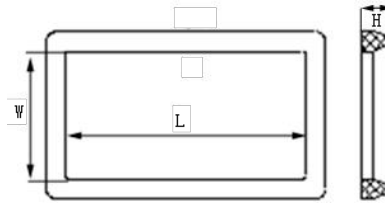
#### Special O-Ring 【Specifications】

| Model No*   | Dimensions<br>( $\phi 1 \times \phi 2$ ) | Model No*   | Dimensions<br>( $\phi 1 \times \phi 2$ ) |
|-------------|------------------------------------------|-------------|------------------------------------------|
| VTMFO56.82  | 56.82X2.62                               | VTMFO199.98 | 199.98X2.62                              |
| VTMFO78.38  | 78.38X2.62                               | VTMFO284.84 | 284.84X3                                 |
| VTMF101.3   | 101.3X3.53                               | VTMFO321.06 | 321.06X3                                 |
| VTMFO114.4  | 114.4X3.1                                | VTMFO321.4  | 321.4X3                                  |
| VTMFO120.94 | 120.94X2.62                              | VTMFO331    | 331X3                                    |
| VTMFO124.5  | 124.5X3                                  | VTMFO422.1  | 422.1X3                                  |
| VTMFO143.8  | 143.8X3                                  | VTMFO463.4  | 463.4X3                                  |
| VTMFO146.68 | 146.68X2.62                              | VTMFO486.2  | 486.2X3                                  |
| VTMFO162.7  | 162.7X3                                  | VTMFO493.6  | 493.6X3                                  |



|             |          |            |            |
|-------------|----------|------------|------------|
| VTMFO164.28 | 164.28X3 | VTMFO499.5 | 499.5X3.53 |
| VTMFO194.38 | 194.38X3 | VTMFO539.1 | 539.1X3.53 |

### 19.2.2 D-Ring



### Standard D-Ring 【Specifications】

| Model No* | WG Type<br>EIA | Dimensions<br>(L*W*H) | Model No* | Dimensions<br>(L*W*H) |
|-----------|----------------|-----------------------|-----------|-----------------------|
| VT14MFD   | WR650          | 174.8X92.2X8.5        | VT58MFDL  | 45.5X25.5X3.5         |
| VT18MFD   | WR510          | 136X72X5              | VT70MFD   | 41.2X22.2X4.9         |
| VT22MFDT  | WR430          | 117X63X5              | VT70MFDL  | 39X20.5X3.5           |
| VT26MFDL  | WR340          | 94X51.5X5             | VT84MFD   | 34.9X19X4.9           |
| VT32MFDL  | WR284          | 77X75.5X3.5           | VT84MFDL  | 34.9X19X3.3           |
| VT32MFD   | WR284          | 79.4X41.3X3.5         | VT100MFD  | 28.6X15.9X4.9         |
| VT40MFDL  | WR229          | 63X34.5X3.5           | VT100MFDL | 28X15.5X3.5           |
| VT48MFDL  | WR187          | 53.9X28.5X3.5         | VT140MFD  | 20.6X12.7X4.9         |
| VT58MFD   | WR159          | 46.7X26.5X4.9         |           |                       |

\*Indicates Model Number. See Ordering Information for complete part number.

### 【Ordering Information】

**Example Part No:** VT 70 MFD

Vector Telecom

WG Type: R70

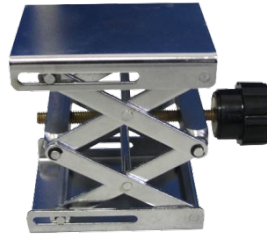
Product Type: WG Sealing Gasket

| Product Type | Description |
|--------------|-------------|
| MFO          | O-Ring      |
| WFD          | D-Ring      |

- Flange type: Multiple types available - see VT Flanges page
- Finish: Corrosion protection plus black top coat



## 20 Waveguide Adjustable Support



### 【Specifications】

| Model No* | Dimensions (mm)  | Static Bearing |
|-----------|------------------|----------------|
| VTSJPTX   | 50×40×(37~93)    | 40(kg)         |
| VTSJPTZ   | 70×55×(37~138)   | 40(kg)         |
| VTSJPTD   | 100×75×(43~182)  | 50(kg)         |
| VTSJPTT1  | 140×100×(55~255) | 60(kg)         |
| VTSJPTT2  | 160×120×(60~285) | 80(kg)         |

### 【Ordering Information】

**Example Part No:** VT SJPT X

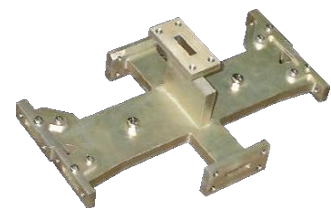
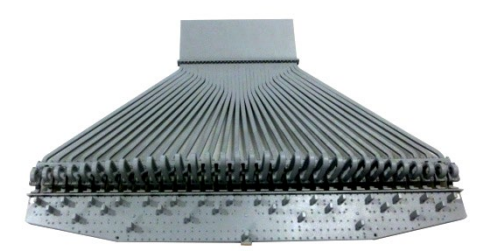
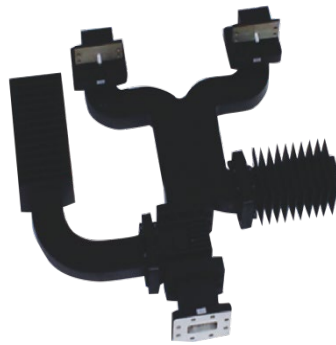
Vector Telecom — VT  
Product Type: Waveguide — SJPT  
Adjustable Support — X

X: Small size  
Z: Medium  
D: Large  
T1: Outsize-1  
T2: Outsize-2



## 21 Custom Waveguide Assemblies

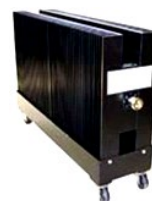
Vector Telecom provides a wide variety of waveguide assemblies that are custom designed, manufactured and tested to meet customer's special requirements. Please call us and discuss your needs with one of our sales engineers





## 22 Coaxial Fixed Attenuator

Vector Telecom supplies a wide selection of high quality Fixed Attenuators ranging from 2 W to 10 kW in standard Attenuation values of 3, 6, 10, 20, 30, 40 and 50dB. Please call us with your requirements and discuss your needs with one of our sales engineers.



### 22.1 Series of $P \leq 100W$

#### 【Specifications】

| Model No*            | Avg Power<br>(W) | Peak Power<br>(kW) | Freq Range<br>(GHz) | VSWR        | Nominal<br>Attenuation (dB) | Connector |
|----------------------|------------------|--------------------|---------------------|-------------|-----------------------------|-----------|
| VT400CFA2VJK...      | 2                | 0.2                | DC-40               | $\leq 1.35$ | 1-40                        | 2.4mm     |
| VT420CFA2VJK...      | 2                | 0.2                | DC-42               | $\leq 1.35$ | 3,6,10,20,30                | 2.4mm     |
| VT500CFA2VJK...      | 2                | 0.2                | DC-50               | $\leq 1.55$ | 1-10,20                     | 2.4mm     |
| VT400CFA5VJK...      | 5                | 0.2                | DC-40               | $\leq 1.35$ | 1-40                        | 2.4mm     |
| VT400CFA10VJK...     | 10               | 0.2                | DC-40               | $\leq 1.40$ | 10-40                       | 2.4mm     |
| VT400CFA20VJK...     | 20               | 0.2                | DC-40               | $\leq 1.40$ | 10-40                       | 2.4mm     |
| VT265CFA2K2.92JK...  | 2                | 0.2                | DC-26.5             | $\leq 1.25$ | 1-40                        | 2.92mm    |
| VT400CFA2K2.92JK...  | 0.5-2            | 0.2                | DC-40               | $\leq 1.35$ | 1-40                        | 2.92mm    |
| VT265CFA5K2.92JK...  | 5                | 0.2                | DC-26.5             | $\leq 1.25$ | 1-40                        | 2.92mm    |
| VT0400CFA5K2.92JK... | 5                | 0.2                | DC-40               | $\leq 1.35$ | 1-40                        | 2.92mm    |
| VT400CFA10K2.92JK... | 10               | 0.2                | DC-40               | $\leq 1.40$ | 10-40                       | 2.92mm    |
| VT400CFA20K2.92JK3   | 20               | 0.2                | DC-40               | $\leq 1.40$ | 3                           | 2.92mm    |
| VT400CFA20K2.92JK... | 20               | 0.2                | DC-40               | $\leq 1.40$ | 10-40                       | 2.92mm    |
| VT400CFA30K2.92JK... | 30               | 0.2                | DC-40               | $\leq 1.40$ | 30                          | 2.92mm    |
| VT400CFA50K2.92JK... | 50               | 0.5                | DC-40               | $\leq 1.60$ | 30,40                       | 2.92mm    |
| VT180CFA2TNCJK...    | 2                | 0.5                | DC-18               | $\leq 1.35$ | 1-30                        | TNC       |
| VT180CFA2TNCJK...    | 2                | 0.5                | DC-18               | $\leq 1.35$ | 40-90                       | TNC       |
| VT180CFA5TNCJK...    | 5                | 0.5                | DC-18               | $\leq 1.35$ | 1-30                        | TNC       |
| VT180CFA5TNCJK...    | 5                | 0.5                | DC-18               | $\leq 1.35$ | 40-90                       | TNC       |
| VT180CFA10TNCJK...   | 10               | 1                  | DC-18               | $\leq 1.35$ | 1-30                        | TNC       |
| VT180CFA10TNCJK...   | 10               | 1                  | DC-18               | $\leq 1.35$ | 40-90                       | TNC       |
| VT180CFA25TNCJK...   | 25               | 1                  | DC-18               | $\leq 1.35$ | 10-40                       | TNC       |
| VT180CFA50TNCJK...   | 50               | 1                  | DC-18               | $\leq 1.40$ | 3-40                        | TNC       |
| VT180CFA50TNCJK...   | 50               | 1                  | DC-18               | $\leq 1.3$  | 10-40                       | TNC       |
| VT180CFA100TNCJK...  | 100              | 1                  | DC-18               | $\leq 1.4$  | 10-40                       | TNC       |



Vector Telecom

## Section 2

### Coaxial Components

# 22

### Coaxial Fixed Attenuator



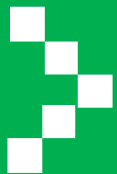
|                        |     |     |         |        |                    |               |
|------------------------|-----|-----|---------|--------|--------------------|---------------|
| VT180CFA150TNCJK...    | 150 | 1   | DC-18   | ≤ 1.45 | 10-40              | TNC           |
| VT180CFA200TNCJK...    | 200 | 1   | DC-18   | ≤ 1.5  | 10-40              | TNC           |
| VT060CFA104.3/10JK...  | 10  | 1   | DC-6    | ≤1.25  | 1-40               | 4.3/10        |
| VT060CFA254.3/10JK...  | 25  | 1   | DC-6    | ≤1.25  | 1-40               | 4.3/10        |
| VT080CFA504.3/10JK...  | 50  | 5   | DC-8    | ≤1.30  | 10-40              | 4.3/10        |
| VT040CFA1004.3/10JK... | 100 | 5   | DC-4    | ≤1.25  | 20,30,40           | 4.3/10        |
| VT060CFA1004.3/10JK... | 100 | 5   | DC-6    | ≤1.30  | 10-40              | 4.3/10        |
| VT060CFA1504.3/10JK... | 150 | 5   | DC-6    | ≤1.30  | 10-40              | 4.3/10        |
| VT060CFA2004.3/10JK... | 200 | 5   | DC-6    | ≤1.30  | 10-40              | 4.3/10        |
| VT265CFA23.5JK...      | 2   | 0.5 | DC-26.5 | ≤1.25  | 1-70               | 3.5mm         |
| VT265CFA53.5JK...      | 5   | 0.5 | DC-26.5 | ≤1.25  | 1-70               | 3.5mm         |
| VT265CFA103.5JK...     | 10  | 0.5 | DC-26.5 | ≤1.25  | 1-70               | 3.5mm         |
| VT265CFA253.5JK...     | 25  | 0.5 | DC-26.5 | ≤1.3   | 3-70               | 3.5mm         |
| VT265CFA503.5JK...     | 50  | 0.5 | DC-26.5 | ≤1.3   | 3-60               | 3.5mm         |
| VT180CFA100NJK...      | 100 | 0.5 | DC-18   | ≤1.25  | 3,6,10,20,30,40,50 | 3.5mm,SMA(M,  |
| VT265CFA100SJK...      | 100 | 0.5 | DC-26.5 | ≤1.40  | 3,6,10,20,30,40,50 | 3.5mm,SMA(M,  |
| VT0320CFA100SJK...     | 100 | 0.5 | DC-32   | ≤1.40  | 10,20,30,40        | SMK(2.92)     |
| VT124CFA2SJK...        | 2   | 0.2 | DC-12.4 | ≤1.35  | 1-30               | SSMA(M,F)     |
| VT060CFA2SJK...        | 2   | 0.5 | DC-6    | ≤1.20  | 1-30               | SMA(M,F)      |
| VT124CFA2BMAJK...      | 10  | 1   | DC-12.4 | ≤1.40  | 1-20               | BMA           |
| VT060CFA2QMASMA...     | 2   | 0.5 | DC-6    | ≤1.2   | 1-30               | Input: QMA    |
| VT265CFA2SJK...        | 2   | 0.5 | DC-26.5 | ≤1.3   | 1-12               | SMA(M,F)      |
| VT180CFA2SJK...        | 2   | 0.5 | DC-18   | ≤1.35  | 1-30               | SMA           |
| VT180CFA2SJK...        | 2   | 0.5 | DC-18   | ≤1.30  | 1-50               | SMA           |
| VT0300CFA2SJK...       | 2   | 0.5 | DC-30   | ≤1.30  | 3-30               | SMA(M,F)      |
| VT265CFA2SJK...        | 2   | 0.5 | DC-26.5 | ≤ 1.35 | 1-40               | SMA           |
| VT265CFA2SKK...        | 2   | 0.5 | DC-26.5 | ≤ 1.35 | 1-30               | SMA(F,F)      |
| VT265CFA2SJK...        | 2   | 0.5 | DC-26.5 | ≤ 1.40 | 30-90              | SMA(M,F)      |
| VT265CFA5SJK...        | 5   | 0.5 | DC-26.5 | ≤ 1.35 | 3-50               | SMA(M,F)      |
| VT265CFA10SJK...       | 10  | 0.5 | DC-26.5 | ≤ 1.35 | 3-40               | SMA(M,F)      |
| VT265CFA25SJK...       | 25  | 1   | DC-26.5 | ≤ 1.35 | 10-40              | SMA(M,F)      |
| VT180CFA50NJK...       | 50  | 1   | DC-18   | ≤1.25  | 10-60              | SMA(M,F),3.5( |
| VT265CFA50SJK...       | 50  | 1   | DC-26.5 | ≤1.30  | 10-60              | SMA(M,F),3.5( |
| VT320CFA50SJK...       | 50  | 1   | DC-32   | ≤1.35  | 10,20,30,40        | SMK(2.92)     |
| VT060CFA2NJK...        | 2   | 0.5 | DC-6    | ≤1.25  | 1-40               | N, SMA, TNC,  |
| VT180CFA2NJK...        | 2   | 0.5 | DC-18   | ≤1.40  | 1-50               | N, TNC        |
| VT060CFA5NJK...        | 5   | 0.5 | DC-6    | ≤1.25  | 1-40               | N,SMA,TNC,BN  |
| VT180CFA5NJK...        | 5   | 0.5 | DC-18   | ≤1.40  | 1-50               | N,TNC         |
| VT040CFA10NJK...       | 10  | 1   | DC-4    | ≤1.25  | 1-40               | N, SMA, TNC,  |
| VT180CFA10NJK...       | 10  | 1   | DC-18   | ≤1.40  | 10-40              | N, SMA,TNC    |
| VT180CFA10NJK...       | 10  | 1   | DC-18   | ≤1.30  | 1-40               | N,TNC         |
| VT124CFA10NJK...       | 10  | 1   | DC-12.4 | ≤1.30  | 10-60              | N, TNC        |
| VT040CFA25NJK...       | 25  | 1   | DC-4    | ≤1.25  | 1-50               | N, SMA, TNC,  |
| VT100CFA30NJK...       | 30  | 5   | DC-10   | ≤1.20  | 3-40               | N             |
| VT100CFA30NJK...       | 30  | 5   | DC-10   | ≤1.20  | 3-40               | N             |
| VT040CFA50SJK...       | 50  | 10  | DC-4    | ≤1.35  | 1-40               | N, SMA, 7/16, |
| VT040CFA50NJK...       | 50  | 10  | DC-4    | ≤1.35  | 1-40               | N, 7/16       |

## Section 2

### Coaxial Components

# 22

## Coaxial Fixed Attenuator



|                     |     |     |       |       |                 |                |
|---------------------|-----|-----|-------|-------|-----------------|----------------|
| VT100CFA50NJK...    | 50  | 5   | DC-10 | ≤1.35 | 3-40            | N, 7/16        |
| VT180CFA50NJK...    | 50  | 1   | DC-18 | ≤1.35 | 3-40            | N,SMA          |
| VT180CFA50NJK...    | 50  | 1   | DC-18 | ≤1.25 | 10-60           | N              |
| VT180CFA50NJK...    | 50  | 1   | DC-18 | ≤1.35 | 10-40           | N,TNC,SMA      |
| VT100CFA50NJK...    | 50  | 5   | DC-10 | ≤1.35 | 3-40            | 7/16(DC-4), N  |
| VT040CFA60NJK...    | 60  | 10  | DC-4  | ≤1.35 | 1-40            | N, SMA, 7/16,  |
| VT100CFA60NJK...    | 60  | 5   | DC-10 | ≤1.35 | 3-40            | N, 7/16        |
| VT100CFA80NJK...    | 80  | 10  | DC-10 | ≤1.35 | 10-40           | N, 7/16, TNC,  |
| VT180CFA80NJK...    | 80  | 1   | DC-18 | ≤1.40 | 10-40           | N, SMA         |
| VT100CFA80NJK...    | 80  | 5   | DC-10 | ≤1.40 | 3-40            | N,7/16(DC-2.5) |
| VT040CFA100NJK...   | 100 | 10  | DC-4  | ≤1.35 | 10-50           | N, 7/16        |
| VT040CFA100NJK...   | 100 | 5   | DC-4  | ≤1.25 | 30              | N,7/16         |
| VT0730CFA100NJK...  | 100 | 5   | 0.7-3 | ≤1.20 | 30,40           | N              |
| VT180CFA100NJK...   | 100 | 1   | DC-18 | ≤1.45 | 3-50            | N              |
| VT180CFA100NJK...   | 100 | 1   | DC-18 | ≤1.40 | 3-50            | N              |
| VT180CFA100NJK...   | 100 | 1   | DC-18 | ≤1.40 | 3-40            | N              |
| VT100CFA100NJK...   | 100 | 5   | DC-10 | ≤1.50 | 3-40            | 7/16(DC-4), N  |
| VT100CFA100NJK...   | 100 | 5   | DC-10 | ≤1.50 | 3-40            | 7/16(DC-4), N  |
| VT0160CFA2NJK...    | 2/5 | 0.5 | 0.1-6 | ≤1.30 | 1-9,10,20,30,40 | N              |
| VT0160CFA10NJK...   | 10  | 1   | 0.1-6 | ≤1.30 | 1-9,10,20,30,40 | N              |
| VT0160CFA25NJK...   | 25  | 1   | 0.1-6 | ≤1.30 | 1-9,10,20,30,40 | N              |
| VT0160CFA50NJK...   | 50  | 5   | 0.1-6 | ≤1.30 | 3/6,10,20,30,40 | N              |
| VT0140CFA100NJK...  | 100 | 5   | 0.1-4 | ≤1.25 | 20,30,40        | N              |
| VT060CFA10QSMAJK... | 10  | 0.5 | DC-6  | ≤1.20 | 30              | QSMA           |
| VT100CFA30NJK...    | 30  | 5   | DC-10 | ≤1.20 | 3-40            | N              |
| VT040CFA50SJK...    | 50  | 10  | DC-4  | ≤1.35 | 1-40            | N, SMA, 7/16,  |
| VT040CFA50NJK...    | 50  | 10  | DC-4  | ≤1.35 | 1-40            | N, 7/16        |
| VT100CFA50NJK...    | 50  | 5   | DC-10 | ≤1.35 | 3-40            | N, 7/16        |
| VT180CFA50NJK...    | 50  | 1   | DC-18 | ≤1.35 | 3-40            | N,SMA          |
| VT180CFA50NJK...    | 50  | 1   | DC-18 | ≤1.25 | 10-60           | N              |
| VT180CFA50NJK...    | 50  | 1   | DC-18 | ≤1.35 | 10-40           | N,TNC,SMA      |
| VT100CFA50NJK...    | 50  | 5   | DC-10 | ≤1.35 | 3-40            | 7/16(DC-4), N  |
| VT040CFA60NJK...    | 60  | 10  | DC-4  | ≤1.35 | 1-40            | N, SMA, 7/16,  |
| VT100CFA60NJK...    | 60  | 5   | DC-10 | ≤1.35 | 3-40            | N, 7/16        |
| VT100CFA80NJK...    | 80  | 10  | DC-10 | ≤1.35 | 10-40           | N, 7/16, TNC,  |
| VT180CFA80NJK...    | 80  | 1   | DC-18 | ≤1.40 | 10-40           | N, SMA         |
| VT100CFA80NJK...    | 80  | 5   | DC-10 | ≤1.40 | 3-40            | N,7/16(DC-2.5) |
| VT040CFA100NJK...   | 100 | 10  | DC-4  | ≤1.35 | 10-50           | N, 7/16        |
| VT040CFA100NJK...   | 100 | 5   | DC-4  | ≤1.25 | 30              | N,7/16         |
| VT0730CFA100NJK...  | 100 | 5   | 0.7-3 | ≤1.20 | 30,40           | N              |
| VT180CFA100NJK...   | 100 | 1   | DC-18 | ≤1.45 | 3-50            | N              |
| VT180CFA100NJK...   | 100 | 1   | DC-18 | ≤1.40 | 3-50            | N              |
| VT180CFA100NJK...   | 100 | 1   | DC-18 | ≤1.40 | 3-40            | N              |
| VT100CFA100NJK...   | 100 | 5   | DC-10 | ≤1.50 | 3-40            | 7/16(DC-4), N  |
| VT100CFA100NJK...   | 100 | 5   | DC-10 | ≤1.50 | 3-40            | 7/16(DC-4), N  |
| VT0160CFA2NJK...    | 2/5 | 0.5 | 0.1-6 | ≤1.30 | 1-9,10,20,30,40 | N              |
| VT0160CFA10NJK...   | 10  | 1   | 0.1-6 | ≤1.30 | 1-9,10,20,30,40 | N              |



|                     |     |     |       |       |                 |      |
|---------------------|-----|-----|-------|-------|-----------------|------|
| VT0160CFA25NJK...   | 25  | 1   | 0.1-6 | ≤1.30 | 1-9,10,20,30,40 | N    |
| VT0160CFA50NJK...   | 50  | 5   | 0.1-6 | ≤1.30 | 3/6,10,20,30,40 | N    |
| VT0140CFA100NJK...  | 100 | 5   | 0.1-4 | ≤1.25 | 20,30,40        | N    |
| VT060CFA10QSMAJK... | 10  | 0.5 | DC-6  | ≤1.20 | 30              | QSMA |

*\*Indicates Model Number. See Ordering Information for complete part number.*

## 22.2 Series of $P \leq 500W$

### 【Specifications】

| Model No*         | Avg Power<br>(W) | Peak Power<br>(kW) | Freq Range<br>(GHz) | VSWR      | Nominal<br>Attenuation (dB) | Connector |
|-------------------|------------------|--------------------|---------------------|-----------|-----------------------------|-----------|
| VT040CFA150NJK... | 150              | 10                 | DC-4                | 1.15-1.40 | 10,20,30,40,50              | N,7/16    |
| VT180CFA150NJK... | 150              | 1                  | DC-18               | 1.30-1.45 | 3,6,10,20,30,40,50          | N,SMA     |
| VT180CFA150NJK... | 150              | 1                  | DC-18               | 1.25-1.35 | 3,6,10,20,30,40,50          | N         |
| VT100CFA150NJK... | 150              | 5                  | DC-10               | 1.15-1.50 | 3,6,10,20,30,40             | N,7/16    |
| VT040CFA200NJK... | 200              | 10                 | DC-4                | 1.20-1.40 | 10,20,30,40,50              | N,7/16    |
| VT100CFA200NJK... | 200              | 5                  | DC-10               | 1.15-1.45 | 10,20,30,40                 | N,7/16    |
| VT180CFA200NJK... | 200              | 1                  | DC-18               | 1.25-1.50 | 10,20,30,40,50              | N         |
| VT040CFA250NJK... | 250              | 10                 | DC-4                | 1.20-1.40 | 10,20,30,40,50              | N,7/16    |
| VT050CFA250NJK... | 250              | 10                 | DC-5                | 1.15      | 40                          | N,7/16    |
| VT100CFA250NJK... | 250              | 5                  | DC-10               | 1.20-1.45 | 10,20,30,40                 | N,7/16    |
| VT100CFA250NJK... | 250              | 5                  | DC-10               | 1.20-1.45 | 10,,20,30,40                | N,7/16    |
| VT180CFA250NJK... | 250              | 1                  | DC-18               | 1.25-1.55 | 10,20,30,40,50              | N         |
| VT040CFA300NJK... | 300              | 10                 | DC-4                | 1.20-1.50 | 10,20,30,40,50              | N,7/16    |
| VT180CFA300NJK... | 300              | 1                  | DC-18               | 1.20-1.55 | 10,20,30,40,50              | N         |
| VT100CFA300NJK... | 300              | 5                  | DC-10               | 1.25-1.45 | 30,40,50                    | N,7/16    |
| VT130CFA350NJK... | 350              | 1                  | DC-13               | 1.30-1.50 | 6,10,20,30,40               | N(J,K)    |
| VT040CFA350NJK... | 350              | 1                  | DC-4                | 1.3       | 30                          | N         |
| VT040CFA400NJK... | 400              | 10                 | DC-4                | 1.20-1.50 | 10,20,30,40,50              | N,7/16    |
| VT100CFA400NJK... | 400              | 5                  | DC-10               | 1.25-1.45 | 40,50                       | N,7/16    |
| VT040CFA500NJK... | 500              | 10                 | DC-4                | 1.20-1.50 | 10,20,30,40,50              | N,7/16    |
| VT100CFA500NJK... | 500              | 5                  | DC-10               | 1.25-1.45 | 30,40,50                    | N,7/16    |
| VT180CFA250NJK... | 250              | 1                  | DC-18               | 1.25-1.55 | 10,20,30,40,50              | N         |
| VT040CFA300NJK... | 300              | 10                 | DC-4                | 1.20-1.50 | 10,20,30,40,50              | N,7/16    |
| VT180CFA300NJK... | 300              | 1                  | DC-18               | 1.20-1.55 | 10,20,30,40,50              | N         |
| VT100CFA300NJK... | 300              | 5                  | DC-10               | 1.25-1.45 | 30,40,50                    | N,7/16    |
| VT130CFA350NJK... | 350              | 1                  | DC-13               | 1.30-1.50 | 6,10,20,30,40               | N(J,K)    |
| VT040CFA350NJK... | 350              | 1                  | DC-4                | 1.3       | 30                          | N         |
| VT040CFA500NJK... | 500              | 10                 | DC-4                | 1.20-1.50 | 10,20,30,40,50              | N,7/16    |
| VT100CFA500NJK... | 500              | 5                  | DC-10               | 1.25-1.45 | 30,40,50                    | N,7/16    |

*\*Indicates Model Number. See Ordering Information for complete part number.*



Section 2

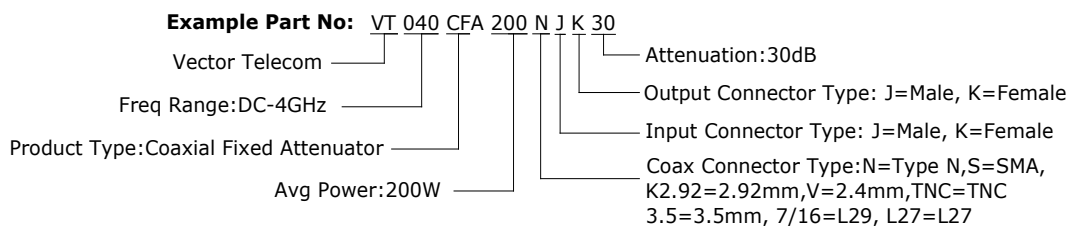
## Coaxial Components

# 22

## Coaxial Fixed Attenuator



### 【Ordering Information】



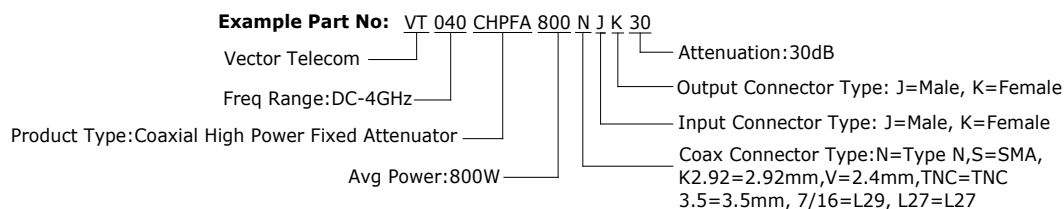
### 22.3 Series of P>500W

### 【Specifications】

| Model No*           | Avg Power (W) | Peak Power (kW) | Freq Range (GHz) | VSWR      | Nominal Attenuation (dB) | Connector    |
|---------------------|---------------|-----------------|------------------|-----------|--------------------------|--------------|
| VT040CHPFA800NJK... | 800           | 10              | DC-4             | 1.20-1.50 | 40,50,60                 | N,7/16       |
| VT060CHPFA1000NJK.. | 1000          | 10              | DC-6             | 1.35      | 50                       | N, 7/16      |
| VT030CHPFA1000NJK.. | 1000          | 10              | DC-3             | 1.40      | 40,50                    | N,7/16       |
| VT030CHPFA1500NJK.. | 1500          | 10              | DC-3             | 1.40      | 40,50                    | N,7/16       |
| VT030CHPFA2000NJK.. | 2000          | 10              | DC-3             | 1.40      | 40,50                    | N,7/16       |
| VT020CHPFA1000NJK.. | 1000          | 50              | DC-2             | 1.20-1.30 | 30,40,50                 | N,7/16       |
| VT020CHPFA1000NJK.. | 1000          | 50              | DC-2             | 1.20-1.30 | 30,40,50                 | N,7/16       |
| VT020CHPFA1000NJK.. | 1000          | 50              | DC-2             | 1.20-1.30 | 30,40,50                 | N,7/16       |
| VT020CHPFA2000NJK.. | 2000          | 50              | DC-2             | 1.20-1.30 | 30,40,50                 | N,7/16       |
| VT020CHPFA2000NJK.. | 2000          | 50              | DC-2             | 1.20-1.30 | 30,40,50                 | N,7/16       |
| VT020CHPFA3000NJK.. | 3000          | 50              | DC-2             | 1.30      | 30,40,50                 | N,7/16       |
| VT010CHPFA4000NJK.. | 4000          | 100             | DC-1             | 1.40      | 30,40,50                 | N,7/16       |
| VT010CHPFA5000NJK.. | 5000          | 100             | DC-1             | 1.40      | 30,40,50                 | 7/16,L36,L52 |
| VT010CHPFA10000NJK  | 10000         | 100             | DC-1             | 1.40      | 30,40,50                 | 7/16,L36,L52 |

\*Indicates Model Number. See Ordering Information for complete part number.

### 【Ordering Information】





## 23 Coaxial Termination

Vector Telecom supplies high quality Coaxial Terminations up to 18 GHz. Our Free Standing Convection Cooled Terminations offer great flexibility for all your engineering applications. Please call us with your requirements and discuss your needs with one of our sales engineers.



### 23.1 Series of $P \leq 100W$

#### 【Specifications】

| Model No*        | Avg Power (W) | Peak Power (kW) | Freq Range (GHz) | VSWR      | Connector     |
|------------------|---------------|-----------------|------------------|-----------|---------------|
| VT060CL104.3/10  | 10            | 1               | DC-6             | 1.20-1.25 | 4.3/10        |
| VT060CL254.3/10  | 25            | 1               | DC-6             | 1.20-1.25 | 4.3/10        |
| VT080CL504.3/10  | 50            | 5               | DC-8             | 1.15-1.30 | 4.3/10        |
| VT040CL1004.3/10 | 100           | 5               | DC-4             | 1.20-1.25 | 4.3/10        |
| VT060CL1004.3/10 | 100           | 5               | DC-6             | 1.20-1.30 | 4.3/10        |
| VT060CL1504.3/10 | 150           | 5               | DC-6             | 1.20-1.30 | 4.3/10        |
| VT060CL2004.3/10 | 200           | 5               | DC-6             | 1.20-1.30 | 4.3/10        |
| VT0500CL2V       | 2             | 0.2             | DC-50            | 1.30-1.40 | 2.4mm         |
| VT0500CL2V       | 5             | 0.2             | DC-50            | 1.30-1.40 | 2.4mm         |
| VT0400CL2K2.92   | 2             | 0.2             | DC-40            | 1.20-1.25 | 2.92          |
| VT0400CL5K2.92   | 5             | 0.2             | DC-40            | 1.20-1.35 | 2.92          |
| VT0400CL10K2.92  | 10            | 0.2             | DC-40            | 1.25-1.35 | 2.92          |
| VT0400CL20K2.92  | 20            | 0.2             | DC-40            | 1.25-1.35 | 2.92          |
| VT0400CL50K2.92  | 50            | 0.2             | DC-40            | 1.20-1.35 | 2.92mm        |
| VT0265CL23.5K    | 2             | 0.5             | DC-26.5          | 1.15-1.20 | 3.5mm         |
| VT0265CL53.5K    | 5             | 0.5             | DC-26.5          | 1.15-1.20 | 3.5mm         |
| VT0265CL103.5K   | 10            | 0.5             | DC-26.5          | 1.15-1.25 | 3.5mm         |
| VT0265CL253.5K   | 25            | 0.5             | DC-26.5          | 1.15-1.25 | 3.5mm         |
| VT0265CL503.5K   | 50            | 0.5             | DC-26.5          | 1.15-1.25 | 3.5mm         |
| VT0265CL100S     | 100           | 0.5             | DC-26.5          | 1.30-1.40 | 3.5mm,SMA,SMK |
| VT0180CL2S       | 2             | 0.25            | DC-18            | 1.15-1.30 | SMA           |



Vector Telecom

## Section 2

### Coaxial Components

# 23

### Coaxial Termination



|                 |    |      |         |           |                         |
|-----------------|----|------|---------|-----------|-------------------------|
| VT0180CL2SMA(M) | 2  | 0.25 | DC-18   | 1.10-1.35 | SMA(M)                  |
| VT0180CL2S      | 2  | 0.25 | DC-18   | 1.03-1.20 | SMA                     |
| VT060CL1Q       | 1  | 0.25 | DC-6    | 1.15-1.20 | QMA                     |
| VT0124CL2S      | 2  | 0.1  | DC-12.4 | 1.15-1.25 | SMA(M) Reverse polarity |
| VT0180CL1S      | 1  | 0.1  | DC-18   | 1.05-1.30 | SMA(M)                  |
| VT0265CL2S      | 2  | 0.25 | DC-26.5 | 1.20-1.25 | SMA                     |
| VT0265CL5S      | 5  | 0.5  | DC-26.5 | 1.10-1.30 | SMA,3.5mm,2.92mm        |
| VT0265CL10S     | 10 | 0.5  | DC-26.5 | 1.10-1.30 | SMA,3.5mm,2.92mm        |
| VT0265CL25S     | 25 | 1    | DC-26.5 | 1.30      | SMA                     |
| VT0265CL50S     | 50 | 1    | DC-26.5 | 1.30      | SMA                     |
| VT060CL2N       | 2  | 0.5  | DC-6    | 1.15-1.25 | N,SMA,BNC,TNC           |
| VT0180CL2N      | 2  | 0.5  | DC-18   | 1.10-1.30 | N                       |
| VT030CL27/16(M) | 2  | 1    | DC-3    | 1.10      | 7/16(M)                 |
| VT080CL2N(M)    | 2  | 0.5  | DC-8    | 1.10-1.25 | N(M)                    |
| VT0180CL5N      | 5  | 0.5  | DC-18   | 1.10-1.30 | N                       |
| VT060CL5N       | 5  | 0.5  | DC-6    | 1.15-1.25 | N,BNC,SMA,TNC,7/16      |
| VT060CL5N(M)    | 5  | 1    | DC-6    | 1.15-1.25 | N(M)                    |
| VT0180CL5N      | 5  | 0.5  | DC-18   | 1.10-1.30 | N                       |
| VT030CL57/16(M) | 5  | 0.5  | DC-3    | 1.10      | 7/16(M)                 |
| VT060CL10N      | 10 | 1    | DC-6    | 1.15-1.20 | N,BNC,SMA,TNC           |
| VT0180CL10N     | 10 | 1    | DC-18   | 1.30-1.40 | N,SMA                   |
| VT040CL10N      | 10 | 1    | DC-4    | 1.15-1.30 | N                       |
| VT060CL25S      | 25 | 1    | DC-6    | 1.15-1.25 | SMA,N,7/16,TNC,BNC      |
| VT0180CL25S     | 25 | 1    | DC-18   | 1.20-1.40 | N,SMA                   |
| VT040CL25N      | 25 | 1    | DC-4    | 1.15-1.30 | N                       |
| VT060CL30N      | 30 | 10   | DC-6    | 1.10-1.30 | N,SMA,7/16,TNC,BNC      |
| VT040CL30N      | 30 | 1    | DC-4    | 1.15-1.30 | N                       |
| VT040CL50N      | 50 | 10   | DC-4    | 1.05-1.20 | N,SMA,7/16,TNC          |
| VT060CL50N      | 50 | 1    | DC-6    | 1.10-1.25 | N,SMA,TNC,BNC           |
| VT0100CL50N     | 50 | 1    | DC-10   | 1.10-1.25 | N                       |
| VT0100CL507/16  | 50 | 5    | DC-10   | 1.15-1.35 | N,7/16                  |
| VT0180CL50N     | 50 | 1    | DC-18   | 1.25-1.40 | N,SMA,TNC               |
| VT0180CL50S     | 50 | 5    | DC-18   | 1.15-1.35 | N,SMA,TNC               |
| VT040CL60S      | 60 | 1    | DC-4    | 1.05-1.20 | N,SMA,7/16              |
| VT0100CL60N     | 60 | 1    | DC-10   | 1.15-1.40 | N                       |
| VT040CL80N      | 80 | 10   | DC-4    | 1.10-1.25 | N,7/16,TNC              |



|                |     |     |       |           |           |
|----------------|-----|-----|-------|-----------|-----------|
| VT0180CL80N    | 80  | 1   | DC-18 | 1.20-1.40 | N,SMA,TNC |
| VT0180CL80S    | 80  | 5   | DC-18 | 1.15-1.55 | N,SMA     |
| VT040CL100N    | 100 | 10  | DC-4  | 1.10-1.25 | N,7/16    |
| VT0180CL100N   | 100 | 5   | DC-18 | 1.25-1.40 | N,SMA,TNC |
| VT0180CL100TNC | 100 | 5   | DC-18 | 1.25-1.30 | N,SMA,TNC |
| VT0180CL100S   | 100 | 5   | DC-18 | 1.15-1.55 | N,SMA     |
| VT060CL10QS    | 10  | 0.5 | DC-6  | 1.20      | QSMA      |

*\*Indicates Model Number. See Ordering Information for complete part number.*

## 23.2 Series of P≤500W

### 【Specifications】

| Model No*        | Avg Power<br>(W) | Peak Power<br>(kW) | Freq Range<br>(GHz) | VSWR      | Connector |
|------------------|------------------|--------------------|---------------------|-----------|-----------|
| VT040CHPL150N    | 150              | 10                 | DC-4                | 1.15-1.30 | N,7/16    |
| VT0180CHPL150TNC | 150              | 1                  | DC-18               | 1.35-1.40 | N,TNC     |
| VT0180CHPL150N   | 150              | 10                 | DC-18               | 1.25-1.35 | N         |
| VT0100CHPL150N   | 150              | 5                  | DC-10               | 1.15-1.35 | N         |
| VT0180CHPL150N   | 150              | 5                  | DC-18               | 1.15-1.55 | N         |
| VT040CHPL200N    | 200              | 10                 | DC-4                | 1.15-1.30 | N,7/16    |
| VT0180CHPL200N   | 200              | 5                  | DC-18               | 1.25-1.40 | N         |
| VT0100CHPL200N   | 200              | 5                  | DC-10               | 1.15-1.35 | N,7/16    |
| VT040CHPL250N    | 250              | 10                 | DC-4                | 1.15-1.35 | N,7/16    |
| VT0180CHPL250N   | 250              | 5                  | DC-18               | 1.25-1.40 | N         |
| VT0180CHPL250N   | 250              | 5                  | DC-10               | 1.15-1.35 | N,7/16    |
| VT0100CHPL250N   | 250              | 5                  | DC-10               | 1.15-1.35 | N,7/16    |
| VT040CHPL300N    | 300              | 10                 | DC-4                | 1.15-1.40 | N,7/16    |
| VT0180CHPL300TNC | 300              | 10                 | DC-18               | 1.30-1.50 | N,TNC     |
| VT0180CHPL300N   | 300              | 5                  | DC-18               | 1.15-1.70 | N,7/16    |
| VT040CHPL400N    | 400              | 10                 | DC-4                | 1.15-1.45 | N,7/16    |
| VT0100CHPL400N   | 400              | 10                 | DC-10               | 1.15-1.50 | N,7/16    |
| VT040CHPL500N    | 500              | 10                 | DC-4                | 1.15-1.40 | N,7/16    |
| VT0100CHPL500N   | 500              | 5                  | DC-10               | 1.15-1.55 | N,7/16    |
| VT20200CHPL500NJ | 500              | 5000               | 2-20                | 1.35-1.4  | N(J)      |

*\*Indicates Model Number. See Ordering Information for complete part number.*



## 23.3 Series of P>500W

### 【Specifications】

| Model No*         | Avg Power (W) | Peak Power (kW) | Freq Range (GHz) | VSWR      | Connector    |
|-------------------|---------------|-----------------|------------------|-----------|--------------|
| VT040CHPL800N     | 800           | 10              | DC-4             | 1.20-1.45 | N,7/16       |
| VT080CHPL1000N    | 1000          | 10              | DC-8             | 1.10-1.55 | N            |
| VT040CHPL1000N    | 1000          | 10              | DC-4             | 1.40      | N,7/16,L27   |
| VT040CHPL1500N    | 1500          | 10              | DC-4             | 1.40      | N,7/16,L27   |
| VT040CHPL2000N    | 2000          | 10              | DC-4             | 1.40      | N,7/16,L27   |
| VT020CHPL1000N    | 1000          | 50              | DC-2             | 1.30      | N,7/16,L27   |
| VT020CHPL1000L27  | 1000          | 50              | DC-2             | 1.30      | N,7/16,L27   |
| VT020CHPL2000L27  | 2000          | 50              | DC-2             | 1.30      | N,7/16,L27   |
| VT020CHPL2000N    | 2000          | 50              | DC-2             | 1.30      | N,7/16,L27   |
| VT020CHPL3000L27  | 3000          | 50              | DC-2             | 1.50      | N,7/16,L27   |
| VT010CHPL5000L27  | 5000          | 100             | DC-1             | 1.40      | L27,7/16,L52 |
| VT010CHPL10000L27 | 10000         | 100             | DC-1             | 1.40      | L27,7/16,L52 |

\*Indicates Model Number. See Ordering Information for complete part number.

### 【Ordering Information】

**Example Part No:** VT 040 CL 20 N J

Vector Telecom ————

Freq Range:0-4GHz ————

Product Type:CL(Coaxial Termination)  
CHPL(Coaxial High Power Termination)

J=Male, K=Female

Coax Connector Type:N=Type N,S=SMA,  
K2.92=2.92mm,V=2.4mm,TNC=TNC  
3.5=3.5mm, 7/16=L29, L27=L27

Avg Power:20W



## 24 Coaxial Cable Assembly



### 【Specifications】

| Model<br>No* | Inner<br>Conductor<br>Diameter<br>(mm) | Outer<br>Diameter<br>(mm) | Bending<br>Radius<br>(mm) | Freq<br>(GHz)<br>DC-3  | Freq<br>(GHz)<br>DC-6 | Freq<br>(GHz)<br>DC-18 | Freq<br>(GHz)<br>DC-30 | Freq<br>(GHz)<br>DC-40 | Connector                           |
|--------------|----------------------------------------|---------------------------|---------------------------|------------------------|-----------------------|------------------------|------------------------|------------------------|-------------------------------------|
| 03SYV-50-3-1 | 0.9                                    | 5                         | 30                        | IL≤3.0dB;<br>VSWR≤1.4  |                       |                        |                        |                        | BNC Male J, Q9<br>Male J            |
| 06SFF-50-3-1 | 0.93                                   | 4.5                       | 40                        | IL≤2dB;<br>VSWR≤1.3    | IL≤3dB;<br>VSWR≤1.4   |                        |                        |                        | N,SMA                               |
| 18SUJ-50-5   | 1.83                                   | 7                         | 45                        | IL≤0.8dB;<br>VSWR≤1.15 | IL≤1dB;<br>VSWR≤1.2   | IL≤1.8B;<br>VSWR≤1.4   |                        |                        | N Male                              |
| 18RG402      | 1.3                                    | 4.2                       | 30                        | IL≤1.0dB;<br>VSWR≤1.15 | IL≤1.5dB;<br>VSWR≤1.2 | IL≤2.6dB;<br>VSWR≤1.35 |                        |                        | N, SMA                              |
| 40RG402      | 1.3                                    | 4.2                       | 30                        | IL≤1.0dB;<br>VSWR≤1.15 | IL≤1.5dB;<br>VSWR≤1.2 | IL≤2.6dB;<br>VSWR≤1.35 |                        |                        | 2.92 Male J                         |
| SFT316       | 0.9                                    | 3                         | 20                        | IL≤1.8dB<br>VSWR≤1.2   | IL≤2.2dB;<br>VSWR≤1.2 | IL≤3.6dB;<br>VSWR≤1.25 | IL≤4.5dB;<br>VSWR≤1.4  | IL≤6.5dB;<br>VSWR≤1.5  | 2.92 Male J                         |
| 18DLF35      | 0.94                                   | 3.5                       | 14                        | VSWR≤1.15              | VSWR≤1.2              | VSWR≤1.35              |                        |                        | N, SMA                              |
| 18DLF50      | 1.45                                   | 5.2                       | 20.5                      | IL≤0.7dB;<br>VSWR≤1.15 | IL≤0.9dB;<br>VSWR≤1.2 | IL≤1.8dB;<br>VSWR≤1.35 |                        |                        | N, SMA                              |
| 30DLA36      | 0.72                                   | 3.6                       | 18                        | IL≤1.0dB;<br>VSWR≤1.15 | IL≤1.5dB;<br>VSWR≤1.2 | IL≤2.5dB;<br>VSWR≤1.3  | IL≤3.2dB;<br>VSWR≤1.3  |                        | 2.92, SMA, N,<br>SMP, TNC<br>Female |
| 18DLA46      | 1.02                                   | 4.6                       | 23                        | IL≤0.9dB;<br>VSWR≤1.15 | IL≤1.2dB;<br>VSWR≤1.2 | IL≤1.9dB;<br>VSWR≤1.3  |                        |                        | SMA, N, TNC<br>Female               |
| 18DLA52      | 1.29                                   | 3.91                      | 26                        | IL≤0.7dB;<br>VSWR≤1.15 | IL≤1.0dB;<br>VSWR≤1.2 | IL≤1.6dB;<br>VSWR≤1.3  |                        |                        | SMA, N Male,<br>TNC Male            |



Vector Telecom

## Section 2

### Coaxial Components

|          |      |      |      |                        |                       |                        |                       |                        |                                 |
|----------|------|------|------|------------------------|-----------------------|------------------------|-----------------------|------------------------|---------------------------------|
| 18DLA63  | 1.57 | 6.35 | 32   | IL≤0.6dB;<br>VSWR≤1.15 | IL≤0.8dB;<br>VSWR≤1.2 | IL≤1.4dB;<br>VSWR≤1.3  |                       |                        | SMA Female, N<br>Male, TNC Male |
| 40DLB36  | 0.91 | 3.6  | 18   | IL≤0.8dB;<br>VSWR≤1.15 | IL≤1.3dB;<br>VSWR≤1.2 | IL≤2.0dB;<br>VSWR≤1.25 | IL≤2.5dB;<br>VSWR≤1.3 | IL≤3.2dB;<br>VSWR≤1.35 | 2.92, 2.4, SMA,<br>SMP          |
| 18DLB52  | 1.45 | 5.2  | 25.5 | IL≤0.6dB;<br>VSWR≤1.15 | IL≤1.0dB;<br>VSWR≤1.2 | IL≤1.3dB;<br>VSWR≤1.3  |                       |                        | 2.92, 2.4, SMA,<br>N, TNC       |
| 18DLB80  | 2.3  | 7.8  | 39   | IL≤0.4dB;<br>VSWR≤1.15 | IL≤0.7dB;<br>VSWR≤1.2 | IL≤1.0dB;<br>VSWR≤1.3  |                       |                        | SMA, N, TNC                     |
| SFT-50-3 | 0.99 | 3.58 | 40   | IL≤0.8dB;<br>VSWR≤1.15 | IL≤1.0dB;<br>VSWR≤1.5 | IL≤1.8dB;<br>VSWR≤1.4  |                       |                        | 2.92 Male, SMA,<br>N Male       |
| SFT-50-2 | 0.56 | 2.18 | 7    | IL≤1.2dB;<br>VSWR≤1.15 | IL≤1.6dB;<br>VSWR≤1.2 | IL≤2.8dB;<br>VSWR≤1.25 | IL≤3.5dB;<br>VSWR≤1.3 | IL≤4.0dB;<br>VSWR≤1.35 | 2.92, 2.4 Male,<br>SMA          |

*Note: The above specs in the table are for 1m length assembly, for different Length, the insertion loss can be calculated according to proportion, VSWR will be adjusted according to the length appropriately.*

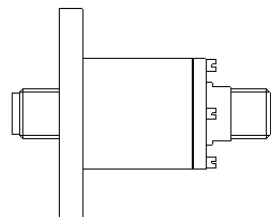
# 24

## Coaxial Cable Assembly





## 25 Coaxial Rotary Joint



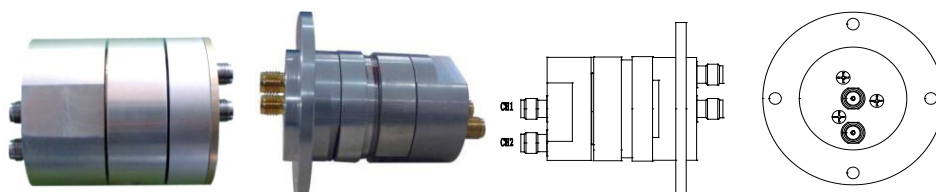
### 25.1 Single Channel Coaxial Rotary Joint

#### 【Specification】

| Model No*       | Freq<br>Range<br>(GHz) | VSWR  | VSWR<br>WOW<br>(dB) | IL<br>(dB) | IL<br>WOW<br>(dB) | Avg<br>Power<br>(W) | Peak<br>Power<br>(W) | Connector Type |               |
|-----------------|------------------------|-------|---------------------|------------|-------------------|---------------------|----------------------|----------------|---------------|
|                 |                        |       |                     |            |                   |                     |                      | Port 1         | Port 2        |
| VT30CRJINJK     | DC-3                   | ≤1.2  | ≤0.1                | ≤0.5       | ≤0.05             | 30                  | 300                  | N Male         | N Female      |
| VT80CRJINJK     | DC-8                   | ≤1.35 | ≤0.1                | ≤0.5       | ≤0.05             | 30                  | 300                  | N Male         | N Female      |
| VT124CRJINJK    | DC-12.4                | ≤1.5  | ≤0.1                | ≤0.5       | ≤0.05             | 30                  | 300                  | N Male         | N Female      |
| VT124CRJISJK    | DC-12.4                | ≤1.5  | ≤0.1                | ≤0.5       | ≤0.05             | 30                  | 300                  | SMA Male       | SMA<br>Female |
| VT100150CRJISJK | 10-15                  | ≤1.5  | ≤0.1                | ≤0.5       | ≤0.1              | 30                  | 300                  | SMA Male       | SMA<br>Female |
| VT180CRJINJK    | DC-18                  | ≤1.8  | ≤0.1                | ≤0.8       | ≤0.1              | 30                  | 300                  | N Male         | N Female      |
| VT180CRJISJK    | DC-18                  | ≤1.8  | ≤0.1                | ≤0.8       | ≤0.1              | 30                  | 300                  | SMA Male       | SMA<br>Female |
| VT400CRJIV      | DC-40                  | ≤1.8  | ≤0.1                | ≤0.8       | ≤0.1              | 30                  | 300                  | 2.4 Female     | 2.4 Female    |

\*Indicates Model Number. See Ordering Information for complete part number.

### 25.2 Dual Channels Coaxial Rotary Joint (II Type)



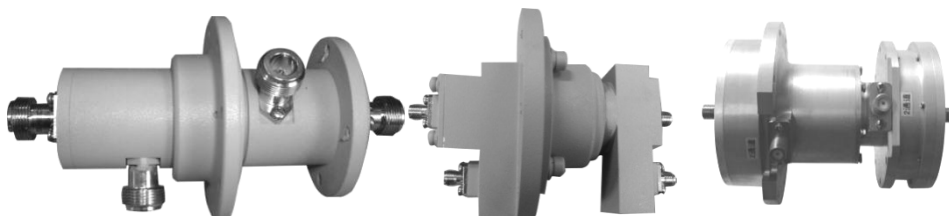
#### 【Specification】



| Model No*     | Freq Range (GHz) | VSWR  | VSWR WOW (dB) | IL(dB) | IL WOW (dB) | Avg Power (W) | Channel Isolation (dB) | Connect Type |
|---------------|------------------|-------|---------------|--------|-------------|---------------|------------------------|--------------|
| VT0030CRJIISA | CH1: 0-3         | ≤1.25 | ≤0.10         | ≤0.3   | ≤0.05       | 10            | ≥60                    | SMA Female   |
|               | CH2: 0-3         | ≤1.35 | ≤0.10         | ≤0.3   | ≤0.1        | 10            |                        |              |
| VT0050CRJIIS  | CH1: 0-5         | ≤1.20 | ≤0.05         | ≤0.3   | ≤0.05       | 50W           | ≥50                    | SMA Female   |

\*Indicates Model Number. See Ordering Information for complete part number.

## 25.3 Dual Channels Coaxial Rotary Joint (UI Type)



### 【Specification】

| Model No*       | Freq Range (GHz) | VSWR | IL   | Connector Type | Material |
|-----------------|------------------|------|------|----------------|----------|
| VT0045CRJIISAT  | CH1: 0-4.5       | 1.2  | 0.25 | SMA Female     | Al       |
|                 | CH2: 0-4.5       | 1.45 | 0.3  |                |          |
| VT12CRJUIS1     | CH1: 0.95-1.45   | 1.25 | 0.5  | SMA Female     | Cu       |
|                 | CH2: 0.95-1.45   | 1.50 | 0.5  |                |          |
| VT4070CRJUIS    | CH1: 3.6-4.2     | 1.30 | 0.3  | SMA Female     | Cu       |
|                 | CH2: 5.85-6.45   | 1.30 | 0.3  |                |          |
| VT160110CRJIISA | CH1: DC-16       | 1.5  | 0.5  | SMA Female     | Al       |
|                 | CH2: DC-11       | 2.5  | 2    |                |          |
| VT94CRJUIS      | CH1: 9.4±0.25GHz | 1.3  | 0.4  | SMA Female     | Cu       |
|                 | CH1: 9.4±0.25GHz | 1.3  | 0.4  |                |          |



## 25.4 Multiple Channels Coaxial Rotary Joint

Model No\*: VT11CHPRJUUI3



### 【Specification】

| Channel | Freq Range (GHz) | VSWR | VSWR WOW (dB) | IL     | IL WOW (dB) | Avg Power (KW) | Peak Power (KW) | Connector    |
|---------|------------------|------|---------------|--------|-------------|----------------|-----------------|--------------|
| CH1     | 0.13-0.19        | ≤1.3 | ≤0.1          | ≤0.1dB | ≤0.1dB      | 3.6            | 30              | 1 1/2 Female |
| CH2     | 1-1.1            |      |               | ≤0.2dB |             | 0.05           | 5               | L27 Female   |
| CH3     | 1-1.1            |      |               | ≤0.2dB |             | 0.05           | 5               | L27 Female   |

\*Indicates Model Number. See Ordering Information for complete part number.

### 【Ordering Information】

**Example Part No:** VT 10180 CRJI NJ NK C

Vector Telecom ———

Freq Range: 1-18GHz ———

Product Type: Single Channel Coaxial Rotary Joint(I style) ———

Material: Copper ———

Coax Connector 2 Type: NJ=N-50J ———

Coax Connector 1 Type: NK=N-50K ———

| Product Type | Description                                    | Product Type | Description                                 |
|--------------|------------------------------------------------|--------------|---------------------------------------------|
| CRJI         | Single Channel Coaxial Rotary Joint            | CHPRJUJ      | Multiple Channels Coaxial Rotary Joint      |
| CRJII        | Dual Channel Coaxial Rotary Joint<br>(II Type) | CRJUI        | Dual Channel Coaxial Rotary Joint (UI Type) |



## 26 Coaxial Calibration Kits

VTVNACK Coaxial Calibration Kits



### 【Component List】

| No. | Description                                    | Parameter              | Qty |
|-----|------------------------------------------------|------------------------|-----|
| 1   | Coaxial Termination                            | Male                   | 1   |
| 2   | Coaxial Termination                            | Female                 | 1   |
| 3   | Coaxial Short Plate                            | VSWR $\geq$ 60; Male   | 1   |
| 4   | Coaxial Short Plate                            | VSWR $\geq$ 60; Female | 1   |
| 5   | Coaxial Open                                   | VSWR $\geq$ 60; Male   | 1   |
| 6   | Coaxial Open                                   | VSWR $\geq$ 60; Female | 1   |
| 7   | Precision Transmission Line (Coaxial Air Line) | L= JJ; KK; JK          | 3   |
| 8   | Adaptor                                        | NSJJ;NSKK;NSJK;NSKJ    | 4   |
| 9   | Spanner                                        |                        | 1   |
| 10  | Packing Case of Aluminum Alloy                 |                        | 1   |

### 【Specification】

| Model No*    | Freq Range (GHz) | Connector |
|--------------|------------------|-----------|
| VT30VNACK75N | 0-3              | N-75      |
| VT40VNACKN   | 0-4              | N-50      |
| VT80VNACKN   | 0-8              | N-50      |
| VT124VNACKN  | 0 -12.4          | N-50      |
| VT180VNACKS  | 0 -18            | SMA-50    |

\*Indicates Model Number. See Ordering Information for complete part number.

### 【Ordering Information】

**Example Part No:** VT 180 VNACK S

Vector Telecom ————  
 Freq Range:DC-18GHz ————  
 Product Type:Coaxial Calibration Kits ————

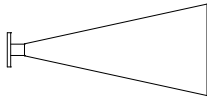
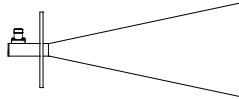
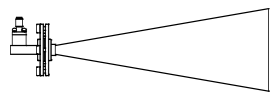
Coax Connector Type:N=Type N  
 S=SMA, K2.92=2.92mm, V=2.4mm  
 1.85=1.85mm, 1.0=1.0mm

## 27 Standard Gain Antenna

Vector Telecom manufactures a high quality line of standard gain horn antennas that are linearly polarized, lightweight and corrosion resistant. The most common Gain values available are 10, 15, 20, 25dB. Other Gain values and Horn Sizes can be designed to your requirement. Please call us with your specification and discuss your needs with one of our sales engineers.



### 27.1 Standard Gain Horn Antenna (SGAH)

| Type            | Waveguide Input Style                                                               | With Built-in Coaxial Input Style                                                    | With Coaxial Connector Style                                                          |
|-----------------|-------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------|
| Outline Drawing |  |  |  |
| WG Type         | WR770-WR3                                                                           | R2300-R28                                                                            | R975-WR22                                                                             |
| VSWR            | $\leq 1.25$                                                                         | $\leq 1.5$                                                                           | $\leq 1.5$                                                                            |

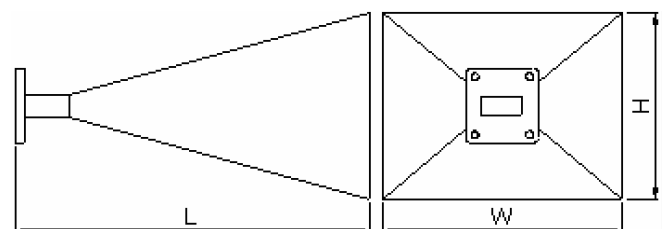
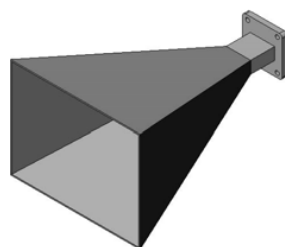
# 27

## Standard Gain Antenna



### 27.1.1 Standard Gain Horn Antenna, 10 dB

#### Style 1 - Waveguide Input



#### 【Specifications】

## Section 3

### Antennas

| Model No   | Freq Range (GHz) | Gain* (dB) | 3dB Beamwidth* (Nom) | Dimensions (mm) |      |     | WG Type |        | Flange |
|------------|------------------|------------|----------------------|-----------------|------|-----|---------|--------|--------|
|            |                  |            |                      | L               | W    | H   | IEC     | EIA    |        |
| VT3SGAH10  | 0.32-0.49        | 10         | 55                   | 1600            | 1198 | 955 | R3      | WR2300 | FDP    |
| VT4SGAH10  | 0.35-0.53        | 10         | 55                   | 1400            | 1006 | 726 | R4      | WR2100 | FDP    |
| VT5SGAH10  | 0.41-0.62        | 10         | 55                   | 1300            | 906  | 656 | R5      | WR1800 | FDP    |
| VT6SGAH10  | 0.49-0.75        | 10         | 55                   | 1100            | 760  | 556 | R6      | WR1500 | FDP    |
| VT8SGAH10  | 0.64-0.98        | 10         | 55                   | 1200            | 606  | 436 | R8      | WR1150 | FDP    |
| VT9SGAH10  | 0.75-1.15        | 10         | 55                   | 1000            | 400  | 280 | R9      | WR975  | FDP    |
| VT12SGAH10 | 0.96-1.46        | 10         | 55                   | 300             | 400  | 280 | R12     | WR770  | FDP    |

| Model No    | Freq Range (GHz) | Gain* (dB) | 3dB Beamwidth* (Nom) | Dimensions (mm) |     |     | WG Type |       | Flange |
|-------------|------------------|------------|----------------------|-----------------|-----|-----|---------|-------|--------|
|             |                  |            |                      | L               | W   | H   | IEC     | EIA   |        |
| VT14SGAH10  | 1.13-1.73        | 10         | 55                   | 280             | 315 | 235 | R14     | WR650 | FDP    |
| VT18SGAH10  | 1.45-2.20        | 10         | 55                   | 245             | 249 | 184 | R18     | WR510 | FDP    |
| VT22SGAH10  | 1.72-2.61        | 10         | 55                   | 210             | 209 | 154 | R22     | WR430 | FDP    |
| VT26SGAH10  | 2.17-3.30        | 10         | 55                   | 160             | 165 | 125 | R26     | WR340 | FDP    |
| VT32SGAG10  | 2.60-3.95        | 10         | 55                   | 150             | 144 | 114 | R32     | WR284 | FDP    |
| VT40SGAG10  | 3.22-4.90        | 10         | 55                   | 120             | 113 | 88  | R40     | WR229 | FDP    |
| VT48SGAG10  | 3.94-5.99        | 10         | 55                   | 110             | 98  | 73  | R48     | WR187 | FDP    |
| VT58SGAG10  | 4.64-7.05        | 10         | 55                   | 100             | 83  | 63  | R58     | WR159 | FDP    |
| VT70SGAG10  | 5.38-8.17        | 10         | 55                   | 75              | 67  | 52  | R70     | WR137 | FDP    |
| VT84SGAG10  | 6.57-9.99        | 10         | 55                   | 70              | 57  | 42  | R84     | WR112 | FBP    |
| VT100SGAG10 | 8.20-12.40       | 10         | 55                   | 50              | 47  | 37  | R100    | WR90  | FBP    |
| VT120SGAG10 | 9.84-15.0        | 10         | 55                   | 55              | 40  | 29  | R120    | WR75  | FBP    |
| VT140SGAG10 | 11.9-18.0        | 10         | 55                   | 55              | 37  | 27  | R140    | WR62  | FBP    |
| VT180SGAG10 | 14.5-22.0        | 10         | 55                   | 50              | 30  | 20  | R180    | WR51  | FBP    |
| VT220SGAG10 | 17.6-26.7        | 10         | 55                   | 45              | 24  | 17  | R220    | WR42  | FBP    |
| VT260SGAG10 | 21.7-33.0        | 10         | 55                   | 35              | 20  | 14  | R260    | WR34  | FBP    |

# 27

## Standard Gain Antenna



|             |           |    |    |    |      |     |      |      |      |
|-------------|-----------|----|----|----|------|-----|------|------|------|
| VT320SGAG10 | 26.5-40.0 | 10 | 55 | 30 | 17   | 12  | R320 | WR28 | FBP  |
| VT400SGAG10 | 32.9-50.1 | 10 | 55 | 36 | 10.8 | 7.9 | R400 | WR22 | FUGP |
| VT500SGAG10 | 39.2-59.6 | 10 | 55 | 30 | 9    | 6.4 | R500 | WR19 | FUGP |
| VT620SGAG10 | 49.8-75.8 | 10 | 55 | 25 | 7.5  | 5.3 | R620 | WR15 | FUGP |
| VT740SGAG10 | 60.5-91.9 | 10 | 55 | 18 | 5.9  | 4.5 | R740 | WR12 | FUGP |

\*Gain and 3dB Beamwidth values have been calculated by computer simulation.

## 【Ordering Information】

**Example Part No:** VT 100 SGAG 10

Vector Telecom

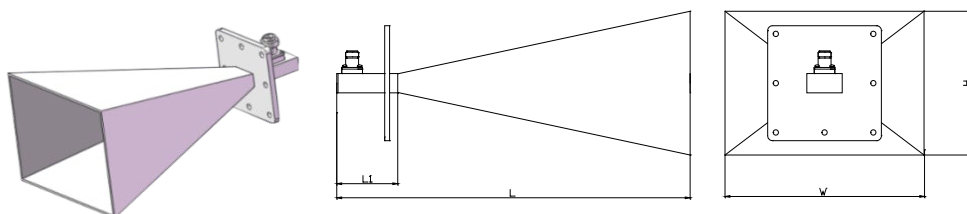
WG Type: R100

Antenna Gain: 10dB

Product Type: Standard Gain Horn Antenna

- Flange type: Multiple types available - see VT Flanges page
- Finish: Corrosion protection plus grey top coat

## Style 2 - Built-in Coaxial Input



## 【Specifications】

| Model No*     | Freq Range (GHz) | Gain** (dB) | 3dB Beamwidth** (Nom) | Dimensions (mm) |      |     | WG Type |        | Connector |
|---------------|------------------|-------------|-----------------------|-----------------|------|-----|---------|--------|-----------|
|               |                  |             |                       | L               | W    | H   | IEC     | EIA    |           |
| VT3SGAG10N... | 0.32-0.49        | 10          | 55                    | 850             | 1150 | 800 | R3      | WR2300 | N Type    |
| VT4SGAG10N... | 0.35-0.53        | 10          | 55                    | 800             | 1050 | 720 | R4      | WR2100 | N Type    |
| VT5SGAG10N... | 0.41-0.62        | 10          | 55                    | 800             | 900  | 660 | R5      | WR1800 | N Type    |
| VT6SGAG10N... | 0.49-0.75        | 10          | 55                    | 700             | 700  | 500 | R6      | WR1500 | N Type    |
| VT8SGAG10N... | 0.64-0.98        | 10          | 55                    | 590             | 620  | 440 | R8      | WR1150 | N Type    |
| VT9SGAG10N... | 0.75-1.15        | 10          | 55                    | 480             | 480  | 336 | R9      | WR975  | N Type    |





## Section 3

### Antennas

# 27

## Standard Gain Antenna



|                 |            |    |    |     |     |     |      |       |         |
|-----------------|------------|----|----|-----|-----|-----|------|-------|---------|
| VT12SGAG10N...  | 0.96-1.46  | 10 | 55 | 400 | 400 | 280 | R12  | WR770 | N Type  |
| VT14SGAG10N...  | 1.13-1.73  | 10 | 55 | 370 | 315 | 235 | R14  | WR650 | N Type  |
| VT18SGAG10N...  | 1.45-2.20  | 10 | 55 | 310 | 400 | 280 | R18  | WR510 | N Type  |
| VT22SGAG10N...  | 1.72-2.61  | 10 | 55 | 260 | 315 | 235 | R22  | WR430 | N Type  |
| VT26SGAG10N...  | 2.17-3.30  | 10 | 55 | 200 | 249 | 184 | R26  | WR340 | N Type  |
| VT32SGAG10N...  | 2.60-3.95  | 10 | 55 | 175 | 209 | 154 | R32  | WR284 | N Type  |
| VT40SGAG10N...  | 3.22-4.90  | 10 | 55 | 150 | 165 | 125 | R40  | WR229 | N Type  |
| VT48SGAG10N...  | 3.94-5.99  | 10 | 55 | 145 | 144 | 114 | R48  | WR187 | N Type  |
| VT58SGAG10N...  | 4.64-7.05  | 10 | 55 | 135 | 113 | 88  | R58  | WR159 | N Type  |
| VT70SGAG10N...  | 5.38-8.17  | 10 | 55 | 110 | 98  | 73  | R70  | WR137 | N Type  |
| VT84SGAG10N...  | 6.57-9.99  | 10 | 55 | 95  | 83  | 63  | R84  | WR112 | N Type  |
| VT100SGAG10N... | 8.20-12.40 | 10 | 55 | 75  | 67  | 52  | R100 | WR90  | N Type  |
| VT120SGAG10S... | 9.84-15.0  | 10 | 55 | 75  | 57  | 42  | R120 | WR75  | SMA     |
| VT140SGAG10S... | 11.9-18.0  | 10 | 55 | 75  | 47  | 37  | R140 | WR62  | SMA     |
| VT180SGAG10S... | 14.5-22.0  | 10 | 55 | 75  | 40  | 29  | R180 | WR51  | SMA     |
| VT220SGAG10K... | 17.6-26.7  | 10 | 55 | 75  | 37  | 27  | R220 | WR42  | K2.92mm |
| VT260SGAG10K... | 21.7-33.0  | 10 | 55 | 53  | 30  | 20  | R260 | WR34  | K2.92mm |
| VT320SGAG10K... | 26.5-40.0  | 10 | 55 | 54  | 24  | 17  | R320 | WR28  | K2.92mm |

**\*\*Indicates Model Number. See Ordering Information for complete part number.**

**\*\*Gain and 3dB Beamwidth values have been calculated by computer simulation.**

### 【Ordering Information】

**Example Part No:** VT 100 SGAG 10 N K

Vector Telecom

WG Type:R100

Product Type:Standard Gain Horn Antenna  
(With Built-in Coax Input)

J=Male,K=Female

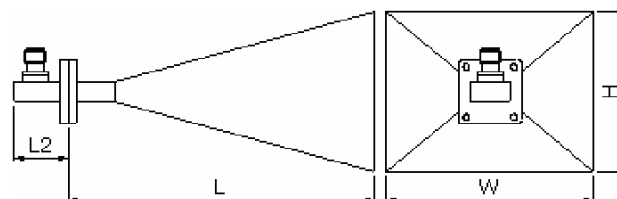
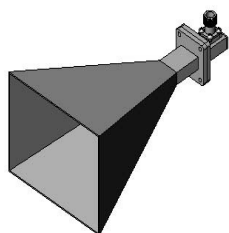
Coax Connector Type:N=Type N,S=SMA,  
K=2.92mm,V=2.4mm,1.85=1.85mm

Gain:10dB

- Finish: Corrosion protection plus grey top coat



## Style 3 - with Coaxial Connector



### 【Specifications】

| Model No*        | Freq Range<br>(GHz) | Gain**<br>(dB) | 3dB<br>Beamwidth**<br>(Nom) | Dimensions (mm) |     |      |     | WG Type |        | Connector |
|------------------|---------------------|----------------|-----------------------------|-----------------|-----|------|-----|---------|--------|-----------|
|                  |                     |                |                             | L               | L2  | W    | H   | IEC     | EIA    |           |
| VT3SGAG10+N...   | 0.32-0.49           | 10             | 55°                         | 1600            | 400 | 1198 | 955 | R3      | WR2300 | N Type    |
| VT4SGAG10+N...   | 0.35-0.53           | 10             | 55°                         | 1400            | 380 | 1006 | 726 | R4      | WR2100 | N Type    |
| VT5SGAG10+N...   | 0.41-0.62           | 10             | 55°                         | 1300            | 350 | 906  | 656 | R5      | WR1800 | N Type    |
| VT6SGAG10+N...   | 0.49-0.75           | 10             | 55°                         | 1100            | 300 | 760  | 556 | R6      | WR1500 | N Type    |
| VT8SGAG10+N...   | 0.64-0.98           | 10             | 55°                         | 1200            | 260 | 606  | 436 | R8      | WR1150 | N Type    |
| VT9SGAG10+N...   | 0.75-1.15           | 10             | 55°                         | 1000            | 231 | 506  | 366 | R9      | WR975  | N Type    |
| VT12SGAG10+N...  | 0.96-1.46           | 10             | 55°                         | 466             | 166 | 400  | 280 | R12     | WR770  | N Type    |
| VT14SGAG10+N...  | 1.13-1.73           | 10             | 55°                         | 430             | 150 | 315  | 235 | R14     | WR650  | N Type    |
| VT18SGAG10+N...  | 1.45-2.20           | 10             | 55°                         | 360             | 120 | 249  | 184 | R18     | WR510  | N Type    |
| VT22SGAG10+N...  | 1.72-2.61           | 10             | 55°                         | 310             | 100 | 209  | 154 | R22     | WR430  | N Type    |
| VT26SGAG10+N...  | 2.17-3.30           | 10             | 55°                         | 245             | 85  | 165  | 125 | R26     | WR340  | N Type    |
| VT32SGAG10+N...  | 2.60-3.95           | 10             | 55°                         | 222             | 72  | 144  | 114 | R32     | WR284  | N Type    |
| VT40SGAG10+N...  | 3.22-4.90           | 10             | 55°                         | 185             | 65  | 113  | 88  | R40     | WR229  | N Type    |
| VT48SGAG10+N...  | 3.94-5.99           | 10             | 55°                         | 164             | 54  | 98   | 73  | R48     | WR187  | N Type    |
| VT58SGAG10+N...  | 4.64-7.05           | 10             | 55°                         | 150             | 50  | 83   | 63  | R58     | WR159  | N Type    |
| VT70SGAG10+N...  | 5.38-8.17           | 10             | 55°                         | 123             | 48  | 67   | 52  | R70     | WR137  | N Type    |
| VT84SGAG10+N...  | 6.57-9.99           | 10             | 55°                         | 110             | 40  | 57   | 42  | R84     | WR112  | N Type    |
| VT100SGAG10+N... | 8.20-12.40          | 10             | 55°                         | 83              | 33  | 47   | 37  | R100    | WR90   | N Type    |
| VT120SGAG10+S... | 9.84-15.0           | 10             | 55°                         | 83              | 30  | 40   | 29  | R120    | WR75   | SMA       |
| VT140SGAG10+S... | 11.9-18.0           | 10             | 55°                         | 82              | 27  | 37   | 27  | R140    | WR62   | SMA       |

\*\*Indicates Model Number. See Ordering Information for complete part number.



**\*\*Gain and 3dB Beamwidth values have been calculated by computer simulation**

## 【Ordering Information】

**Example Part No:** VT 100 SGAH 10 +N K

Vector Telecom ————

WG Type: R100 ————

Product Type: Standard Gain Horn Antenna (With Coax Connector) ————

Gain: 10dB ————

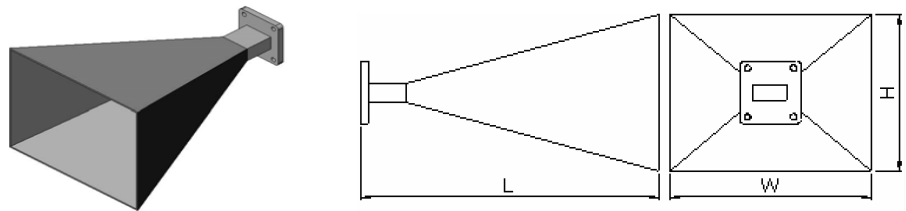
J=Male, K=Female

Coax Connector Type: N=Type N, S=SMA, K=2.92mm, V=2.4mm, 1.85=1.85mm

- Finish: Corrosion protection plus black grey coat

### 27.1.2 Standard Gain Horn Antenna, 15 dB

#### Style 1 – Waveguide Input



## 【Specifications】

| Model No   | Freq Range (GHz) | Gain* (dB) | 3dB Beam width* (Nom) | Dimensions (mm) |     |     | WG Type |       | Flange |
|------------|------------------|------------|-----------------------|-----------------|-----|-----|---------|-------|--------|
|            |                  |            |                       | L               | W   | H   | IEC     | EIA   |        |
| VT9SGAG15  | 0.75-1.15        | 15         | 30°                   | 619             | 834 | 619 | R9      | WR975 | FDP    |
| VT12SGAG15 | 0.96-1.46        | 15         | 30°                   | 650             | 681 | 506 | R12     | WR770 | FDP    |
| VT14SGAG15 | 1.13-1.73        | 15         | 30°                   | 410             | 563 | 423 | R14     | WR650 | FDP    |
| VT18SGAG15 | 1.45-2.20        | 15         | 30°                   | 400             | 441 | 327 | R18     | WR510 | FDP    |
| VT22SGAG15 | 1.72-2.61        | 15         | 30°                   | 300             | 374 | 278 | R22     | WR430 | FDP    |
| VT26SGAG15 | 2.17-3.30        | 15         | 30°                   | 250             | 297 | 216 | R26     | WR340 | FDP    |
| VT32SGAG15 | 2.60-3.95        | 15         | 30°                   | 230             | 275 | 190 | R32     | WR284 | FDP    |
| VT40SGAG15 | 3.22-4.90        | 15         | 30°                   | 180             | 205 | 145 | R40     | WR229 | FDP    |
| VT48SGAG15 | 3.94-5.99        | 15         | 30°                   | 160             | 169 | 119 | R48     | WR187 | FDP    |
| VT58SGAG15 | 4.64-7.05        | 15         | 30°                   | 130             | 141 | 97  | R58     | WR159 | FDP    |
| VT70SGAG15 | 5.38-8.17        | 15         | 30°                   | 110             | 122 | 84  | R70     | WR137 | FDP    |



|             |            |    |     |     |      |      |      |       |      |
|-------------|------------|----|-----|-----|------|------|------|-------|------|
| VT84SGAG15  | 6.57-9.99  | 15 | 30° | 100 | 105  | 71   | R84  | WR112 | FBP  |
| VT100SGAG15 | 8.20-12.40 | 15 | 30° | 80  | 81   | 56   | R100 | WR90  | FBP  |
| VT120SGAG15 | 9.84-15.0  | 15 | 30° | 75  | 68   | 47   | R120 | WR75  | FBP  |
| VT140SGAG15 | 11.9-18.0  | 15 | 30° | 80  | 57   | 40   | R140 | WR62  | FBP  |
| VT180SGAG15 | 14.5-22.0  | 15 | 30° | 55  | 47   | 33   | R180 | WR51  | FBP  |
| VT220SGAG15 | 17.6-26.7  | 15 | 30° | 45  | 39   | 27   | R220 | WR42  | FBP  |
| VT260SGAG15 | 21.7-33.0  | 15 | 30° | 40  | 32   | 22   | R260 | WR34  | FBP  |
| VT320SGAG15 | 26.5-40.0  | 15 | 30° | 35  | 26   | 19   | R320 | WR28  | FBP  |
| VT400SGAG15 | 32.9-50.1  | 15 | 30° | 30  | 22   | 15.5 | R400 | WR22  | FUGP |
| VT500SGAG15 | 39.2-59.6  | 15 | 30° | 25  | 19   | 13   | R500 | WR19  | FUGP |
| VT620SGAG15 | 49.8-75.8  | 15 | 30° | 21  | 15   | 11   | R620 | WR15  | FUGP |
| VT740SGAG15 | 60.5-91.9  | 15 | 30° | 20  | 13.5 | 9.5  | R740 | WR12  | FUGP |
| VT900SGAG15 | 73.8-112   | 15 | 30° | 18  | 11   | 8    | R900 | WR10  | FUGP |

\*Gain and 3dB Beamwidth values have been calculated by computer simulation.

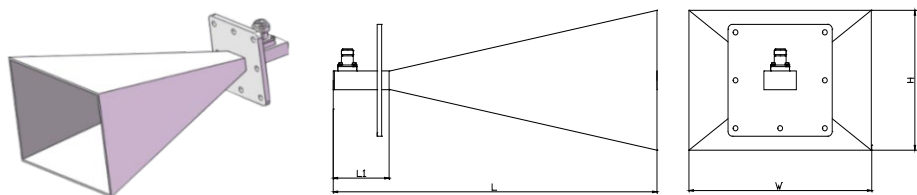
### 【Ordering Information】

**Example Part No:** VT 100 SGAG 15

Vector Telecom — Gain:15dB  
WG Type:R100 — Product Type:Standard Gain Horn Antenna  
(With Waveguide Input)

- Flange type: Multiple types available - see VT Flanges page
- Finish: Corrosion protection plus grey top coat

### Style 2 — Built-in Coaxial Input



### 【Specifications】

| Model No*      | Freq Range (GHz) | Gain** (dB) | 3dB Beam width** (Nom) | Dimensions (mm) |     |     | WG Type |       | Connector |
|----------------|------------------|-------------|------------------------|-----------------|-----|-----|---------|-------|-----------|
|                |                  |             |                        | L               | W   | H   | IEC     | EIA   |           |
| VT9SGAG15N...  | 0.75-1.15        | 15          | 30°                    | 820             | 850 | 580 | R9      | WR975 | N Type    |
| VT12SGAG15N... | 0.96-1.46        | 15          | 30°                    | 700             | 700 | 480 | R12     | WR770 | N Type    |



Vector Telecom

## Section 3

### Antennas

|                |            |    |     |     |     |     |      |       |         |
|----------------|------------|----|-----|-----|-----|-----|------|-------|---------|
| VT14SGAG15N... | 1.13-1.73  | 15 | 30° | 520 | 550 | 380 | R14  | WR650 | N Type  |
| VT18SGAG15N... | 1.45-2.20  | 15 | 30° | 430 | 456 | 316 | R18  | WR510 | N Type  |
| VT22SGAG15N... | 1.72-2.61  | 15 | 30° | 360 | 380 | 265 | R22  | WR430 | N Type  |
| VT26SGAG15N... | 2.17-3.30  | 15 | 30° | 290 | 297 | 216 | R26  | WR340 | N Type  |
| VT32SGAG15N... | 2.60-3.95  | 15 | 30° | 255 | 275 | 190 | R32  | WR284 | N Type  |
| VT40SGAG15N... | 3.22-4.90  | 15 | 30° | 210 | 205 | 145 | R40  | WR229 | N Type  |
| VT48SGAG15N... | 3.94-5.99  | 15 | 30° | 195 | 169 | 119 | R48  | WR187 | N Type  |
| VT58SGAG15N... | 4.64-7.05  | 15 | 30° | 200 | 141 | 97  | R58  | WR159 | N Type  |
| VT70SGAG15N... | 5.38-8.17  | 15 | 30° | 190 | 122 | 84  | R70  | WR137 | N Type  |
| VT84SGAG15N... | 6.57-9.99  | 15 | 30° | 150 | 105 | 71  | R84  | WR112 | N Type  |
| VT100SGAG15... | 8.20-12.40 | 15 | 30° | 123 | 81  | 56  | R100 | WR90  | N Type  |
| VT120SGAG15... | 9.84-15.0  | 15 | 30° | 100 | 68  | 47  | R120 | WR75  | SMA     |
| VT140SGAG15... | 11.9-18.0  | 15 | 30° | 80  | 57  | 40  | R140 | WR62  | SMA     |
| VT180SGAG15... | 14.5-22.0  | 15 | 30° | 77  | 47  | 33  | R180 | WR51  | SMA     |
| VT220SGAG15... | 17.6-26.7  | 15 | 30° | 67  | 39  | 27  | R220 | WR42  | K2.92mm |
| VT260SGAG15... | 21.7-33.0  | 15 | 30° | 60  | 32  | 22  | R260 | WR34  | K2.92mm |
| VT320SGAG15... | 26.5-40.0  | 15 | 30° | 55  | 26  | 19  | R320 | WR28  | K2.92mm |

\*Indicates Model Number. See Ordering Information for complete part number.

\*\*Gain and 3dB Beamwidth values have been calculated by computer simulation.

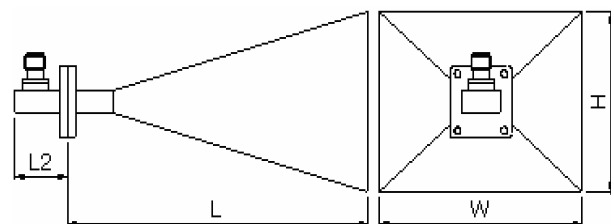
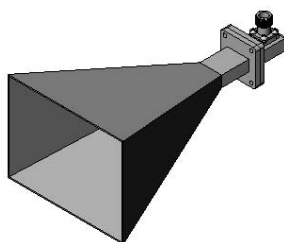
### 【Ordering Information】

**Example Part No: VT 100 SGAGH 15 N K**

Vector Telecom ———— J=Male,K=Female  
 WG Type:R100 ———— Coax Connector Type:N=Type N,S=SMA,  
 K=2.92mm,V=2.4mm,1.85=1.85mm  
 Product Type:Standard Gain Horn Antenna ———— Gain:15dB  
 (With Built-in Coax Input)

- Finish: Corrosion protection plus grey top coat

### Style3 —with Coaxial Connector





## 【Specifications】

| Model No*        | Freq Range<br>(GHz) | Gain**<br>(dB) | 3dB<br>Beamwidth**<br>(Nom) | Dimensions (mm) |     |     |     | WG Type |       | Connector |
|------------------|---------------------|----------------|-----------------------------|-----------------|-----|-----|-----|---------|-------|-----------|
|                  |                     |                |                             | L               | L2  | W   | H   | IEC     | EIA   |           |
| VT9SGAG15+N...   | 0.75-1.15           | 15             | 30°                         | 619             | 231 | 576 | 456 | R9      | WR975 | N Type    |
| VT12SGAG15+N...  | 0.96-1.46           | 15             | 30°                         | 766             | 166 | 700 | 480 | R12     | WR770 | N Type    |
| VT14SGAG15+N...  | 1.13-1.73           | 15             | 30°                         | 580             | 150 | 550 | 380 | R14     | WR650 | N Type    |
| VT18SGAG15+N...  | 1.45-2.20           | 15             | 30°                         | 485             | 120 | 456 | 316 | R18     | WR510 | N Type    |
| VT22SGAG15+N...  | 1.72-2.61           | 15             | 30°                         | 410             | 100 | 380 | 265 | R22     | WR430 | N Type    |
| VT26SGAG15+N...  | 2.17-3.30           | 15             | 30°                         | 335             | 85  | 297 | 216 | R26     | WR340 | N Type    |
| VT32SGAG15+N...  | 2.60-3.95           | 15             | 30°                         | 302             | 72  | 275 | 190 | R32     | WR284 | N Type    |
| VT40SGAG15+N...  | 3.22-4.90           | 15             | 30°                         | 245             | 65  | 205 | 145 | R40     | WR229 | N Type    |
| VT48SGAG15+N...  | 3.94-5.99           | 15             | 30°                         | 214             | 54  | 169 | 119 | R48     | WR187 | N Type    |
| VT58SGAG15+N...  | 4.64-7.05           | 15             | 30°                         | 180             | 50  | 141 | 97  | R58     | WR159 | N Type    |
| VT70SGAG15+N...  | 5.38-8.17           | 15             | 30°                         | 158             | 48  | 122 | 84  | R70     | WR137 | N Type    |
| VT84SGAG15+N...  | 6.57-9.99           | 15             | 30°                         | 140             | 40  | 105 | 71  | R84     | WR112 | N Type    |
| VT100SGAG15+N... | 8.20-12.40          | 15             | 30°                         | 115             | 35  | 81  | 56  | R100    | WR90  | N Type    |
| VT120SGAG15+S... | 9.84-15.0           | 15             | 30°                         | 105             | 30  | 68  | 47  | R120    | WR75  | SMA       |
| VT140SGAG15+S... | 11.9-18.0           | 15             | 30°                         | 107             | 27  | 57  | 40  | R140    | WR62  | SMA       |
| VT180SGAG15+S... | 14.5-22.0           | 15             | 30°                         | 82              | 27  | 47  | 33  | R180    | WR51  | SMA       |
| VT220SGAG15+K... | 17.6-26.7           | 15             | 30°                         | 70              | 25  | 39  | 27  | R220    | WR42  | K2.92mm   |
| VT260SGAG15+K... | 21.7-33.0           | 15             | 30°                         | 67              | 27  | 32  | 22  | R260    | WR34  | K2.92mm   |
| VT320SGAG15+K... | 26.5-40.0           | 15             | 30°                         | 61              | 26  | 26  | 19  | R320    | WR28  | K2.92mm   |

\*Indicates Model Number. See Ordering Information for complete part number.

\*\*Gain and 3dB Beamwidth values have been calculated by computer simulation.

## 【Ordering Information】

**Example Part No:** VT 100 SGAG 15 +N K

Vector Telecom ——— J=Male, K=Female

WG Type: R100 ——— Coax Connector Type: N=Type N, S=SMA,  
K=2.92mm, V=2.4mm, 1.85=1.85mm

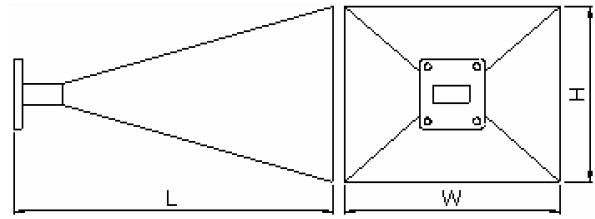
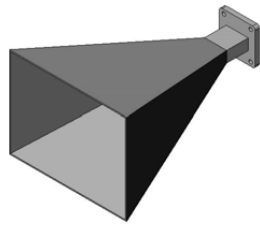
Product Type: Standard Gain Horn Antenna ——— Gain: 15dB  
(With Coax Connector)

- Finish: Corrosion protection plus grey top coat

### 27.1.3 Standard Gain Horn Antenna, 20 dB



## Style 1 – Waveguide Input



### 【Specifications】

| Model No     | Freq<br>Range (GHz) | Gain*<br>(dB) | 3dB<br>Beamwidth*<br>(Nom) | Dimensions (mm) |      |     | WG Type |       | Flange |
|--------------|---------------------|---------------|----------------------------|-----------------|------|-----|---------|-------|--------|
|              |                     |               |                            | L               | W    | H   | IEC     | EIA   |        |
| VT32SGAG20   | 2.60-3.95           | 20            | 18°                        | 700             | 476  | 346 | R32     | WR284 | D Type |
| VT40SGAG20   | 3.22-4.90           | 20            | 18°                        | 520             | 345  | 264 | R40     | WR229 | D Type |
| VT48SGAG20   | 3.94-5.99           | 20            | 18°                        | 440             | 280  | 212 | R48     | WR187 | D Type |
| VT58SGAG20   | 4.64-7.05           | 20            | 18°                        | 400             | 245  | 175 | R58     | WR159 | D Type |
| VT70SGAG20   | 5.38-8.17           | 20            | 18°                        | 290             | 197  | 153 | R70     | WR137 | D Type |
| VT84SGAG20   | 6.57-9.99           | 20            | 18°                        | 290             | 180  | 128 | R84     | WR112 | B Type |
| VT100SGAG20  | 8.20-12.40          | 20            | 18°                        | 220             | 138  | 107 | R100    | WR90  | B Type |
| VT120SGAG20  | 9.84-15.0           | 20            | 18°                        | 200             | 115  | 83  | R120    | WR75  | B Type |
| VT140SGAG20  | 11.9-18.0           | 20            | 18°                        | 150             | 93   | 72  | R140    | WR62  | B Type |
| VT180SGAG20  | 14.5-22.0           | 20            | 18°                        | 140             | 80   | 56  | R180    | WR51  | B Type |
| VT220SGAG20  | 17.6-26.7           | 20            | 18°                        | 125             | 70   | 49  | R220    | WR42  | B Type |
| VT260SGAG20  | 21.7-33.0           | 20            | 18°                        | 110             | 54   | 42  | R260    | WR34  | B Type |
| VT320SGAG20  | 26.5-40.0           | 20            | 18°                        | 90              | 47   | 33  | R320    | WR28  | B Type |
| VT400SGAG20  | 32.9-50.1           | 20            | 18°                        | 70              | 36   | 27  | R400    | WR22  | FUGP   |
| VT500SGAG20  | 39.2-59.6           | 20            | 18°                        | 60              | 31.4 | 23  | R500    | WR19  | FUGP   |
| VT620SGAG20  | 49.8-75.8           | 20            | 18°                        | 55              | 25   | 18  | R620    | WR15  | FUGP   |
| VT740SGAG20  | 60.5-91.9           | 20            | 18°                        | 50              | 22   | 16  | R740    | WR12  | FUGP   |
| VT900SGAG20  | 73.8-112            | 20            | 18°                        | 45              | 18   | 13  | R900    | WR10  | FUGP   |
| VT1200SGAH20 | 92.2-112            | 20            | 18°                        | 40              | 15   | 11  | R1200   | WR8   | FUGP   |
| VT1400SGAH20 | 113-173             | 20            | 18°                        | 32              | 12   | 8.5 | R1400   | WR7   | FUGP   |
| VT1800SGAH20 | 145-220             | 20            | 18°                        | 35              | 9.7  | 7   | R1800   | WR5   | FUGP   |
| VT2200SGAH20 | 172-261             | 20            | 18°                        | 30              | 8.5  | 5.8 | R2200   | WR4   | FUGP   |
| VT2600SGAH20 | 217-330             | 20            | 18°                        | 27              | 7    | 4.8 | R2600   | WR3   | FUGP   |

\*Gain and 3dB Beamwidth values have been calculated by computer simulation.

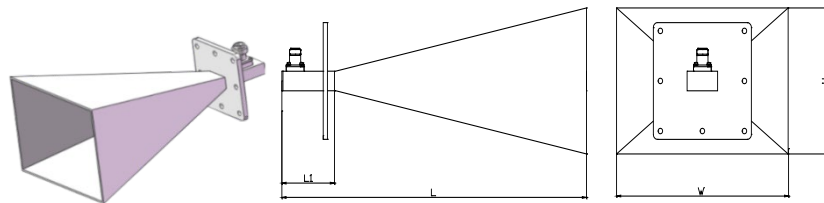
## 【Ordering Information】

**Example Part No:** VT 100 SGAH 20

Vector Telecom ——— Gain:20dB  
WG Type:R100 ——— Product Type:Standard Gain Horn Antenna  
(With Waveguide Input)

- Flange type: Multiple types available - see VT Flanges page
- Finish: Corrosion protection plus black top coat

### Style 2 – Built-in Coaxial Input



## 【Specifications】

| Model No*       | Freq<br>Range (GHz) | Gain**<br>(dB) | 3dB Beam<br>width**<br>(Nom) | Dimensions (mm) |     |     | WG Type |       | Connector |
|-----------------|---------------------|----------------|------------------------------|-----------------|-----|-----|---------|-------|-----------|
|                 |                     |                |                              | L               | W   | H   | IEC     | EIA   |           |
| VT32SGAG20N...  | 2.60-3.95           | 20             | 18°                          | 725             | 476 | 346 | R32     | WR284 | N Type    |
| VT40SGAG20N...  | 3.22-4.90           | 20             | 18°                          | 550             | 345 | 264 | R40     | WR229 | N Type    |
| VT48SGAG20N...  | 3.94-5.99           | 20             | 18°                          | 475             | 280 | 212 | R48     | WR187 | N Type    |
| VT58SGAG20N...  | 4.64-7.05           | 20             | 18°                          | 435             | 245 | 175 | R58     | WR159 | N Type    |
| VT70SGAG20N...  | 5.38-8.17           | 20             | 18°                          | 325             | 197 | 153 | R70     | WR137 | N Type    |
| VT84SGAG20N...  | 6.57-9.99           | 20             | 18°                          | 315             | 180 | 128 | R84     | WR112 | N Type    |
| VT100SGAG20N... | 8.20-12.40          | 20             | 18°                          | 245             | 138 | 107 | R100    | WR90  | N Type    |
| VT120SGAG20S... | 9.84-15.0           | 20             | 18°                          | 220             | 115 | 83  | R120    | WR75  | SMA       |
| VT140SGAG20S... | 11.9-18.0           | 20             | 18°                          | 170             | 93  | 72  | R140    | WR62  | SMA       |
| VT180SGAG20S... | 14.5-22.0           | 20             | 18°                          | 165             | 80  | 56  | R180    | WR51  | SMA       |
| VT220SGAG20K... | 17.6-26.7           | 20             | 18°                          | 155             | 70  | 49  | R220    | WR42  | K2.92mm   |
| VT260SGAG20K... | 21.7-33.0           | 20             | 18°                          | 128             | 54  | 42  | R260    | WR34  | K2.92mm   |
| VT320SGAG20K... | 26.5-40.0           | 20             | 18°                          | 114             | 47  | 33  | R320    | WR28  | K2.92mm   |

\*Indicates Model Number. See Ordering Information for complete part number.

\*\*Gain and 3dB Beamwidth values have been calculated by computer simulation.

27

Standard  
Gain  
Antenna



## 【Ordering Information】

**Example Part No:** VT 100 SGAGH 20 N K

Vector Telecom ———

WG Type: R100 ———

Product Type: Standard Gain Horn Antenna (With Built-in Coax Input) ———

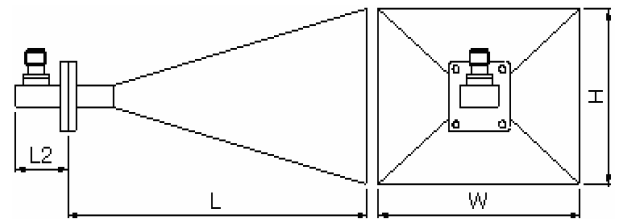
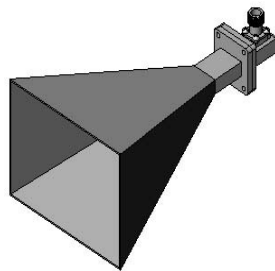
J=Male, K=Female ———

Coax Connector Type: N=Type N, S=SMA, K=2.92mm, V=2.4mm, 1.85=1.85mm ———

Gain: 20dB ———

- Finish: Corrosion protection plus grey top coat

### Style 3 — with Coaxial Connector



## 【Specifications】

| Model No*        | Freq Range (GHz) | Gain** (dB) | 3dB Beamwidth* (Nom) | Dimensions (mm) |    |     |     | WG Type |       | Connector |
|------------------|------------------|-------------|----------------------|-----------------|----|-----|-----|---------|-------|-----------|
|                  |                  |             |                      | L               | L2 | W   | H   | IEC     | EIA   |           |
| VT32SGAG20+N...  | 2.60-3.95        | 20          | 18°                  | 772             | 72 | 476 | 346 | R32     | WR284 | N Type    |
| VT40SGAG20+N...  | 3.22-4.90        | 20          | 18°                  | 585             | 65 | 345 | 264 | R40     | WR229 | N Type    |
| VT48SGAG20+N...  | 3.94-5.99        | 20          | 18°                  | 494             | 54 | 280 | 212 | R48     | WR187 | N Type    |
| VT58SGAG20+N...  | 4.64-7.05        | 20          | 18°                  | 450             | 50 | 245 | 175 | R58     | WR159 | N Type    |
| VT70SGAG20+N...  | 5.38-8.17        | 20          | 18°                  | 338             | 48 | 197 | 153 | R70     | WR137 | N Type    |
| VT84SGAG20+N...  | 6.57-9.99        | 20          | 18°                  | 330             | 40 | 180 | 128 | R84     | WR112 | N Type    |
| VT100SGAG20+N... | 8.20-12.40       | 20          | 18°                  | 255             | 35 | 138 | 107 | R100    | WR90  | N Type    |
| VT120SGAG20+S... | 9.84-15.0        | 20          | 18°                  | 230             | 30 | 115 | 83  | R120    | WR75  | SMA       |
| VT140SGAG20+S... | 11.9-18.0        | 20          | 18°                  | 177             | 27 | 93  | 72  | R140    | WR62  | SMA       |
| VT180SGAG20+S... | 14.5-22.0        | 20          | 18°                  | 167             | 27 | 80  | 56  | R180    | WR51  | SMA       |
| VT220SGAG20+K... | 17.6-26.7        | 20          | 18°                  | 150             | 25 | 70  | 49  | R220    | WR42  | K2.92mm   |
| VT260SGAG20+K... | 21.7-33.0        | 20          | 18°                  | 137             | 27 | 54  | 42  | R260    | WR34  | K2.92mm   |
| VT320SGAG20+K... | 26.5-40.0        | 20          | 18°                  | 116             | 26 | 47  | 33  | R320    | WR28  | K2.92mm   |
| VT400SGAG20+K... | 33.0-50.0        | 20          | 18°                  | 96              | 31 | 35  | 26  | R400    | WR22  | K2.92mm   |

\* indicates Model Number. See Ordering Information for complete part number.

\*\*Gain and 3dB Beamwidth values have been calculated by computer simulation.





### 【Ordering Information】

**Example Part No:** VT 100 SGAG 20 +N K

Vector Telecom ——— J=Male, K=Female

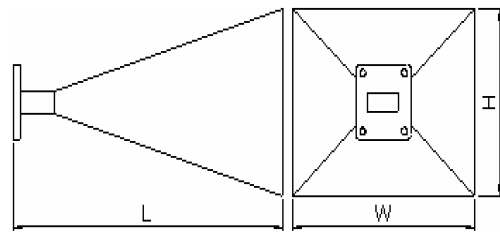
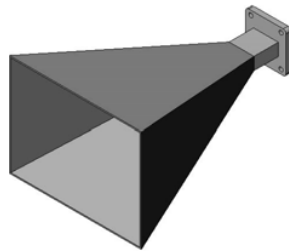
WG Type: R100 ——— Coax Connector Type: N=Type N, S=SMA, K=2.92mm, V=2.4mm, 1.85=1.85mm

Product Type: Standard Gain Horn Antenna (With Coax Connector) ——— Gain: 20dB

- Finish: Corrosion protection plus grey top coat

### 27.1.4 Standard Gain Horn Antenna, 25 dB

#### Style 1 – Waveguide Input



### 【Specifications】

| Model No    | Freq Range<br>(GHz) | Gain*<br>(dB) | 3dB Beam<br>width*<br>(Nom) | Dimensions (mm) |     |     | WG Type |      | Flange |
|-------------|---------------------|---------------|-----------------------------|-----------------|-----|-----|---------|------|--------|
|             |                     |               |                             | L               | W   | H   | IEC     | EIA  |        |
| VT100SGAG25 | 8.20-12.40          | 25            | 10°                         | 740             | 250 | 180 | R100    | WR90 | FBP    |
| VT120SGAG25 | 9.84-15.0           | 25            | 10°                         | 550             | 200 | 155 | R120    | WR75 | FBP    |
| VT140SGAG25 | 11.9-18.0           | 25            | 10°                         | 520             | 175 | 120 | R140    | WR62 | FBP    |
| VT180SGAG25 | 14.5-22.0           | 25            | 10°                         | 400             | 134 | 104 | R180    | WR51 | FBP    |
| VT220SGAG25 | 17.6-26.7           | 25            | 10°                         | 350             | 120 | 85  | R220    | WR42 | FBP    |
| VT260SGAG25 | 21.7-33.0           | 25            | 10°                         | 300             | 92  | 70  | R260    | WR34 | FBP    |
| VT320SGAG25 | 26.5-40.0           | 25            | 10°                         | 240             | 80  | 56  | R320    | WR28 | FBP    |
| VT400SGAG25 | 32.9-50.1           | 25            | 10°                         | 205             | 66  | 46  | R400    | WR22 | FUGP   |
| VT500SGAG25 | 39.2-59.6           | 25            | 10°                         | 160             | 53  | 37  | R500    | WR19 | FUGP   |
| VT620SGAG25 | 49.8-75.8           | 25            | 10°                         | 130             | 43  | 31  | R620    | WR15 | FUGP   |
| VT740SGAG25 | 60.5-91.9           | 25            | 10°                         | 120             | 37  | 26  | R740    | WR12 | FUGP   |
| VT900SGAG25 | 73.8-112            | 25            | 10°                         | 100             | 30  | 23  | R900    | WR10 | FUGP   |

|              |          |    |     |    |    |      |       |     |      |
|--------------|----------|----|-----|----|----|------|-------|-----|------|
| VT1200SGAG25 | 92.2-112 | 25 | 10° | 86 | 25 | 17.7 | R1200 | WR8 | FUGP |
| VT1400SGAG25 | 113-173  | 25 | 10° | 70 | 20 | 14   | R1400 | WR7 | FUGP |
| VT1800SGAG25 | 145-220  | 25 | 10° | 57 | 16 | 11.2 | R1800 | WR5 | FUGP |
| VT2200SGAG25 | 172-261  | 25 | 10° | 50 | 13 | 9.5  | R2200 | WR4 | FUGP |
| VT2600SGAG25 | 217-330  | 25 | 10° | 40 | 11 | 7.7  | R2600 | WR3 | FUGP |

*\*Gain and 3dB Beamwidth values have been calculated by computer simulation.*

## 【Ordering Information】

**Example Part No:** VT 100 SGAG 25

Vector Telecom

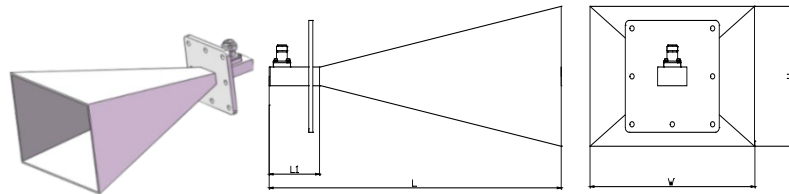
Gain: 25dB

WG Type: R100

Product Type: Standard Gain Horn Antenna  
(With Waveguide Input)

- Flange type: Multiple types available - see VT Flanges page
- Finish: Corrosion protection plus grey top coat

## Style 2 — Built-in Coaxial Input



## 【Specifications】

| Model No*       | Freq Range (GHz) | Gain** (dB) | 3dB Beam width** (Nom) | Dimensions (mm) |     |     | WG Type |      | Connector |
|-----------------|------------------|-------------|------------------------|-----------------|-----|-----|---------|------|-----------|
|                 |                  |             |                        | L               | W   | H   | IEC     | EIA  |           |
| VT100SGAG25N... | 8.20-12.40       | 25          | 10°                    | 760             | 250 | 180 | R100    | WR90 | N Type    |
| VT120SGAG25S... | 9.84-15.0        | 25          | 10°                    | 570             | 200 | 155 | R120    | WR75 | SMA       |
| VT140SGAG25S... | 11.9-18.0        | 25          | 10°                    | 540             | 175 | 120 | R140    | WR62 | SMA       |
| VT180SGAG25S... | 14.5-22.0        | 25          | 10°                    | 424             | 134 | 104 | R180    | WR51 | SMA       |
| VT220SGAG25K... | 17.6-26.7        | 25          | 10°                    | 375             | 120 | 85  | R220    | WR42 | K2.92mm   |
| VT260SGAG25K... | 21.7-33.0        | 25          | 10°                    | 313             | 92  | 70  | R260    | WR34 | K2.92mm   |
| VT320SGAG25K... | 26.5-40.0        | 25          | 10°                    | 259             | 80  | 56  | R320    | WR28 | K2.92mm   |

*\*Indicates Model Number. See Ordering Information for complete part number.*





**\*\*Gain and 3dB Beamwidth values have been calculated by computer simulation.**

## 【Ordering Information】

**Example Part No:** VT 100 SGAGH 25 N K

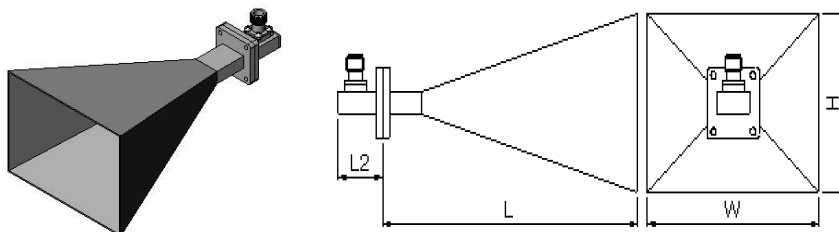
Vector Telecom ——— J=Male,K=Female

WG Type:R100 ——— Coax Connector Type:N=Type N,S=SMA,  
K=2.92mm,V=2.4mm,1.85=1.85mm

Product Type:Standard Gain Horn Antenna ——— Gain:25dB  
(With Built-in Coax Input)

- Finish: Corrosion protection plus grey top coat

## Style 3 — with Coaxial Connector



## 【Specifications】

| Model No*        | Freq<br>Range<br>(GHz) | Gain**<br>(dB) | 3dB<br>Beamwidth**<br>(Nom) | Dimensions (mm) |    |     |     | WG Type |      | Connector |
|------------------|------------------------|----------------|-----------------------------|-----------------|----|-----|-----|---------|------|-----------|
|                  |                        |                |                             | L               | L2 | W   | H   | IEC     | EIA  |           |
| VT100SGAG25+N... | 8.20-12.40             | 25             | 10°                         | 775             | 35 | 250 | 180 | R100    | WR90 | N Type    |
| VT120SGAG25+S... | 9.84-15.0              | 25             | 10°                         | 550             | 30 | 200 | 155 | R120    | WR75 | SMA       |
| VT140SGAG25+S... | 11.9-18.0              | 25             | 10°                         | 547             | 27 | 175 | 120 | R140    | WR62 | SMA       |
| VT180SGAG25+S... | 14.5-22.0              | 25             | 10°                         | 427             | 27 | 134 | 104 | R180    | WR51 | SMA       |
| VT220SGAG25+K... | 17.6-26.7              | 25             | 10°                         | 375             | 25 | 120 | 85  | R220    | WR42 | K2.92mm   |
| VT260SGAG25+K... | 21.7-33.0              | 25             | 10°                         | 327             | 27 | 92  | 70  | R260    | WR34 | K2.92mm   |
| VT320SGAG25+K... | 26.5-40.0              | 25             | 10°                         | 266             | 26 | 80  | 56  | R320    | WR28 | K2.92mm   |
| VT400SGAG25+K... | 26.5-40.0              | 25             | 10°                         | 236             | 31 | 66  | 46  | R400    | WR22 | K2.92mm   |

\*Indicates Model Number. See Ordering Information for complete part number.

\*\*Gain and 3dB Beamwidth values have been calculated by computer simulation

## 【Ordering Information】



**Example Part No:** VT 100 SGAH 25 +N K

Vector Telecom

WG Type: R100

Product Type: Standard Gain Horn Antenna  
(With Coax Connector)

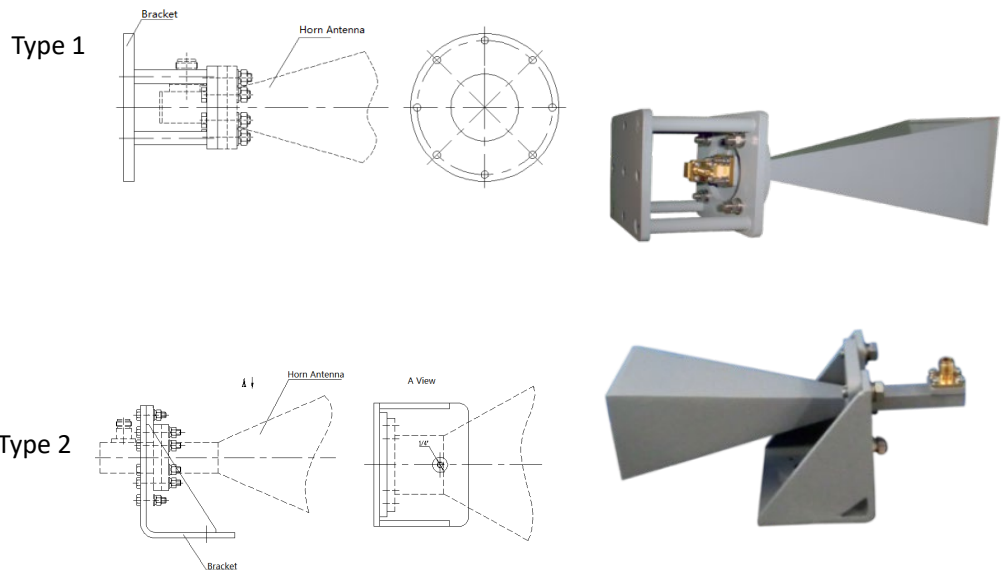
J=Male, K=Female

Coax Connector Type: N=Type N, S=SMA,  
K=2.92mm, V=2.4mm, 1.85=1.85mm

Gain: 25dB

- Finish: Corrosion protection plus grey top coat

## 27.1.5 Antenna Bracket for Standard Gain Horn Antenna



### 【Ordering Information】

**Example Part No:** VT ZJ G 100

Vector Telecom

Product Type: Antenna Bracket

WG Type: R100

Bracket type: L:L Style  
G:I-shaped

- Flange type: Multiple types available - see VT Flanges page
- Finish: Corrosion protection plus black top coat

## 27.2 Circular Polarization Standard Gain Antenna



### 【Specifications】

## Section 3

### Antennas

# 27

## Standard Gain Antenna



| Model No*       | Freq Range<br>(GHz) | Operating<br>Bandwidth | Gain Range<br>X (dB) | Axis Ratio<br>(dB) | VSWR  | Connector   |
|-----------------|---------------------|------------------------|----------------------|--------------------|-------|-------------|
| VT1040SGACPH10N | 1-4                 | 10%                    | 10                   | ≤1.5               | ≤1.6  | N Female    |
| VT4080SGACPH10N | 4-8                 | 10%                    | 10                   | ≤1.5               | ≤1.6  | N Female    |
| VT84SGACPHXN    | 7-10                | ≤5%                    | 10/15                | ≤0.5               | ≤1.5  | N Female    |
| VT84SGACPHX     | 7-10                | ≤5%                    | 10/15                | ≤0.5               | ≤1.3  | WG Port     |
| VT100SGACPHXN   | 8-12.4              | ≤5%                    | 10/15                | ≤0.5               | ≤1.5  | N Female    |
| VT100SGACPHX    | 8-12.4              | ≤5%                    | 10/15                | ≤0.5               | ≤1.3  | WG Port     |
| VT120SGACPHXN   | 10-15               | ≤5%                    | 10/15                | ≤0.5               | ≤1.6  | N Female    |
| VT120SGACPHX    | 10-15               | ≤5%                    | 10/15                | ≤0.5               | ≤1.3  | WG Port     |
| VT1040SGACPH10N | 1-4                 | 10%                    | 10                   | ≤1.5               | ≤1.6  | N Female    |
| VT4080SGACPH10N | 4-8                 | 10%                    | 10                   | ≤1.5               | ≤1.6  | N Female    |
| VT84SGACPHXN    | 7-10                | ≤5%                    | 10/15                | ≤0.5               | ≤1.5  | N Female    |
| VT84SGACPHX     | 7-10                | ≤5%                    | 10/15                | ≤0.5               | ≤1.3  | WG Port     |
| VT100SGACPHXN   | 8-12.4              | ≤5%                    | 10/15                | ≤0.5               | ≤1.5  | N Female    |
| VT100SGACPHX    | 8-12.4              | ≤5%                    | 10/15                | ≤0.5               | ≤1.3  | WG Port     |
| VT120SGACPHXN   | 10-15               | ≤5%                    | 10/15                | ≤0.5               | ≤1.6  | N Female    |
| VT120SGACPHX    | 10-15               | ≤5%                    | 10/15                | ≤0.5               | ≤1.3  | WG Port     |
| VT140SGACPHXS   | 12.4-18             | ≤5%                    | 10/15                | ≤0.5               | ≤1.6  | SMA Female  |
| VT140SGACPHX    | 12.4-18             | ≤5%                    | 10/15                | ≤0.5               | ≤1.3  | WG Port     |
| VT180SGACPHXS   | 15-22               | ≤5%                    | 10/15/20             | ≤0.5               | ≤1.6  | SMA Female  |
| VT180SGACPHX    | 15-22               | ≤5%                    | 10/15/20             | ≤0.5               | ≤1.35 | WG Port     |
| VT220SGACPHXK   | 15-22               | ≤5%                    | 10/15/20             | ≤0.5               | ≤1.6  | 2.92 Female |
| VT220SGACPHX    | 15-22               | ≤5%                    | 10/15/20             | ≤0.5               | ≤1.35 | WG Port     |
| VT260SGACPHXK   | 22-33               | ≤5%                    | 10/15/20             | ≤0.5               | ≤1.6  | 2.92 Female |
| VT260SGACPHX    | 22-33               | ≤5%                    | 10/15/20             | ≤0.5               | ≤1.35 | WG Port     |
| VT320SGACPHXK   | 26.5-40             | ≤5%                    | 10/15/20             | ≤0.5               | ≤1.6  | 2.92 Female |
| VT320SGACPHX    | 26.5-40             | ≤5%                    | 10/15/20             | ≤0.5               | ≤1.35 | WG Port     |
| VT400SGACPHX    | 33-50               | ≤5%                    | 10/15/20             | ≤1                 | ≤1.5  | WG Port     |
| VT500SGACPHX    | 40-60               | ≤5%                    | 10/15/20             | ≤1                 | ≤1.5  | WG Port     |
| VT620SGACPHX    | 50-75               | ≤5%                    | 10/15/20             | ≤1                 | ≤1.5  | WG Port     |
| VT740SGACPHX    | 60-90               | ≤5%                    | 10/15/20             | ≤1                 | ≤1.5  | WG Port     |
| VT900SGACPHX    | 75-110              | ≤5%                    | 10/15/20             | ≤1                 | ≤1.6  | WG Port     |

\*Indicates Model Number. See Ordering Information for complete part number.

### 【Ordering Information】



## Section 3

### Antennas

#### Example Part No: VT 100 SGACP N

Vector Telecom — Coax Connector Type: N=Type N,  
S=SMA, 2.92=K2.92mm  
WG Type: R100 — Product Type: Circular Polarization  
Standard Gain Antenna

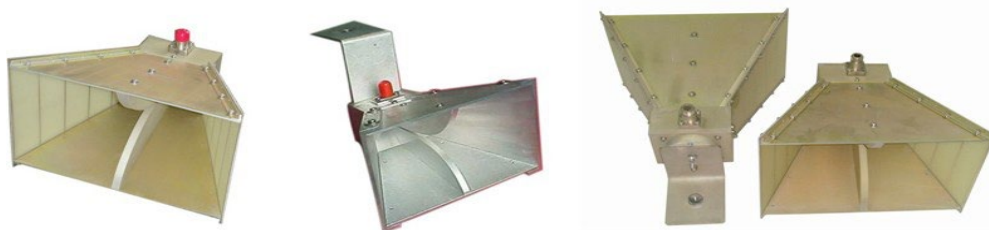
- Flange type: Multiple types available - see VT Flanges page
- Finish: Corrosion protection plus black top coat

# 27

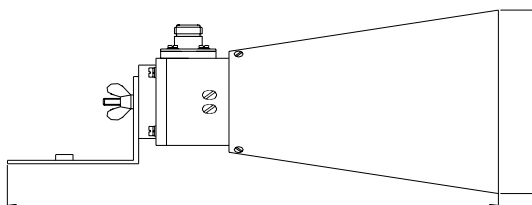
## Standard Gain Antenna



## 28 Wideband Double-ridged Horn Antenna



Vector Telecom manufactures a high quality line of dual-ridged horn antennas typically used for EMI testing, surveillance equipment, antenna gain and pattern measurement. Wideband dual-ridged horn antennas are linearly polarized with high Gain, low VSWR, lightweight, covering from 0.2GHz to 40GHz. Please contact us with your specification and discuss your needs with one of our sales engineers.



### 28.1 Wideband Double-ridged Horn Antenna

#### 【Specifications】

| Model No*         | Freq Range (GHz) | Gain (dB) | 3dB Beamwidth | VSWR (Max) | Dimensions (mm) |      |      | Input Coax Connector Type |
|-------------------|------------------|-----------|---------------|------------|-----------------|------|------|---------------------------|
|                   |                  |           |               |            | L               | W    | H    |                           |
| VT0110DRHA8N...   | 0.1-1            | 3~10      | 30°~80°       | 2.5        | 2250            | 2154 | 1423 | SMA                       |
| VT0220DRHA8N...   | 0.2-2            | 8~13      | 10°~65°       | 2.5        | 960             | 933  | 780  | N                         |
| VT0660DRHA10N...  | 0.6-6            | 4~15      | 10°~80°       | 2.5        | 415             | 306  | 221  | N                         |
| VT0840DRHA7N...   | 0.8-4            | 6~14      | 35°~65°       | 2.5        | 290             | 225  | 155  | SMA                       |
| VT1060DRHA10N...  | 1-6              | 6~13      | 20°~90°       | 2.5        | 158             | 164  | 114  | K2.4mm                    |
| VT10180DRHA10S... | 1-18             | 7~13      | 30°~80°       | 2.5        | 245             | 160  | 284  | SMA                       |
| VT10180DRHA10N... | 1.0-18.0         | 7~15      | 30°~80°       | 2.5        | 245             | 160  | 284  | N                         |
| VT10200DRHA10S... | 1-20             | 8~17      | 11°~80°       | 2.5        | 243             | 163  | 241  | SMA                       |
| VT20180DRHA17S... | 2-18             | 10~14     | 20°~50°       | 2.5        | 200             | 179  | 149  | SMA                       |



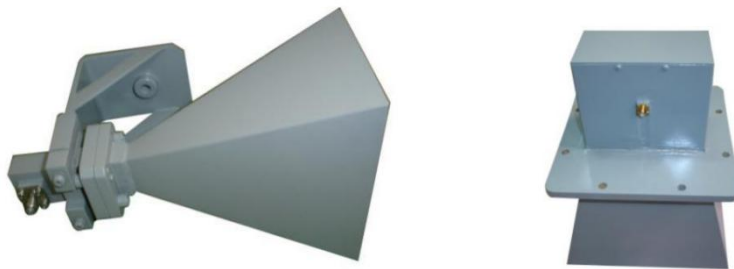


|                    |             |       |         |     |     |    |    |         |
|--------------------|-------------|-------|---------|-----|-----|----|----|---------|
| VT60180DRHA10S...  | 6-18        | 7~13  | 30°~55° | 2.5 | 140 | 63 | 43 | SMA     |
| VT80400DRHA15K     | 8-40        | 15~20 | 10°~30° | 2.5 | 105 | 28 | 23 | K2.92mm |
| VT180400DRHA16K... | 18.0 - 40.0 | 3~10  | 10°~20° | 2.5 | 132 | 50 | 38 | K2.92mm |

\*Indicates Model Number. See Ordering Information for complete part number.

### 28.2 Mini Wideband Double-ridged Horn Antenna

Mini, high performance ultra wideband double ridged horn antenna, smaller size, suitable for EMI/RFI test, EMC measurement, wideband monitoring, material analysis, and other areas application. In the design, it does technology processing to restrain the high mode. Have the high gain and low VSWR in the wide band, so it is very ideal for receiving low power signals or transmit medium-power signal. For the requirement of the higher gain, the horn antenna can be assumed to be parabolic reflector antenna feed to get the better directional resolution and gain.



#### 【Specifications】

| Model No*      | Freq Range<br>(GHz) | Gain<br>(dB) | Beam<br>Width | Dimensions<br>(mm) |     |    | VSWR | Connector   | Material |
|----------------|---------------------|--------------|---------------|--------------------|-----|----|------|-------------|----------|
|                |                     |              |               | L                  | W   | H  |      |             |          |
| VT20180DRHA8S  | 2-18                | 5~11         | 40°~80°       | 119                | 119 | 86 | ≤2.5 | SMA Female  | Al       |
| VT20245DRHA8S  | 2-24.5              | 5~13         | 40°~80°       | 119                | 119 | 86 | ≤2.5 | SMA Female  | Al       |
| VT180400DRHA8K | 18-40               | 5~13         | 40°~80°       | 90                 | 60  | 50 | ≤2.5 | 2.92 Female | Al       |

\*Indicates Model Number. See Ordering Information for complete part number.

#### 【Ordering Information】

**Example Part No:** VT 20180 DRHA 10 N  
 Vector Telecom ———  
 Freq Range:2-18GHz ———  
 Coax Connector Type: N=Type N,S=SMA, 2.92=K2.92mm ———  
 Antenna Gain:10dB ———  
 Product Type: Double-ridged Horn Antenna ———

- Finish: Corrosion protection plus black top coat

# 29

## Linear Polarization Horn Antenna



## 29 Linear Polarization Horn Antenna

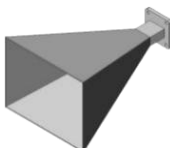
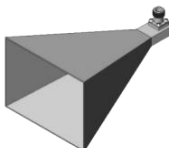
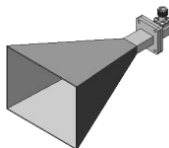
Vector Telecom manufactures a high quality line of linear polarization horn antenna. The common products are pyramidal horn antennas, conical horn antennas and lens antennas. Please call us with your specification and discuss your needs with one of our sales engineers.

### 29.1 Pyramidal Horn Antenna

Pyramid horn antenna is feeder by TE10 mode waveguide, and stimulated open metal pyramid horn to form radiation. Its advantage is when gain is less than 22 dB, horn antenna has a simple structure, E plane and H plane direction pattern and beam width can respectively control, has stable and reliable performance. The disadvantage is that when require the high gain, beam width is getting narrow, horn antenna length size that relative to the diameter, becomes very long and uncoordinated and inconvenient for use. Pyramid horn antenna can be input waveguide port, also can design with coaxial input directly, or input waveguide type horn + waveguide to coaxial input.

Pyramid horn antenna can be used as a separate transmit and receive antennas, can also be used as a reflector antenna feed source, or array antenna unit.

#### 【Product Type】

| Type      | With Waveguide Input Style                                                          | With Built-in Coaxial Input Style                                                    | With Coaxial Connector Style                                                          |
|-----------|-------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------|
| Model No* | HAA°×B°                                                                             | HAA°×B°N                                                                             | HAA°×B°+N                                                                             |
| Outline   |  |  |  |

#### Specifications】



Vector Telecom

# 29

## Linear Polarization Horn Antenna



| Model No*     | WG<br>Type<br>EIA | Freq<br>Range | Optional Beam<br>Width<br>Range(A°XB°) | VSWR  | Connector  | Material |
|---------------|-------------------|---------------|----------------------------------------|-------|------------|----------|
| VT3HAA°XB°N   | WR2300            | 0.32-0.49     | 30°~ 60°                               | ≤1.5  | N Female   | Al       |
| VT4HAA°XB°N   | WR2100            | 0.35-0.53     | 30°~ 60°                               | ≤1.5  | N Female   | Al       |
| VT5HAA°XB°N   | WR1800            | 0.41-0.62     | 30°~ 60°                               | ≤1.5  | N Female   | Al       |
| VT6HAA°XB°N   | WR1500            | 0.49-0.75     | 30°~60°                                | ≤1.5  | N Female   | Al       |
| VT8HAA°XB°N   | WR1150            | 0.64-0.98     | 20°~60°                                | ≤1.5  | N Female   | Al       |
| VT9HAA°XB°N   | WR975             | 0.75-1.15     | 20°~60°                                | ≤1.5  | N Female   | Al       |
| VT12HAA°XB°N  | WR770             | 0.96-1.46     | 20°~60°                                | ≤1.5  | N Female   | Al       |
| VT14HAA°XB°N  | WR650             | 1.13-1.73     | 20°~60°                                | ≤1.5  | N Female   | Al       |
| VT18HAA°XB°N  | WR510             | 1.45-2.20     | 20°~60°                                | ≤1.5  | N Female   | Al       |
| VT22HAA°XB°N  | WR430             | 1.72-2.61     | 20°~60°                                | ≤1.5  | N Female   | Al       |
| VT26HAA°XB°N  | WR340             | 2.17-3.30     | 20°~60°                                | ≤1.5  | N Female   | Al       |
| VT32HAA°XB°N  | WR284             | 2.60-3.95     | 20°~60°                                | ≤1.5  | N Female   | Al       |
| VT40HAA°XB°N  | WR229             | 3.22-4.90     | 20°~60°                                | ≤1.5  | N Female   | Al       |
| VT48HAA°XB°N  | WR187             | 3.94-5.99     | 20°~60°                                | ≤1.5  | N Female   | Al       |
| VT58HAA°XB°N  | WR159             | 4.64-7.05     | 20°~60°                                | ≤1.5  | N Female   | Al       |
| VT70HAA°XB°N  | WR137             | 5.38-8.17     | 20°~60°                                | ≤1.5  | N Female   | Al       |
| VT84HAA°XB°N  | WR112             | 6.57-9.99     | 20°~60°                                | ≤1.5  | N Female   | Al       |
| VT100HAA°XB°N | WR90              | 8.20-12.40    | 20°~60°                                | ≤1.5  | N Female   | Al       |
| VT120HAA°XB°N | WR75              | 9.84-15.0     | 20°~60°                                | ≤1.5  | N Female   | Al       |
| VT140HAA°XB°S | WR62              | 11.9-18.0     | 20°~60°                                | ≤1.5  | SMAFemale  | Al       |
| VT180HAA°XB°S | WR51              | 14.5-22.0     | 20°~60°                                | ≤1.5  | SMAFemale  | Cu       |
| VT220HAA°XB°K | WR42              | 17.6-26.7     | 20°~60°                                | ≤1.5  | 2.92Female | Cu       |
| VT260HAA°XB°K | WR34              | 21.7-33.0     | 20°~60°                                | ≤1.5  | 2.92Female | Cu       |
| VT320HAA°XB°K | WR28              | 26.5-40.0     | 20°~60°                                | ≤1.5  | 2.92Female | Cu       |
| VT400HAA°XB°  | WR22              | 32.9-50.1     | 20°~60°                                | ≤1.35 | FUGP       | Cu       |
| VT500HAA°XB°  | WR19              | 39.2-59.6     | 20°~60°                                | ≤1.35 | FUGP       | Cu       |
| VT620HAA°XB°  | WR15              | 49.8-75.8     | 20°~60°                                | ≤1.35 | FUGP       | Cu       |
| VT740HAA°XB°  | WR12              | 60.5-91.9     | 20°~60°                                | ≤1.35 | FUGP       | Cu       |
| VT900HA A°XB° | WR10              | 73.8-112      | 20°~60°                                | ≤1.35 | FUGP       | Cu       |
| VT1200HAA°XB° | WR8               | 92.2-140      | 20°~60°                                | /     | FUGP       | Cu       |



|               |     |         |         |   |      |    |
|---------------|-----|---------|---------|---|------|----|
| VT1400HA AXB° | WR7 | 113-173 | 20°~60° | / | FUGP | Cu |
| VT1800HA AXB° | WR5 | 145-220 | 20°~60° | / | FUGP | Cu |
| VT2200HA AXB° | WR4 | 172-261 | 20°~60° | / | FUGP | Cu |
| VT2600HA AXB° | WR3 | 217-330 | 20°~60° | / | FUGP | Cu |

\*Indicates Model Number. See Ordering Information for complete part number.

## 【Ordering Information】

**Example Part No:** VT 100 HA A° X B° N  
 Vector Telecom  
 Freq Range: 2-18GHz  
 Product Type: Horn Antenna  
 Coax Connector Type: N=Type N, S=SMA, 2.92=K2.92mm  
 H-Width: B°  
 E-Width: A°

- Flange type: Multiple types available - see VT Flanges page
- Finish: Corrosion protection plus black top coat

## 29.2 Conical Horn Antenna

Conical horn antenna series use electroforming or whole processing and work in linear polarization, can change polarization mode through a combination of circular polarizer, and make it work in circular polarization.



## 【Specifications】

| Model No*    | Freq Range (GHz) | Operating Bandwidth (%) | Optional Gain Range X(dB) | VSWR  | Circular Waveguide Inner Diameter (mm) | Material | Finish              |
|--------------|------------------|-------------------------|---------------------------|-------|----------------------------------------|----------|---------------------|
| VT114.58CHAX | 1.76-2.42        | 20~40                   | ≤13                       | ≤1.50 | Φ114.58                                | Al       | Chromate conversion |
| VT97.87CHAX  | 2.1-2.8          | 20~40                   | ≤13                       | ≤1.50 | Φ97.87                                 | Al       | Chromate conversion |
| VT83.62CHAX  | 2.45-3.3         | 20~40                   | ≤13                       | ≤1.50 | Φ83.62                                 | Al       | Chromate conversion |
| VT71.42CHAX  | 2.83-3.88        | 20~40                   | ≤13                       | ≤1.50 | Φ71.42                                 | Al       | Chromate conversion |
| VT51.99CHAX  | 3.9-5.3          | 20~40                   | ≤15                       | ≤1.50 | Φ51.99                                 | Al       | Chromate conversion |
| VT44.45CHAX  | 4.55-6.23        | 20~40                   | ≤15                       | ≤1.50 | Φ44.45                                 | Al       | Chromate conversion |
| VT38.1CHAX   | 5.3-7.3          | 20~40                   | ≤15                       | ≤1.50 | Φ38.1                                  | Al       | Chromate conversion |



|              |           |       |     |       |         |    |                     |
|--------------|-----------|-------|-----|-------|---------|----|---------------------|
| VT32.537CHAX | 6.3-8.5   | 20~40 | ≤15 | ≤1.50 | Φ32.537 | Al | Chromate conversion |
| VT27.788CHAX | 7.3-9.5   | 20~40 | ≤18 | ≤1.50 | Φ27.788 | Al | Chromate conversion |
| VT23.825CHAX | 8.5-11.5  | 20~40 | ≤18 | ≤1.50 | Φ23.825 | Al | Chromate conversion |
| VT17.415CHAX | 11.6-15.9 | 20~40 | ≤18 | ≤1.50 | Φ17.415 | Al | Chromate conversion |
| VT15.088CHAX | 13.4-18.4 | 20~40 | ≤18 | ≤1.50 | Φ15.088 | Al | Chromate conversion |
| VT12.7CHAX   | 15.9-21.8 | 20~40 | ≤20 | ≤1.50 | Φ12.7   | Cu | Silver Plating      |
| VT9.525CHAX  | 21.2-29.1 | 20~40 | ≤20 | ≤1.50 | Φ9.525  | Cu | Silver Plating      |
| VT8.331CHAX  | 24.3-33.2 | 20~40 | ≤20 | ≤1.50 | Φ8.331  | Cu | Silver Plating      |
| VT7.137CHAX  | 28.3-38.8 | 20~40 | ≤22 | ≤1.50 | Φ7.137  | Cu | Silver Plating      |
| VT5.563CHAX  | 36.4-49.8 | 20~40 | ≤22 | ≤1.50 | Φ5.563  | Cu | Gold Plating        |
| VT4.369CHAX  | 46.3-63.5 | 20~40 | ≤22 | ≤1.50 | Φ4.369  | Cu | Gold Plating        |
| VT3.581CHAX  | 56.6-77.5 | 20~40 | ≤24 | ≤1.50 | Φ3.581  | Cu | Gold Plating        |
| VT3.175CHAX  | 63.5-87.2 | 20~40 | ≤24 | ≤1.50 | Φ3.17   | Cu | Gold Plating        |
| VT2.388CHAX  | 84.8-116. | 20~40 | ≤24 | ≤1.50 | Φ2.388  | Cu | Gold Plating        |
| VT1.91CHAX   | 115-140   | 20~40 | ≤24 | ≤1.50 | Φ1.91   | Cu | Gold Plating        |
| VT1.50CHAX   | 140-160   | 20~40 | ≤24 | ≤1.50 | Φ1.50   | Cu | Gold Plating        |
| VT1.00CHAX   | 200-300   | 20~40 | ≤24 | ≤1.50 | Φ1.00   | Cu | Gold Plating        |
| VT0.7CHAX    | 280-400   | 20~40 | ≤24 | ≤1.50 | Φ0.7    | Cu | Gold Plating        |

\*Indicates Model Number. See Ordering Information for complete part number.

## 【Ordering Information】

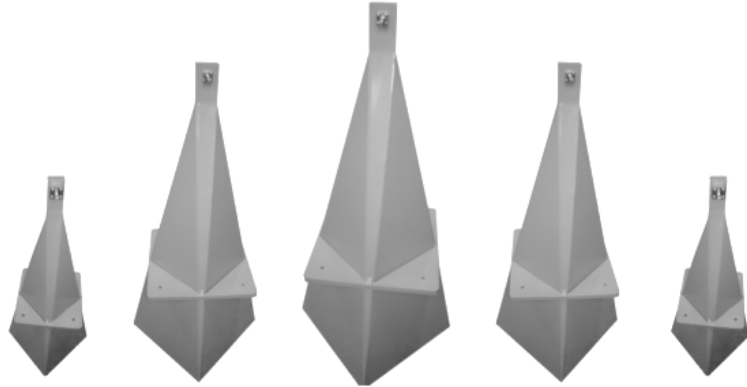
**Example Part No:** VT 114.58 CHA N  
 Vector Telecom  
 Circular WG Inner Diameter: 114.58mm  
 Product Type: Conical Horn Antennas  
 Coax Connector Type: N=Type N, S=SMA, 2.92=K2.92mm

- Flange type: Multiple types available - see VT Flanges page
- Finish: Corrosion protection plus black top coat

## 29.3 Low Side Lobe Diagonal Horn Antenna

The low side lobe diagonal horn antenna series is composed of electroformed rectangular-diagonal square waveguide conversion and square horn antenna. It has low side lobe level and equalized E-plane and H-plane beam width on both E and H plane. The frequency of the low side lobe diagonal horn antenna series covers each waveguide

frequency band within 2,000 to 60,000 MHz, and the gain is optional from 10 to 25 dB. It should be emphasized that the low side lobes of the diagonal horn only appear on the E and H planes, when they deviate from these two angles, the phenomenon of low side lobes becomes significantly worse.



### 【Specifications】

| Model No*    | Freq Range (GHz) | Gain (dB) | Sidelobe Level (dB) |         | VSWR | Connector   | Diagonal length of antenna aperture (mm) | Length (mm) | Material |
|--------------|------------------|-----------|---------------------|---------|------|-------------|------------------------------------------|-------------|----------|
|              |                  |           | E plane             | H plane |      |             |                                          |             |          |
| VT22RTHA15N  | 1.8-2.6          | 15        | <-25                | <-30    | ≤1.5 | N Female    | 420                                      | 350         | Aluminum |
| VT26RTHA15N  | 2.2-3.3          | 15        | <-25                | <-30    | ≤1.5 | N Female    | 350                                      | 320         | Aluminum |
| VT32RTHA15N  | 2.6-4.0          | 15        | <-25                | <-30    | ≤1.5 | N Female    | 290                                      | 260         | Aluminum |
| VT40RTHA18N  | 3.2-4.9          | 18        | <-25                | <-30    | ≤1.5 | N Female    | 325                                      | 325         | Aluminum |
| VT48RTHA18N  | 4.0-5.9          | 18        | <-25                | <-30    | ≤1.5 | N Female    | 225                                      | 225         | Aluminum |
| VT58RTHA20N  | 4.9-7.0          | 20        | <-25                | <-30    | ≤1.5 | N Female    | 270                                      | 334         | Aluminum |
| VT70RTHA20N  | 5.9-8.2          | 20        | <-25                | <-30    | ≤1.5 | N Female    | 225                                      | 256         | Aluminum |
| VT84RTHA20N  | 7.0-10.0         | 20        | <-25                | <-30    | ≤1.5 | N Female    | 188                                      | 200         | Aluminum |
| VT100RTHA20N | 8.2-12.5         | 20        | <-25                | <-30    | ≤1.5 | N Female    | 135.77                                   | 160         | Aluminum |
| VT100RTHA25N | 8.2-12.5         | 25        | <-25                | <-30    | ≤1.5 | N Female    | 273                                      | 500         | Aluminum |
| VT120RTHA20N | 10.0-15.0        | 20        | <-25                | <-30    | ≤1.5 | N Female    | 132                                      | 150         | Aluminum |
| VT140RTHA20S | 12.5-18.0        | 20        | <-25                | <-30    | ≤1.5 | SMA Female  | 113.14                                   | 135.5       | Aluminum |
| VT180RTHA22S | 14.5-22.0        | 22        | <-25                | <-30    | ≤1.5 | SMA Female  | 215                                      | 260         | Copper   |
| VT220RTHA22K | 18.0-26.5        | 22        | <-25                | <-30    | ≤1.5 | 2.92 Female | 175                                      | 200         | Copper   |
| VT260RTHA22K | 22.0-33.0        | 22        | <-25                | <-30    | ≤1.5 | 2.92 Female | 150                                      | 170         | Copper   |

# 29

## Linear Polarization Horn Antenna





|              |           |    |      |      |       |             |     |     |        |
|--------------|-----------|----|------|------|-------|-------------|-----|-----|--------|
| VT320RTHA22K | 26.5-40.0 | 22 | <-25 | <-30 | ≤1.5  | 2.92 Female | 110 | 120 | Copper |
| VT400RTHA22V | 33.0-50.0 | 22 | <-25 | <-30 | ≤1.35 | V2.4 Female | 95  | 100 | Copper |
| VT500RTHA22V | 40.0-59.0 | 22 | <-25 | <-30 | ≤1.35 | V2.4 Female | 75  | 90  | Copper |

\*Indicates Model Number. See Ordering Information for complete part number.

## 【Ordering Information】

**Example Part No:** VT 100 RTHA 20 N  
 Vector Telecom ———  
 WG Type: R100 ———  
 Product Type: Low Side Lobe Diagonal Horn Antennas ———  
 Coax Connector Type: N=Type N, S=SMA, 2.92=K2.92mm  
 Antenna Gain: 20dB

- Finish: Corrosion protection plus black top coat

## 29.4 Wideband Horn Antenna

Wideband horn antenna's bandwidth is between the full waveguide frequency (40%) and octave bandwidth, usually it refers to the wideband horn antenna within the octave. Therefore, its performance is slightly lower than ordinary horn antenna, and better than ultra-wideband antenna.



## 【Specifications】

| Model No*     | Freq Range (GHz) | Gain (dB) | Beam Width | VSWR | Dimension (mm) W*H*L | Connector   | Material |
|---------------|------------------|-----------|------------|------|----------------------|-------------|----------|
| VT1020HA15N   | 1-2              | 10~15     | 35°~55°    | ≤1.5 | 456*386*583          | N Female    | Al       |
| VT2040HA15N   | 2-4              | 10~15     | 15°~55°    | ≤1.5 | 367*267*543          | N Female    | Al       |
| VT4080HA15N   | 4-8              | 10~15     | 15°~55°    | ≤1.5 | 144*104*246          | N Female    | Al       |
| VT80180HA20N  | 8-18             | 15~20     | 15°~55°    | ≤1.5 | 133*103*247          | N Female    | Al       |
| VT180400HA20K | 18-40            | 15~20     | 15°~55°    | ≤1.5 | 68*51*174            | 2.92 Female | Cu       |

\*Indicates Model Number. See Ordering Information for complete part number.



## 【Ordering Information】

**Example Part No:** VT 1020 HA 15 N  
 Vector Telecom  
 Freq Range: 1-2GHz  
 Product Type: Horn Antennas  
 Coax Connector Type: N=Type N,  
 S=SMA, 2.92=K2.92mm  
 Antenna Gain: 15dB

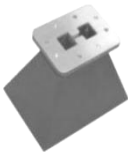
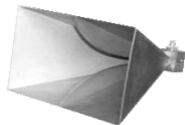
- Flange type: Multiple types available - see VT Flanges page
- Finish: Corrosion protection plus black top coat

## 29.5 Octave Double-ridged Horn Antenna

Octave Double-ridged Horn Antennas use the international standard of double ridged waveguide interface, working frequency range covers all band double ridged waveguide. Within 0.5-40 GHz, each corresponding double ridged waveguide frequencies, VT has a corresponding broadband horn antenna and matches the different gain requirements. Each horn antenna will provide gain vs frequency calibration curve, the gain value error is less than 0.7 dB.

This series of antenna has the three gain specifications of 10dB, 13dB and 15dB. It can be customized according to requirements.

### 【Product Type】

| Type    | WG Input                                                                            | Built-in Coaxial Input                                                               | With Coaxial Connector                                                                |
|---------|-------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------|
| Model   | DRHAX                                                                               | DRHAX...                                                                             | DRHAX+...                                                                             |
| Outline |  |  |  |

### 【DRHAX... Specifications】

| Model No*    | WG Type | Freq Range | Gain (dB) | Beam Width | VSWR | Connector | Material |
|--------------|---------|------------|-----------|------------|------|-----------|----------|
|              | EIA     |            |           |            |      |           |          |
| VT84DRHA10N  | WRD84   | 0.84-2.0   | 5-12      | 30°~70°    | ≤2   | N Female  | Al       |
| VT150DRHA10N | WRD150  | 1.5-3.6    | 8-12      | 30°~60°    | ≤2   | N Female  | Al       |
| VT200DRHA10N | WRD200  | 2.0-4.8    | 8-12      | 30°~60°    | ≤2   | N Female  | Al       |
| VT250DRHA10N | WRD250  | 2.6-7.8    | 8-12      | 30°~60°    | ≤2   | N Female  | Al       |
| VT350DRHA10N | WRD350  | 3.5-8.2    | 8-12      | 30°~60°    | ≤2   | N Female  | Al       |



|               |        |           |      |         |    |             |    |
|---------------|--------|-----------|------|---------|----|-------------|----|
| VT475DRHA10N  | WRD475 | 4.75-11.0 | 8-12 | 30°~60° | ≤2 | N Female    | Al |
| VT500DRHA10S  | WRD500 | 5.0-18.0  | 8-12 | 30°~60° | ≤2 | SMA Female  | Al |
| VT580DRHA10S  | WRD580 | 5.8-16.0  | 8-12 | 30°~60° | ≤2 | SMA Female  | Al |
| VT650DRHA10S  | WRD650 | 6.5-18.0  | 8-12 | 30°~60° | ≤2 | SMA Female  | Al |
| VT750DRHA10S  | WRD750 | 7.5-18.0  | 8-12 | 30°~60° | ≤2 | SMA Female  | Al |
| VT700DRHA10S  | WRD700 | 7.0-18.5  | 8-12 | 30°~60° | ≤2 | SMA Female  | Al |
| VT1100DRHA10S | WRD110 | 11.0-26.5 | 8-12 | 30°~60° | ≤2 | SMA Female  | Cu |
| VT1800DRHA10K | WRD180 | 18.0-40.0 | 8-12 | 30°~60° | ≤2 | 2.92 Female | Cu |

\*Indicates Model Number. See Ordering Information for complete part number.

### 【Ordering Information】

**Example Part No:** VT 650 DRHA 10 N  
 Vector Telecom  
 WG Type: WRD650  
 Product Type: Double-ridged Horn Antennas  
 Coax Connector Type: N=Type N, S=SMA, 2.92=K2.92mm  
 Antenna Gain: 10dB

- Flange type: Multiple types available - see VT Flanges page
- Finish: Corrosion protection plus black top coat

## 29.6 Dual Linear Polarization Horn Antenna



Double polarization horn antenna can use OMT and conical horn scheme, and the realization of the OMT form is divided into two methods, one is OMT by routine, its design and process is simple, the bandwidth is narrow; another is using symmetry feeder structure form of OMT, its disadvantage is that design and process is complicated, advantage is that can achieve 40% bandwidth, polarization isolation can get more than 30dB.

### 【Specifications】

| Model No* | WG Type<br>EIA | Freq<br>Range<br>(GHz) | Working<br>Bandwidth | Gain<br>X(dB) | Polarization<br>Isolation<br>(dB) | VSWR | Connector | Material |
|-----------|----------------|------------------------|----------------------|---------------|-----------------------------------|------|-----------|----------|
|-----------|----------------|------------------------|----------------------|---------------|-----------------------------------|------|-----------|----------|

## Section 3

### Antennas

# 29

## Linear Polarization Horn Antenna



|             |       |           |      |          |     |      |             |    |
|-------------|-------|-----------|------|----------|-----|------|-------------|----|
| VT84DPHAXN  | WR112 | 7-10      | ≤5%  | 10/15    | ≥20 | ≤1.5 | N Female    | Al |
|             |       |           | ≤40% |          | ≥30 |      |             |    |
| VT100DPHAXN | WR90  | 8-12.4    | ≤5%  | 10/15    | ≥20 | ≤1.5 | N Female    | Al |
|             |       |           | ≤40% |          | ≥30 |      |             |    |
| VT120DPHAXN | WR75  | 10-15     | ≤5%  | 10/15    | ≥20 | ≤1.6 | N Female    | Al |
|             |       |           | ≤40% |          | ≥30 |      |             |    |
| VT140DPHAXS | WR62  | 12-18     | ≤5%  | 10/15    | ≥20 | ≤1.6 | SMA Female  | Al |
|             |       |           | ≤40% |          | ≥30 |      |             |    |
| VT180DPHAXS | WR51  | 15-22     | ≤5%  | 10/15/20 | ≥20 | ≤1.6 | SMA Female  | Cu |
|             |       |           | ≤40% |          | ≥30 |      |             |    |
| VT220DPHAXK | WR42  | 17.6-26.7 | ≤5%  | 10/15/20 | ≥20 | ≤1.6 | 2.92 Female | Cu |
|             |       |           | ≤40% |          | ≥30 |      |             |    |
| VT260DPHAXK | WR34  | 22-33     | ≤5%  | 10/15/20 | ≥20 | ≤1.6 | 2.92 Female | Cu |
|             |       |           | ≤40% |          | ≥30 |      |             |    |
| VT320DPHAXK | WR28  | 26.5-40   | ≤5%  | 10/15/20 | ≥20 | ≤1.6 | 2.92 Female | Cu |
|             |       |           | ≤40% |          | ≥30 |      |             |    |
| VT400DPHAX  | WR22  | 33-50     | ≤5%  | 10/15/20 | ≥20 | ≤1.5 | WR22        | Cu |
|             |       |           | ≤40% |          | ≥30 |      |             |    |
| VT500DPHAX  | WR19  | 40-60     | ≤5%  | 10/15/20 | ≥20 | ≤1.5 | WR19        | Cu |
|             |       |           | ≤40% |          | ≥30 |      |             |    |
| VT620DPHAX  | WR15  | 50-75     | ≤5%  | 10/15/20 | ≥20 | ≤1.5 | WR15        | Cu |
|             |       |           | ≤40% |          | ≥30 |      |             |    |
| VT740DPHAX  | WR12  | 60-90     | ≤5%  | 10/15/20 | ≥20 | ≤1.5 | WR12        | Cu |
|             |       |           | ≤40% |          | ≥30 |      |             |    |
| VT900DPHAX  | WR10  | 75-110    | ≤5%  | 10/15/20 | ≥20 | ≤1.6 | WR10        | Cu |
|             |       |           | ≤40% |          | ≥30 |      |             |    |

*\*Indicates Model Number. See Ordering Information for complete part number.*

### 【Ordering Information】



**Example Part No:** VT 650 DPHA 10 N  
 Vector Telecom  
 WG Type: WRD650  
 Product Type: Dual Linear Polarization  
 Horn Antennas  
 Coax Connector Type: N=Type N,  
 S=SMA, 2.92=K2.92mm  
 Antenna Gain:10dB

- Flange type: Multiple types available - see VT Flanges page
- Finish: Corrosion protection plus black top coat

## 29.7 Ultra Broadwall Dual Linear Polarization Four Ridged Horn Antenna

In EMC, EMI, and antenna measurements, multi-polarization function requirement is more and more. The double polarization four ridged horn antenna series Vector Telecom researched and developed can work for you. In addition, with broadband bridge can make the antenna series to broadband double circular polarized antenna. This series of antenna cover octave frequency bandwidth, and even as high as dozens of octave bandwidth, the polarization isolation is > 20 dB.



### 【Specifications】

| Model No*       | Operating Bandwidth (GHz) | Gain (dB) | VSWR | Polarization Isolation (dB) | Dimensions (mm) |     |     | Connector   |
|-----------------|---------------------------|-----------|------|-----------------------------|-----------------|-----|-----|-------------|
|                 |                           |           |      |                             | W               | H   | L   |             |
| VT0840DPHA6N    | 0.8-4                     | 6~10      | ≤2.5 | ≥20                         | 250             | 250 | 400 | N Female    |
| VT1040DPHAXN    | 1-4                       | 6~10      | ≤2.5 | ≥20                         | 280             | 280 | 420 | N Female    |
| VT20180DPHA6S   | 2-18                      | 6~16      | ≤2.5 | ≥20                         | 120             | 120 | 169 | SMA Female  |
| VT180400DPHA16K | 18-40                     | 14~17     | ≤2.5 | ≥20                         | Φ63x146         |     |     | 2.92 Female |
| VT260400DPHA18K | 26-40                     | 18~20     | ≤2.5 | ≥20                         | Φ46.5x135       |     |     | 2.92 Female |

\*Indicates Model Number. See Ordering Information for complete part number.



## 【Ordering Information】

**Example Part No:** VT 1040 DPHA 10 N

Vector Telecom

Freq Range: 1-4GHz

Product Type: Dual Linear Polarization  
Horn Antennas

Coax Connector Type: N=Type N,  
S=SMA, 2.92=K2.92mm

Antenna Gain: 10dB

- Flange type: Multiple types available - see VT Flanges page
- Finish: Corrosion protection plus black top coat

## 29.8 Open Boundary Dual Linear Polarization Four Ridged Horn Antenna

Open Boundary Dual Linear Polarization Four Ridged Horn Antennas is using the latest design of open borders, due to the opening of the border, the antenna's working band can expand to the low end, compared the same size of four ridged horn antenna with boundary between, the antenna performance is improved, and the size of the compression also makes change sensitivity of the antenna phase center decline along with the change of frequency.



## 【Specifications】

| Model No*          | VT0460DPOBHA10S | VT0880DPOBHA8S | VT30180DPOBHA10S |
|--------------------|-----------------|----------------|------------------|
| Freq Range         | 0.4 - 6 GHz     | 0.8 - 8 GHz    | 3 - 18 GHz       |
| Gain               | 4-13dB          | 2-10dB         | 6-14dB           |
| VSWR               | ≤ 3.0           | ≤ 3.0          | ≤ 3.0            |
| Isolation (dB)     | ≥20 dB          | ≥20 dB         | ≥20 dB           |
| Dimensions (W×H×L) | 500×500×550mm   | 350×350×400mm  | 175×175×200mm    |
| Connector          | SMA Female      | SMA Female     | SMA Female       |

\*Indicates Model Number. See Ordering Information for complete part number.



## 【Ordering Information】

**Example Part No:** VT 0880 DPOBHA 10 S

Vector Telecom  
Freq Range: 0.8-8GHz  
Product Type: Open Boundary Dual Linear Polarization Four Ridged Horn Antennas

Coax Connector Type: N=Type N, S=SMA, 2.92=K2.92mm  
Antenna Gain: 10dB

Flange type: Multiple types available - see VT Flanges page

- Finish: Corrosion protection plus black top coat

## 29.9 Lens Antenna

Lens antenna in working principle is similar to parabolic reflector antenna, are based on the principle of optical design. Its design principle is that the lens antenna's calibre size must be greater than the wavelength. Lens material requires stable dielectric constant, small dielectric loss, easy to forming, and lighter in weight.

Lens antenna has a conical horn lens antenna, pyramid horn lens antenna, feed radiation type lens antenna, spot focusing lens antenna, a metamaterial lens antenna, etc. In order to reduce the weight of the lens, in narrow-band application it adopts zoned lenses or a metamaterial lens design method.

### 29.9.1 Conical Horn Lens Antenna

Low sidelobe lens horn antenna is composed of conical horn or conical corrugated horn and planoconvex lens. It is characterized by short axial dimensions (versus ordinary horn), low sidelobe level, working in linear polarization, when increase the VTCWPS90° type circular waveguide polarization phase shifter, can make its work in the circular polarization.



## 【Specifications】



| Model No*   | WG Type<br>EIA | Freq<br>Range<br>(GHz) | Gain<br>(dB) | Sidelobe<br>Level (dB) |            | Beam<br>Width<br>(°) | VSW<br>R | Interface | Antenna<br>Diameter<br>(Φmm) | Length<br>(mm) |
|-------------|----------------|------------------------|--------------|------------------------|------------|----------------------|----------|-----------|------------------------------|----------------|
|             |                |                        |              | E<br>plane             | H<br>plane |                      |          |           |                              |                |
| VT100LHA250 | WR90           | 8.2-12.4               | 25           | ≤-15                   | ≤-26       | 7~10                 | ≤2.5     | FBP-100   | 250                          | 270            |
| VT120LHA250 | WR75           | 10.0-15.0              | 26           | ≤-15                   | ≤-26       | 7~10                 | ≤2.5     | FBP-120   | 250                          | 270            |
| VT140LHA150 | WR62           | 12.5-18.0              | 23           | ≤-15                   | ≤-26       | 7~10                 | ≤2.5     | FBP-140   | 150                          | 170            |
| VT140LHA200 | WR62           | 12.5-18.0              | 26           | ≤-15                   | ≤-26       | 5~8                  | ≤2.5     | FBP-140   | 200                          | 220            |
| VT140LHA250 | WR62           | 12.4-18.0              | 28           | ≤-15                   | ≤-26       | 3~6                  | ≤2.5     | FBP-140   | 250                          | 270            |
| VT180LHA100 | WR51           | 14.5-22.0              | 22           | ≤-15                   | ≤-26       | 9~12                 | ≤2.5     | FBP-180   | 100                          | 120            |
| VT180LHA150 | WR51           | 14.5-22.0              | 25           | ≤-15                   | ≤-26       | 6~9                  | ≤2.5     | FBP-180   | 150                          | 170            |
| VT180LHA200 | WR51           | 14.5-22.0              | 28           | ≤-15                   | ≤-26       | 4~7                  | ≤2.5     | FBP-180   | 200                          | 220            |
| VT220LHA80  | WR42           | 18.0-26.5              | 21           | ≤-15                   | ≤-26       | 9~12                 | ≤2.5     | FBP-220   | 80                           | 100            |
| VT220LHA100 | WR42           | 18.0-26.5              | 23           | ≤-15                   | ≤-26       | 7~10                 | ≤2.5     | FBP-220   | 100                          | 120            |
| VT220LHA150 | WR42           | 18.0-26.5              | 27           | ≤-15                   | ≤-26       | 4~7                  | ≤2.5     | FBP-220   | 150                          | 170            |
| VT220LHA200 | WR42           | 18.0-26.5              | 29           | ≤-15                   | ≤-26       | 3~6                  | ≤2.5     | FBP-220   | 200                          | 220            |
| VT260LHA50  | WR34           | 22.0-33.0              | 19           | ≤-15                   | ≤-26       | 12~16                | ≤2.5     | FBP-260   | 50                           | 80             |
| VT260LHA80  | WR34           | 22.0-33.0              | 23           | ≤-15                   | ≤-26       | 7~10                 | ≤2.5     | FBP-260   | 80                           | 100            |
| VT260LHA100 | WR34           | 22.0-33.0              | 25           | ≤-15                   | ≤-26       | 6~9                  | ≤2.5     | FBP-260   | 100                          | 120            |
| VT260LHA150 | WR34           | 22.0-33.0              | 29           | ≤-15                   | ≤-26       | 3~6                  | ≤2.5     | FBP-260   | 150                          | 170            |
| VT260LHA200 | WR34           | 22.0-33.0              | 31           | ≤-15                   | ≤-26       | 2~4                  | ≤2.5     | FBP-260   | 200                          | 220            |
| VT320LHA50  | WR28           | 26.5-40.0              | 21           | ≤-15                   | ≤-26       | 10~13                | ≤2.5     | FBP-320   | 50                           | 80             |
| VT320LHA80  | WR28           | 26.5-40.0              | 25           | ≤-15                   | ≤-26       | 6~9                  | ≤2.5     | FBP-320   | 80                           | 100            |
| VT320LHA100 | WR28           | 26.5-40.0              | 27           | ≤-15                   | ≤-26       | 4~7                  | ≤2.5     | FBP-320   | 100                          | 120            |
| VT320LHA150 | WR28           | 26.5-40.0              | 31           | ≤-15                   | ≤-26       | 3~5                  | ≤2.5     | FBP-320   | 150                          | 170            |
| VT320LHA200 | WR28           | 26.5-40.0              | 33           | ≤-15                   | ≤-26       | 2~4                  | ≤2.5     | FBP-320   | 200                          | 220            |

\*Indicates Model Number. See Ordering Information for complete part number.

### 【Ordering Information】

**Example Part No:** VT 100 LHA 250

Vector Telecom ——— Antenna Diameter: 250mm  
WG Type: R100 ——— Product Type: Conical Horn Lens Antennas

- Flange type: Multiple types available - see VT Flanges page
- Finish: Corrosion protection plus black top coat



## 29.9.2 Pyramidal Horn Lens Antennas

Horn lens antenna can be composed of pyramidal Horn and planoconvex lens. It is characterized by short axial dimensions (versus ordinary horn), low sidelobe level, working in linear polarization, antenna size can be customized according to the requirements. The disadvantage is that increasing the weight of the lens.



### 【Specifications】

| Model No*   | WG Type<br>EIA | Freq<br>Range<br>(GHz) | Gain<br>(dB) | Sidelobe Level<br>(dB) |      | VSWR | Interface | Antenna<br>Diameter<br>(mm) | Length<br>(mm) |
|-------------|----------------|------------------------|--------------|------------------------|------|------|-----------|-----------------------------|----------------|
|             |                |                        |              | E                      | H    |      |           |                             |                |
| VT140LHA20A | WR62           | 11.9-18.0              | 20           | ≤-15                   | ≤-26 | ≤2.5 | FBP-140   | 120×90                      | 205            |
| VT260LHA25A | WR34           | 21.7-33.0              | 25           | ≤-15                   | ≤-26 | ≤2.5 | FBP-260   | 89×89                       | 175            |

\*Indicates Model Number. See Ordering Information for complete part number.

### 【Ordering Information】

**Example Part No:** VT 140 LHA 20 A

Vector Telecom ——— Material: A=Aluminum, C=Copper  
WG Type: R140 ——— Antenna Diameter: 250mm  
Product Type: Conical Horn Lens Antennas

- Flange type: Multiple types available - see VT Flanges page
- Finish: Corrosion protection plus black top coat

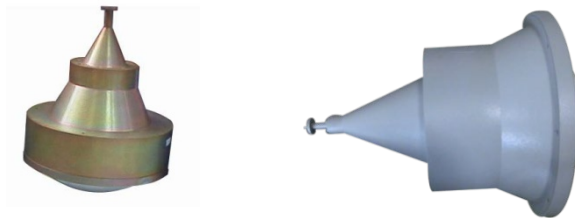
## 29.9.3 Point Focusing Horn Lens Antenna

Point focusing lens antenna is composed of conical horn or conical corrugated horn and convex lens. Its characteristic is beam forms a focal spot under the designed focus. The focal length and diameter size can be customized according to the customer requirements. When the focus of the two point focusing lens antenna overlaps, the transmission loss between the two antennas is minimum. Because the area nearby intersection point is lesser, it is one of the best ways to



study microwave potter permeability and reflection characteristics of special materials and substances in a local.

Note that the electrical parameters of the point focusing lens antenna cannot define and test in accordance with the general antenna. In the absence of the definition of beam width and antenna gain, so their electrical parameters are mainly: operating frequency range, focal length, and the focal spot size.



### 【Specifications】

| Model No*        | WG Type<br>EIA | Freq Range<br>(GHz) | Antenna Diameter<br>(Φmm) | Focal Length<br>(mm) | Focal Spot Diameter<br>(mm) | VSWR | Interface |
|------------------|----------------|---------------------|---------------------------|----------------------|-----------------------------|------|-----------|
| VT32PLHA300F500  | WR284          | 2.6-4               | 300                       | 500                  | ≤200                        | ≤2.5 | FDP-32    |
| VT40PLHA300F500  | WR229          | 3.3 -4.9            | 300                       | 500                  | ≤200                        | ≤2.5 | FDP-40    |
| VT48PLHA300F500  | WR187          | 4-6                 | 300                       | 500                  | ≤120                        | ≤2.5 | FDP-48    |
| VT58PLHA250F500  | WR159          | 4.9-7.0             | 250                       | 500                  | ≤80                         | ≤2.5 | FDP-58    |
| VT70PLHA250F500  | WR137          | 5.38-8.17           | 250                       | 500                  | ≤80                         | ≤2.5 | FDP-70    |
| VT84PLHA250F500  | WR112          | 6.57-9.99           | 250                       | 500                  | ≤60                         | ≤2.5 | FBP-84    |
| VT100PLHA200F300 | WR90           | 8.2-12.4            | 200                       | 300                  | ≤60                         | ≤2.5 | FBP-100   |
| VT120PLHA200F300 | WR75           | 9.84-15.0           | 200                       | 300                  | ≤60                         | ≤2.5 | FBP-120   |
| VT140PLHA200F300 | WR62           | 11.9-18.0           | 200                       | 300                  | ≤50                         | ≤2.5 | FBP-140   |
| VT180PLHA100F200 | WR51           | 14.5-22.0           | 100                       | 200                  | ≤40                         | ≤2.5 | FBP-180   |
| VT220PLHA100F200 | WR42           | 17.6-26.7           | 100                       | 200                  | ≤35                         | ≤2.5 | FBP-220   |
| VT260PLHA100F100 | WR34           | 21.7-33.0           | 100                       | 100                  | ≤30                         | ≤2.5 | FBP-260   |
| VT320PLHA100F100 | WR28           | 26.5-40.0           | 100                       | 100                  | ≤25                         | ≤2.5 | FBP-320   |

\*Indicates Model Number. See Ordering Information for complete part number.

### 【Ordering Information】

**Example Part No:** VT 140 PLHA 200 F300

Vector Telecom —  
WG Type: R140 —  
Focal Length: 300mm —  
Antenna Diameter: 200mm —  
Product Type: Point Focusing Horn Lens Antennas

- Flange type: Multiple types available - see VT Flanges page
- Finish: Corrosion protection plus black top coat



## 29.9.4 Feed Irradiation Lens Antennas

In order to improve the performance of the lens antenna, Vector Telecom adopts the method of irradiating the lens with a feed, by changing the irradiation function to the lens, the amplitude and phase distribution of the aperture field of the lens antenna is changed accordingly, to achieve the required antenna performance.



### 【Specifications】

| Model No*    | Freq Range<br>(GHz) | Gain<br>(dB) | Sidelobe Level<br>(dB) |         | VSWR | Interface | Antenna<br>Diameter<br>(mm) | Length<br>(mm) |
|--------------|---------------------|--------------|------------------------|---------|------|-----------|-----------------------------|----------------|
|              |                     |              | E Plane                | H Plane |      |           |                             |                |
| VT900LHA38.4 | 91.8-95.8           | 28           | ≤-25                   | ≤-25    | ≤2   | FUGP-900  | Φ38.4                       | 74             |
| VT260LHA200  | 22-30               | 30           | ≤-25                   | ≤-25    | ≤2   | FBP-260   | Φ200                        | 275            |

\*Indicates Model Number. See Ordering Information for complete part number

### 【Ordering Information】

**Example Part No:** VT 900 LHA 40  
 Vector Telecom ———  
 Interface: FUGP-900 ———  
 Antenna Diameter: 40mm ———  
 Product Type: Conical Lens Horn Antennas ———

- Flange type: Multiple types available - see VT Flanges page
- Finish: Corrosion protection plus black top coat

## 29.10 Corrugated Horn and Multimode Horn Antennas

The wide-angle corrugated horn antenna adopts broadband technology with variable slot depth and slot width to make it have good VSWR and radiation characteristics in the





bandwidth closely to the octave band. It is widely used in high-performance broadband frond feed or offset feed antennas, such as: C-Band, Ku-Band communication antenna, can provide product frequency range up to 300GHz. In the full bandwidth, the low-end frequency, VSWR <1.30,in the narrow-band, VSWR <1.06, and at the -15dB E-H lobe equalization  $<\pm 5^\circ$  . It can also be customized according to user requirements for frequency range and lobe width.



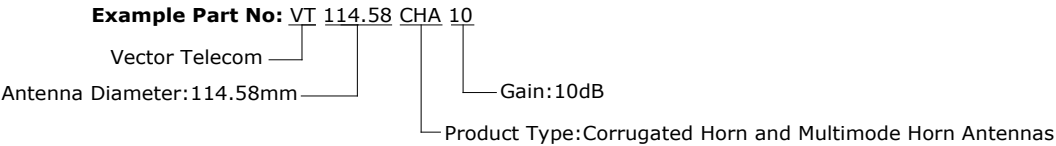
### 【Specifications】

| Model No*     | Freq Range<br>(GHz) | Horn caliber<br>(mm) | Gain (dB) | VSWR | Input interface<br>(mm) |
|---------------|---------------------|----------------------|-----------|------|-------------------------|
| VT114.58CHA10 | 1.76-2.42           | Φ245                 | 10        | ≤1.5 | Φ114.58                 |
| VT97.87CHA10  | 2.1-2.8             | Φ205                 | 10        | ≤1.5 | Φ97.87                  |
| VT83.62CHA10  | 2.45-3.3            | Φ176                 | 10        | ≤1.5 | Φ83.62                  |
| VT71.42CHA10  | 2.83-3.88           | Φ154                 | 10        | ≤1.5 | Φ71.42                  |
| VT51.99CHA10  | 3.9-5.3             | Φ110                 | 10        | ≤1.5 | Φ51.99                  |
| VT44.45CHA10  | 4.55-6.23           | Φ96                  | 10        | ≤1.5 | Φ44.45                  |
| VT38.1CHA10   | 5.3-7.3             | Φ84                  | 10        | ≤1.5 | Φ38.1                   |
| VT32.537CHA10 | 6.3-8.5             | Φ70                  | 10        | ≤1.5 | Φ32.537                 |
| VT27.788CHA10 | 7.3-9.5             | Φ62                  | 10        | ≤1.5 | Φ27.788                 |
| VT23.825CHA10 | 8.5-11.5            | Φ54                  | 10        | ≤1.5 | Φ23.825                 |
| VT17.415CHA10 | 11.6-15.9           | Φ42                  | 10        | ≤1.5 | Φ17.415                 |
| VT15.088CHA10 | 13.4-18.4           | Φ35                  | 10        | ≤1.5 | Φ15.088                 |
| VT12.7CHA10   | 15.9-21.8           | Φ30                  | 10        | ≤1.5 | Φ12.7                   |
| VT9.525CHA10  | 21.2-29.1           | Φ24                  | 10        | ≤1.5 | Φ9.525                  |
| VT8.331CHA10  | 24.3-33.2           | Φ20                  | 10        | ≤1.5 | Φ8.331                  |
| VT7.137CHA10  | 28.3-38.8           | Φ18                  | 10        | ≤1.5 | Φ7.137                  |
| VT5.563CHA10  | 36.4-49.8           | Φ15                  | 10        | ≤1.5 | Φ5.563                  |
| VT4.369CHA10  | 46.3-63.5           | Φ12                  | 10        | ≤1.5 | Φ4.369                  |
| VT3.581CHA10  | 56.6-77.5           | Φ10                  | 10        | ≤1.5 | Φ3.581                  |

|              |           |      |    |      |        |
|--------------|-----------|------|----|------|--------|
| VT3.175CHA10 | 63.5-87.2 | Φ9   | 10 | ≤1.5 | Φ3.17  |
| VT2.388CHA10 | 84.8-116  | Φ7.5 | 10 | ≤1.5 | Φ2.388 |

*\*Indicates Model Number. See Ordering Information for complete part number.*

**【Ordering Information】**



- Flange type: Multiple types available - see VT Flanges page
- Finish: Corrosion protection plus black top coat



## 30 Circular Polarization Antenna

Vector Telecom manufactures a high quality line of circular polarization horn antenna, to assist the user in different frequencies, different bandwidth and gain requirements under the implementation of circular polarization antenna, the electromagnetic vibrator can be divided into circular polarization antenna, spiral antenna, circular polarization horn antenna, aperture circular polarization antenna, microstrip circularly polarized antenna reflector circular polarization antenna, variable polarization antenna and other circular polarization antenna, etc. Please call us with your specification and discuss your needs with one of our sales engineers.

### 30.1 Circular Polarization Horn Antenna

#### 30.1.1 Circular Polarization Horn Antenna (Conical Horn Series)



#### 【Specifications】

| Model No*   | WG Type<br>EIA | Freq Range<br>(GHz) | Operating Bandwidth | Gain Range<br>X(dB) | Axis Ratio<br>(dB) | VSWR | Connector |
|-------------|----------------|---------------------|---------------------|---------------------|--------------------|------|-----------|
| VT70CPHAXN  | WR137          | 5-8                 | ≤5%                 | 10~20               | ≤0.5               | ≤1.5 | N Female  |
|             |                |                     | ≤10%                |                     | ≤1                 | ≤1.6 |           |
|             |                |                     | ≤20%                |                     | ≤2.5               | ≤1.8 |           |
|             |                |                     | ≤40%                |                     | ≤3.5               | ≤2   |           |
|             |                |                     | ≤67%                |                     | ≤4                 | ≤2.5 |           |
| VT84CPHAXN  | WR112          | 7-10                | ≤5%                 | 10~20               | ≤0.5               | ≤1.5 | N Female  |
|             |                |                     | ≤15%                |                     | ≤2                 | ≤1.8 |           |
| VT100CPHAXN | WR90           | 8-12.4              | ≤5%                 | 10~20               | ≤0.5               | ≤1.5 | N Female  |
|             |                |                     | ≤15%                |                     | ≤2                 |      |           |
| VT120CPHAXN | WR75           | 10-15               | ≤5%                 | 10~20               | ≤0.5               | ≤1.6 | N Female  |



Vector Telecom

## Section 3

### Antennas

# 30

## Circular Polarization Antenna



|             |      |         |      |       |      |      |             |
|-------------|------|---------|------|-------|------|------|-------------|
|             |      |         | ≤15% |       | ≤2   |      |             |
| VT140CPHAXS | WR62 | 12.4-18 | ≤5%  | 10~20 | ≤0.5 | ≤1.6 | SMA Female  |
|             |      |         | ≤15% |       | ≤2   |      |             |
| VT180CPHAXS | WR51 | 15-22   | ≤5%  | 10~25 | ≤0.5 | ≤1.6 | SMA Female  |
|             |      |         | ≤15% |       | ≤2   |      |             |
| VT220CPHAXK | WR42 | 15-22   | ≤5%  | 10~25 | ≤0.5 | ≤1.6 | 2.92 Female |
|             |      |         | ≤15% |       | ≤2   |      |             |
|             |      |         | ≤15% |       | ≤2   |      |             |
| VT260CPHAXK | WR34 | 22-33   | ≤5%  | 10~25 | ≤0.5 | ≤1.6 | 2.92 Female |
| VT320CPHAXK | WR28 | 26.5-40 | ≤5%  | 10~25 | ≤0.5 | ≤1.6 | 2.92 Female |
|             |      |         | ≤15% |       | ≤2   |      |             |
|             |      |         | ≤15% |       | ≤3   |      |             |
| VT400CPHAX  | WR22 | 33-50   | ≤5%  | 10~25 | ≤0.5 | ≤1.5 | FUGP400     |
|             |      |         | ≤15% |       | ≤2   |      |             |
| VT500CPHAX  | WR19 | 40-60   | ≤5%  | 10~25 | ≤0.5 | ≤1.5 | FUGP500     |
|             |      |         | ≤15% |       | ≤2   |      |             |
| VT620CPHAX  | WR15 | 50-75   | ≤5%  | 10~25 | ≤0.5 | ≤1.5 | FUGP620     |
|             |      |         | ≤15% |       | ≤2   |      |             |
| VT740CPHAX  | WR12 | 60-90   | ≤5%  | 10~25 | ≤0.5 | ≤1.5 | FUGP740     |
|             |      |         | ≤15% |       | ≤2   |      |             |
| VT900CPHAX  | WR10 | 75-110  | ≤5%  | 10~25 | ≤0.5 | ≤1.6 | FUGP900     |
|             |      |         | ≤15% |       | ≤2   |      |             |

*\*Indicates Model Number. See Ordering Information for complete part number.*

### 【Ordering Information】

**Example Part No:** VT 100 CPHA 10 N

Vector Telecom — Coax Connector Type: N=Type N, S=SMA,  
WG Type: R100 — K=2.92mm, V=2.4mm, 1.85=1.85mm  
Gain: 10dB  
Product Type: Circular Polarization Horn Antenna  
(Conical Horn Series)

- Flange type: Multiple types available - see VT Flanges page
- Finish: Corrosion protection plus black top coat



### 30.1.2 Dual Circular Polarization Horn Antenna (Conical Horn Series)

Double circular polarized conical horn antenna adopts the combination design of "OMT structure + linear circular polarizer + conical horn", to form the double circular polarized antenna, the optional gain range is 10 ~ 20 dB, the polarization isolation is greater than 25 dB, it is characterized by narrow work bandwidth, good axial ratio and a longer length.



#### 【Specifications】

| Model No*     | WG Type<br>EIA | Freq<br>Range<br>(GHz) | Operating<br>Bandwidth | Axis Ratio<br>(dB) | VSWR | Dimensions<br>(mm) | Connector     |
|---------------|----------------|------------------------|------------------------|--------------------|------|--------------------|---------------|
| VT70DCPHA15N  | WR137          | 5-8                    | ≤5%                    | ≤0.5               | ≤1.5 | Φ145x420           | N Female      |
|               |                |                        | ≤15%                   | ≤2                 |      | Φ145x450           |               |
|               |                |                        | ≤40%                   | ≤3                 | ≤1.8 | Φ145x450           |               |
| VT84DCPHA15N  | WR112          | 7-10                   | ≤5%                    | ≤0.5               | ≤1.5 | Φ125x400           | N Female      |
|               |                |                        | ≤15%                   | ≤2                 |      | Φ125x420           |               |
|               |                |                        | ≤40%                   | ≤3                 | ≤1.8 | Φ125x420           |               |
| VT100DCPHA15N | WR90           | 8-12.4                 | ≤5%                    | ≤0.5               | ≤1.5 | Φ95x350            | N Female      |
|               |                |                        | ≤15%                   | ≤2                 |      | Φ95x370            |               |
|               |                |                        | ≤40%                   | ≤3                 | ≤1.8 | Φ95x370            |               |
| VT120DCPHA15N | WR75           | 10-15                  | ≤5%                    | ≤0.5               | ≤1.5 | Φ80x280            | N Female      |
|               |                |                        | ≤15%                   | ≤2                 |      | Φ80x300            |               |
|               |                |                        | ≤40%                   | ≤3                 | ≤1.8 | Φ80x300            |               |
| VT140DCPHA15S | WR62           | 12.4-18                | ≤5%                    | ≤0.5               | ≤1.5 | Φ68x250            | SMA<br>Female |
|               |                |                        | ≤15%                   | ≤2                 |      | Φ68x260            |               |
|               |                |                        | ≤40%                   | ≤3                 | ≤1.8 | Φ68x260            |               |
| VT180DCPHA15S | WR51           | 15-22                  | ≤5%                    | ≤0.5               | ≤1.5 | Φ58x220            | SMA<br>Female |
|               |                |                        | ≤15%                   | ≤2                 |      | Φ58x240            |               |
|               |                |                        | ≤40%                   | ≤3                 | ≤1.8 | Φ58x240            |               |



|               |      |         |      |      |      |         |                |
|---------------|------|---------|------|------|------|---------|----------------|
| VT220DCPHA15K | WR42 | 18-26   | ≤5%  | ≤0.5 | ≤1.5 | Φ50x180 | 2.92<br>Female |
|               |      |         | ≤15% | ≤2   |      | Φ50x200 |                |
|               |      |         | ≤40% | ≤3   | ≤1.8 | Φ50x200 |                |
| VT260DCPHA15K | WR34 | 22-33   | ≤5%  | ≤0.5 | ≤1.5 | Φ38x150 | 2.92<br>Female |
|               |      |         | ≤15% | ≤2   |      | Φ38x180 |                |
|               |      |         | ≤40% | ≤3   | ≤1.8 | Φ38x180 |                |
| VT320DCPHA15K | WR28 | 26.5-40 | ≤5%  | ≤0.5 | ≤1.5 | Φ32x130 | 2.92<br>Female |
|               |      |         | ≤15% | ≤2   |      | Φ32x150 |                |
|               |      |         | ≤40% | ≤3   | ≤1.8 | Φ32x150 |                |
| VT400DCPHA15  | WR22 | 33-50   | ≤5%  | ≤1   | ≤1.5 | Φ26x120 | FUGP           |

\*Indicates Model Number. See Ordering Information for complete part number.

### 30.1.3 Dual Circular Polarization Horn Antenna (Ladder Mebrane Type Square Cone Horn Series)

Double circular polarized square cone horn antenna adopts the design of "double port feeder ladder mebrane type square cone horn" to form double circular polarized antenna, it is characterized by small size, narrow bandwidth, good axial ratio, low cost, and suitable for low frequency.



#### 【Specifications】

| Model No*     | WG Type<br>EIA | Freq Range<br>(GHz) | Operating Bandwidth | Gain Range<br>X(dB) | Axis Ratio<br>(dB) | VSWR | Polar. Iso.<br>(dB) | Dimensions<br>(mm) |     |     | Connector |
|---------------|----------------|---------------------|---------------------|---------------------|--------------------|------|---------------------|--------------------|-----|-----|-----------|
|               |                |                     |                     |                     |                    |      |                     | W                  | H   | L   |           |
| VT32DCPSHA10N | WR284          | 2.6-4               | ≤10%                | 10~20               | ≤1.5               | ≤1.5 | 28                  | 170                | 170 | 400 | N Female  |
|               |                |                     | ≤20%                |                     | ≤2.5               |      | 25                  |                    |     |     |           |
| VT40DCPSHA10N | WR229          | 3.5-5               | ≤10%                | 10~20               | ≤1.5               | ≤1.5 | 28                  | 140                | 140 | 350 | N Female  |
|               |                |                     | ≤20%                |                     | ≤2.5               |      | 25                  |                    |     |     |           |
| VT48DCPSHA10N | WR187          | 4.0-6               | ≤10%                | 10~20               | ≤1.5               | ≤1.5 | 28                  | 110                | 110 | 300 | N Female  |
|               |                |                     | ≤20%                |                     | ≤2.5               |      | 25                  |                    |     |     |           |



|               |       |       |      |       |      |      |    |     |     |     |          |
|---------------|-------|-------|------|-------|------|------|----|-----|-----|-----|----------|
| VT58DCPSHA10N | WR159 | 4.5-7 | ≤10% | 10~20 | ≤1.5 | ≤1.5 | 28 | 100 | 100 | 280 | N Female |
|               |       |       | ≤20% |       | ≤2.5 |      | 25 |     |     |     |          |
| VT70DCPSHA10N | WR137 | 5-8   | ≤10% | 10~20 | ≤1.5 | ≤1.5 | 28 | 90  | 90  | 260 | N Female |

\*Indicates Model Number. See Ordering Information for complete part number.

### 30.1.4 Dual Circular Polarization Horn Antenna ( Ladder Mebrane Type Conical Horn Series)

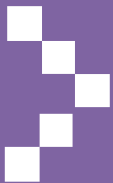
Double circular polarized conical horn antenna adopts the design of "double port feeder ladder mebrane type conical horn" to form double circular polarized antenna, it is characterized by small size, narrow bandwidth, good axial ratio, low cost, and suitable for low frequency.



#### 【Specifications】

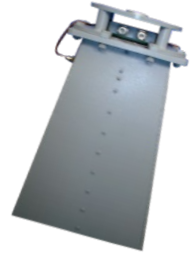
| Model No*      | WG Type<br>EIA | Freq Range<br>(GHz) | Operating Bandwidth | Gain Range<br>X(dB) | Axis Ratio<br>(dB) | VSWR | Polar. Iso.<br>(dB) | Dimensions<br>(mm) | Connector |
|----------------|----------------|---------------------|---------------------|---------------------|--------------------|------|---------------------|--------------------|-----------|
| VT32DCPTCHA10N | WR284          | 2.6-4               | ≤10%                | 10~20               | ≤1.5               | ≤1.5 | 28                  | Φ170x380           | N Female  |
|                |                |                     | ≤20%                |                     | ≤2.5               |      | 25                  |                    |           |
| VT40DCPTCHA10N | WR229          | 3.5-5               | ≤10%                | 10~20               | ≤1.5               | ≤1.5 | 28                  | Φ130x320           | N Female  |
|                |                |                     | ≤20%                |                     | ≤2.5               |      | 25                  |                    |           |
| VT48DCPTCHA10N | WR187          | 4-6                 | ≤10%                | 10~20               | ≤1.5               | ≤1.5 | 28                  | Φ110x280           | N Female  |
|                |                |                     | ≤20%                |                     | ≤2.5               |      | 25                  |                    |           |
| VT58DCPTCHA10N | WR159          | 4.5-7               | ≤10%                | 10~20               | ≤1.5               | ≤1.5 | 25                  | Φ100x260           | N Female  |
|                |                |                     | ≤20%                |                     | ≤2.5               |      | 25                  |                    |           |
| VT70DCPTCHA10N | WR137          | 5-8                 | ≤10%                | 10~20               | ≤1.5               | ≤1.5 | 28                  | Φ90x240            | N Female  |
|                |                |                     | ≤20%                |                     | ≤2.5               |      | 25                  |                    |           |
| *              |                |                     |                     |                     |                    |      |                     |                    |           |

Indicates Model Number. See Ordering Information for complete part number.



### 30.1.5 Broadband Circular Polarization Horn Antenna (Dual Linear Polarization Orthogonally Formed)

Broadband circular polarization horn antenna adopts broadband bridge + dual linear polarization antenna synthesis technology, also can get the octave even three octave circular polarized antenna, it is characterized by wide bandwidth, bad axial ratio and small size.



#### 【Specifications】

| Model No*       | Freq Range (GHz) | Gain (dB) | VSWR | Axis Ratio (dB) | Dimensions (mm) | Connector   |
|-----------------|------------------|-----------|------|-----------------|-----------------|-------------|
| VT0510CPHA7N    | 0.5-1            | 7~10      | ≤2.5 | ≤3              | 510X510X550     | N Female    |
| VT1020CPHA10N   | 1-2              | 10~15     | ≤2.5 | ≤3              | 250 X250 X460   | N Female    |
| VT1040CPHA7N    | 1-4              | 7~15      | ≤2.5 | ≤5              | 280 X280 X430   | N Female    |
| VT2040CPHA10N   | 2-4              | 10~15     | ≤2.0 | ≤3              | 250 X250 X430   | N Female    |
| VT4080CPHA10N   | 4-8              | 10~15     | ≤2.0 | ≤3              | Φ140 X470       | N Female    |
| VT80180CPHA10S  | 8-18             | 10~18     | ≤2.5 | ≤5              | Φ78 X165        | SMA Female  |
| VT180400CPHA10K | 18-40            | 10~18     | ≤3.0 | ≤5              | Φ40X80          | 2.92 Female |

\*Indicates Model Number. See Ordering Information for complete part number.

### 30.1.6 Broadband Dual Circular Polarization Horn Antenna

#### (Dual Linear Polarization Orthogonally Formed)



#### 【Specifications】



| Model No*        | Freq Range (GHz) | Gain (dB) | VSWR | Axis Ratio (dB) | Polar. Iso. (dB) | Dimensions (mm) | Connector   |
|------------------|------------------|-----------|------|-----------------|------------------|-----------------|-------------|
| VT1020DCPHA10N   | 1-2              | 10~15     | ≤2.5 | ≤3              | 15               | 510*510*550     | N Female    |
| VT2040DCPHA10N   | 2-4              | 10~15     | ≤2.5 | ≤3              | 15               | 250*250*430     | N Female    |
| VT4080DCPHA10N   | 4-8              | 10~15     | ≤2.5 | ≤3              | 15               | Φ140*620        | N Female    |
| VT80180DCPHA10S  | 8-18             | 10~18     | ≤2.5 | ≤5              | 15               | Φ78*165         | SMA Female  |
| VT180400DCPHA10K | 18-40            | 10~18     | ≤3.0 | ≤5              | 15               | Φ40*80          | 2.92 Female |

\*Indicates Model Number. See Ordering Information for complete part number.

### 【Ordering Information】

**Example Part No:** VT 1020 DCPHA 10 N  
 Vector Telecom ———  
 Freq Range: 1-2GHz ———  
 Coax Connector Type: N=Type N, S=SMA, K=2.92mm, V=2.4mm, 1.85=1.85mm ———  
 Gain: 10dB ———  
 Product Type: Dual Circular Polarization Horn Antenna

- Flange type: Multiple types available - see VT Flanges page
- Finish: Corrosion protection plus black top coat

### 30.2 Spiral Antenna

The spiral antenna is one of the most commonly used circularly polarized antennas in engineering. It can acquire LHCP or RHCP by changing the direction of the spiral. Its suitable operating frequency is between 200-5000MHz. The gain is within 3-12dB. Especially at the low end of the frequency, the spiral antenna will be smaller than other antennas due to the wavelength. For higher gain requirements, spiral antennas can be used as feeds for parabolic reflector antennas, and the desired gain can be obtained by increasing the reflector size. The bandwidth of the spiral antenna is usually wide, and the VSWR will be around 1.5 in 20% relative bandwidth. The polarization axis ratio can be less than 3dB in the radiation axis, and the typical value is 2dB.



### 【Specifications】



| Model No*       | Frequency Range (GHz) | Operating Bandwidth | Axle ratio (dB) | Gain(dB) | VSWR | Connector |
|-----------------|-----------------------|---------------------|-----------------|----------|------|-----------|
| VT0210SA7N...   | 0.2-1                 | ≤20%                | ≤2              | 7        | ≤1.5 | N Female  |
|                 |                       | ≤40%                | ≤3              | 7        | ≤1.5 | N Female  |
| VT1030SA10N...  | 1-3                   | ≤20%                | ≤2              | 10       | ≤1.5 | N Female  |
|                 |                       | ≤40%                | ≤3              | 10       | ≤1.5 | N Female  |
| VT 3050SA12N... | 3-5                   | ≤20%                | ≤2              | 12       | ≤1.5 | N Female  |
|                 |                       | ≤40%                | ≤3              | 12       | ≤1.5 | N Female  |

\*Indicates Model Number. See Ordering Information for complete part number.

### 【Ordering Information】

**Example Part No:** VT 0210 SA 7 N L

Vector Telecom — VT  
 Freq Range: 0.2-1GHz — 0210  
 Product Type: Spiral Antenna — SA  
 Coax Connector Type: N=Type N, S=SMA, K=2.92mm, V=2.4mm, TNC=TNC — 7  
 L: Left-hand Circular Polarization  
 R: Right-hand Circular Polarization — N  
 Gain: 7dB — L

- Flange type: Multiple types available - see VT Flanges page
- Finish: Corrosion protection plus black top coat

### 30.3 Planar Spiral Antenna

The planar spiral antenna is an ultra-wideband circularly polarized antenna scheme, and its rotation direction is determined by the spiral direction. It can work in an extremely wide frequency band, radiating most of the power in an effective working area, and no radiation in its structure extension direction. The disadvantage is the antenna efficiency is low and cannot withstand a slightly larger microwave power due to the influence of the absorbing material in the cavity. It is often used as a receiving antenna or a receiving antenna feed in electronic reconnaissance.

### 【Specifications】

| Model No*   | Freq Range (GHz) | VSWR | Gain (dB) | Dimensions (mm) | Connector  |
|-------------|------------------|------|-----------|-----------------|------------|
| VT0220PSAS  | 0.2-2            | ≤2.5 | -2~2      | φ500x160        | SMA Female |
| VT08100PSAS | 0.8-10           | ≤2.5 | -2~2      | φ205x90         | SMA Female |



|             |        |      |       |        |            |
|-------------|--------|------|-------|--------|------------|
| VT1060PSAS  | 1-6    | ≤2.5 | 1~5   | φ90x60 | SMA Female |
| VT2060PSAS  | 2-6    | ≤2.5 | -2~-2 | φ60x60 | SMA Female |
| VT20180PSAS | 2-18   | ≤2.5 | -1~3  | φ61x55 | SMA Female |
| VT25180PSAS | 2.5-18 | ≤2.5 | 3~5   | φ50x56 | SMA Female |
| VT4080PSAS  | 4-8    | ≤2.5 | 2~4   | φ50x45 | SMA Female |
| VT80180PSAS | 8-18   | ≤2.5 | 1~5   | φ30x26 | SMA Female |

\*Indicates Model Number. See Ordering Information for complete part number.

## 30.4 Quadrifilar Helix Antenna



### 【Specifications】

| Model No*        | VT400410FSAN   | VT1517FSAS    |
|------------------|----------------|---------------|
| Freq Range (GHz) | 400-410MHz     | 1.55-1.60GHz  |
| Gain(dB)         | -2.0 dB        | ≥4.4dB        |
| Axis ratio (dB)  | 6.0 dB         | 2.6dB         |
| VSWR             | ≤1.8           | ≤1.8          |
| Dimension        | φ300mm x438 mm | φ30mm x220 mm |
| Connector        | N Female       | SMA-J         |

\*Indicates Model Number. See Ordering Information for complete part number.

### 【Ordering Information】

**Example Part No:** VT 1060 PSA S

Vector Telecom

Freq Range: 1-6GHz

Coax Connector Type: N=Type N, S=SMA,  
K=2.92mm, V=2.4mm, TNC=TNC

Product Type: PSA(Planar Spiral Antenna)  
FSA(Quadrifilar Helix Antenna)

- Flange type: Multiple types available - see VT Flanges page
- Finish: Corrosion protection plus black top coat



## 30.5 Log-spiral antenna

Circular polarization ultra-wideband logarithmic spiral antenna series is a ultra-wideband circular polarization antenna. The spiral wound around it provides excellent heat dissipation conditions. Its circular polarization makes it quickly find radiation sources of electromagnetic frequencies.



### 【Specifications】

| Model No*    | Freq Range (GHz) | VSWR | Gain (dB) | Dimensions (mm) | Connector  |
|--------------|------------------|------|-----------|-----------------|------------|
| VT0210LSA3N  | 0.2-1            | ≤3   | -9~5      | φ330x830        | N Female   |
| VT0220LSA5N  | 0.2-2            | ≤3   | 5~7       | φ331x850        | N Female   |
| VT10100LSA3N | 1-10             | ≤3   | 0~6       | φ165x420        | N Female   |
| VT20100CLSA  | 2-10             | ≤3   | 2~7       | φ130x020        | SMA Female |

\*Indicates Model Number. See Ordering Information for complete part number.

### 【Ordering Information】

**Example Part No:** VT 0210 LSA 3 N  
 Vector Telecom  
 Freq Range: 0.2-1GHz  
 Product Type: Log-spiral antenna  
 Coax Connector Type: N=Type N, S=SMA, 2.92=K2.92mm  
 Antenna Gain: 3dB

- Flange type: Multiple types available - see VT Flanges page
- Finish: Corrosion protection plus black top coat

# 31

## Cassegrain Antenna

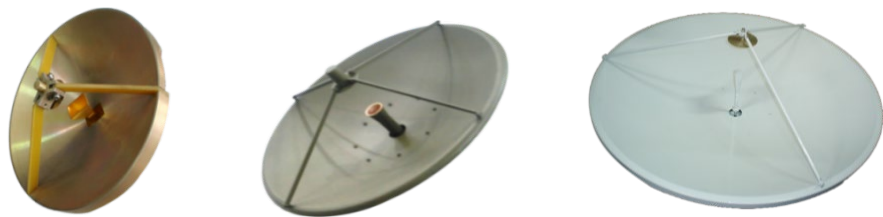


## 31 Cassegrain Antenna

Cassegrain antenna's characteristic is to use back feed form, effectively reduces the wastage of the feeder system. For antenna system with more complex feeder system, adopt cassegrain antenna that can effectively reduce the shade of feeder. Our cassegrain antenna frequency covers until 300 GHz.

Double reflector antenna are widely used in the occasions with high-gain, narrow beam requirements. The frequency range of reflector antenna is very wide. The advantage of double reflector antenna is, big freedom degrees of feed design, low noise temperature, wide feed bandwidth, and convenient for installation and maintenance, can customize various aperture antenna according to customer needs.

### 31.1 Linear Polarization Cassegrain Antenna



#### 【Specifications】

| Model No*    | Freq Range (GHz) | Antenna Caliber (mm) | Operating Bandwidth | Gain (dB) | Beam width (°) | Sidelobe Level (dB) |         | VSWR  | Connector   |
|--------------|------------------|----------------------|---------------------|-----------|----------------|---------------------|---------|-------|-------------|
|              |                  |                      |                     |           |                | E plane             | H plane |       |             |
| VT100KRA600N | 8.20-12.40       | 600                  | ≤40%                | ≥31       | ≤3.8           | -13                 | -15     | ≤1.50 | N Female    |
| VT120KRA600N | 9.84-15.0        | 600                  | ≤40%                | ≥32.5     | ≤3.3           | -13                 | -15     | ≤1.50 | N Female    |
| VT140KRA400S | 11.9-18.0        | 400                  | ≤40%                | ≥30.5     | ≤4             | -13                 | -15     | ≤1.50 | SMA Female  |
| VT180KRA300S | 14.5-22.0        | 300                  | ≤40%                | ≥30       | ≤4             | -13                 | -15     | ≤1.50 | SMA Female  |
| VT220KRA200K | 17.6-26.7        | 200                  | ≤40%                | ≥28       | ≤5.3           | -13                 | -15     | ≤1.50 | 2.92 Female |
| VT260KRA200K | 21.7-33.0        | 200                  | ≤40%                | ≥29.5     | ≤4.5           | -13                 | -15     | ≤1.50 | 2.92 Female |
| VT320KRA150K | 26.5-40.0        | 150                  | ≤40%                | ≥29       | ≤4.8           | -13                 | -15     | ≤1.50 | 2.92 Female |
| VT400KRA150  | 32.9-50.1        | 150                  | ≤40%                | ≥30.5     | ≤4             | -15                 | -18     | ≤1.50 | WR22        |
| VT500KRA150  | 39.2-59.6        | 150                  | ≤40%                | ≥32       | ≤3.1           | -15                 | -18     | ≤1.50 | WR19        |



|             |           |     |      |       |      |     |     |       |      |
|-------------|-----------|-----|------|-------|------|-----|-----|-------|------|
| VT620KRA150 | 49.8-75.8 | 150 | ≤40% | ≥34   | ≤2.5 | -15 | -18 | ≤1.50 | WR15 |
| VT740KRA150 | 60.5-91.9 | 150 | ≤40% | ≥36   | ≤2   | -15 | -18 | ≤1.50 | WR15 |
| VT900KRA150 | 73.8-112  | 150 | ≤40% | ≥37.5 | ≤1.6 | -15 | -18 | ≤1.50 | WR10 |

\*Indicates Mode Number. See Ordering Information for complete part number.

### 【Products Show】

|                   |                     |                                                                                     |
|-------------------|---------------------|-------------------------------------------------------------------------------------|
| Model No*         | VT900KRA135         |  |
| Freq Range (GHz)  | F0±1GHZ             |                                                                                     |
| Gain (dB)         | >37dB               |                                                                                     |
| VSWR              | ≤1.5                |                                                                                     |
| Polarization mode | Linear polarization |                                                                                     |

|                   |                     |                                                                                      |
|-------------------|---------------------|--------------------------------------------------------------------------------------|
| Model No*         | VT320KRA1200        |  |
| Freq Range (GHz)  | F0±2GHZ             |                                                                                      |
| Gain (dB)         | >48dB               |                                                                                      |
| VSWR              | ≤1.5                |                                                                                      |
| Polarization mode | Linear polarization |                                                                                      |

|                   |                     |                                                                                       |
|-------------------|---------------------|---------------------------------------------------------------------------------------|
| Model No*         | VT620KRA250         |  |
| Freq Range (GHz)  | F0±4GHZ             |                                                                                       |
| Gain (dB)         | >38dB               |                                                                                       |
| VSWR              | ≤1.5                |                                                                                       |
| Polarization mode | Linear polarization |                                                                                       |

|                   |                     |                                                                                       |
|-------------------|---------------------|---------------------------------------------------------------------------------------|
| Model No*         | VT740KRA160         |  |
| Freq Range (GHz)  | F0±2GHZ             |                                                                                       |
| Gain (dB)         | >38dB               |                                                                                       |
| VSWR              | ≤1.5                |                                                                                       |
| Polarization mode | Linear polarization |                                                                                       |



## Section 3

### Antennas

# 31

## Cassegrain Antenna



### 【Ordering Information】

**Example Part No:** VT 100 KRA 600 N  
Vector Telecom  
Freq Range: 10GHz  
Product Type: Linear Polarization  
Cassegrain Antenna  
Coax Connector Type: N=Type N,  
S=SMA, 2.92=K2.92mm  
Antenna caliber: 600mm

- Flange type: Multiple types available - see VT Flanges page
- Finish: Corrosion protection plus black top coat

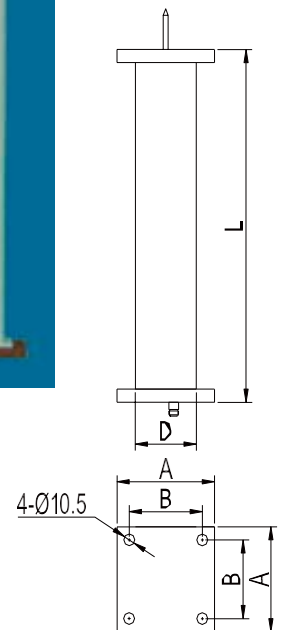


## 32 MMDS Transmitting Antenna

Vector Telecom manufactures a high quality line of MMDS transmitting antennas. Please call us with your specification and discuss your needs with one of our sales engineers.

### Features:

- High radiation efficiency
- Wide frequency range
- Low VSWR
- More Gain values available
- Power rating 300W (CW)
- Light weight aluminum material
- Well sealed
- Easy for installation
- Direct lightning protection
- Ground wind velocity 25m/s



### 【Specifications】

| Model No    | Freq Range (GHz) | VSWR (Max) | Gain (dB) | Polarization | Beamwidth (Azimuth) | Beamwidth (Elevation) | Dimensions (D*H)(mm) | Dimensions (A*B)(mm) | Power Handling (W) | Connector |
|-------------|------------------|------------|-----------|--------------|---------------------|-----------------------|----------------------|----------------------|--------------------|-----------|
| VT2527HOA10 | 2.5-2.7          | 1.5        | 10        | Horizontal   | 360°                | 6°                    | 130*1000             | 180*152              | 300                | N-F       |
| VT2527HOA12 | 2.5-2.7          | 1.5        | 12        | Horizontal   | 360°                | 5°                    | 130*1300             | 180*152              | 300                | N-F       |
| VT2527HOA16 | 2.5-2.7          | 1.5        | 13        | Horizontal   | 360°                | 4°                    | 130*1600             | 180*152              | 300                | N-F       |
| VT2527VOA10 | 2.5-2.7          | 1.5        | 10        | Vertical     | 360°                | 6°                    | 170*1000             | 220*180              | 300                | N-F       |
| VT2527VOA12 | 2.5-2.7          | 1.5        | 12        | Vertical     | 360°                | 5°                    | 170*1300             | 220*180              | 300                | N-F       |
| VT2527VOA16 | 2.5-2.7          | 1.5        | 13        | Vertical     | 360°                | 4°                    | 170*1600             | 220*180              | 300                | N-F       |
| VT2527HCA10 | 2.5-2.7          | 1.5        | 13        | Horizontal   | 180°                | 6°                    | 130*1000             | 180*152              | 300                | N-F       |



|              |         |     |    |            |      |    |          |         |     |     |
|--------------|---------|-----|----|------------|------|----|----------|---------|-----|-----|
| VT2527A12    | 2.5-2.7 | 1.5 | 15 | Horizontal | 180° | 5° | 130°1300 | 180°152 | 300 | N-F |
| VT2527HCA16  | 2.5-2.7 | 1.5 | 16 | Horizontal | 180° | 4° | 130°1600 | 180°152 | 300 | N-F |
| VT2527VCA10* | 2.5-2.7 | 1.5 | 13 | Vertical   | 180° | 6° | 170°1000 | 220°180 | 300 | N-F |
| VT2527VCA12  | 2.5-2.7 | 1.5 | 15 | Vertical   | 180° | 5° | 170°1300 | 220°180 | 300 | N-F |
| VT2527VCA16  | 2.5-2.7 | 1.5 | 16 | Vertical   | 180° | 4° | 170°1600 | 220°180 | 300 | N-F |

\*Indicates Model Number. See Ordering Information for complete part number.

## 【Ordering Information】

**Example Part No:** VT 2527 HOA 12

Vector Telecom ——— Gain: 12dB  
Freq Range: 2.5-2.7GHz ——— Antenna Type: HOA

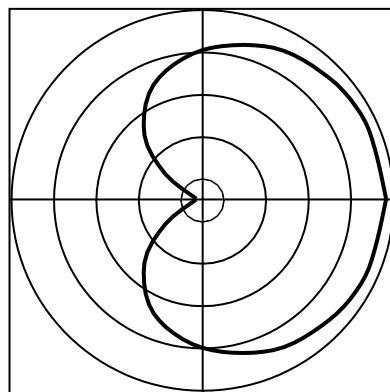
### Antenna Type:

**HOA** - Omni-directional, Horizontal polarized

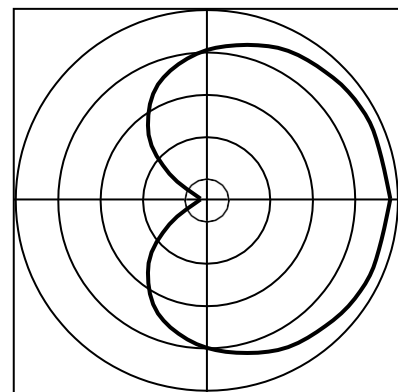
**HCA** - Half-directional, Horizontal polarized

**VOA** - Omni-directional, Vertical polarized

**VCA** - Half -directional, Vertical polarized



180°



360°

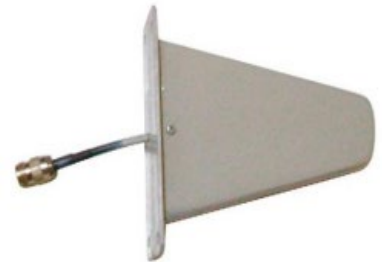
**Azimuth Beam Pattern**

## 33 Other Antennas

Vector Telecom provides a variety of antennas that are custom designed, manufactured and tested to meet customer's special requirements. Please call us and discuss your needs with one of our sales engineers.



Logarithm Periodic Antenna



Microstrip Logarithm Periodic Antenna



Paraboloid Antenna



Slot Array Antenna



Multi-Polarization Antenna Feed



Microstrip Array Antenna

33

Other  
Antennas





## Section 4

## Technical Reference

# 34

## Rectangular Waveguide Tubing Information



# 34 Rectangular Waveguide Tubing Information

| Model No | EIA WG Designation | IEC WG Designation | Freq Range (GHz) | Material (Stock)   | Inside Dimensions (mm) | Std Tol ± Inside Dim (mm) | Nom Wall Thickness (mm) | Outside Dimensions (mm) | Std Tol ± Outside Dim (mm) | Freq of Cut-Off for TE <sub>1,0</sub> Mode (GHz) | Wave-length of Cut-Off for TE <sub>1,0</sub> Mode (mm) | Theoretical Attenuation lowest to highest freq (dB/100ft) |             |
|----------|--------------------|--------------------|------------------|--------------------|------------------------|---------------------------|-------------------------|-------------------------|----------------------------|--------------------------------------------------|--------------------------------------------------------|-----------------------------------------------------------|-------------|
|          |                    |                    |                  |                    |                        |                           |                         |                         |                            |                                                  |                                                        | Al                                                        | Cu          |
|          |                    |                    |                  |                    |                        |                           |                         |                         |                            |                                                  |                                                        |                                                           |             |
| VTBJ3    | WR2300             | R3                 | 0.32-0.49        | Aluminum           | 584.2*292.1            |                           | 6                       |                         |                            | 0.257                                            | 1169.2                                                 | 0.270-0.400                                               |             |
| VTBJ4    | WR2100             | R4                 | 0.35-0.53        | Aluminum           | 533.4*266.7            |                           | 5                       |                         |                            | 0.281                                            | 1067.5                                                 | 0.310-0.460                                               |             |
| VTBJ5    | WR1800             | R5                 | 0.41-0.62        | Aluminum           | 457.2*228.6            | 0.51                      | 5                       |                         |                            | 0.328                                            | 915.0                                                  | 0.390-0.580                                               |             |
| VTBJ6    | WR1500             | R6                 | 0.49-0.75        | Aluminum           | 381*190.5              | 0.38                      | 3.18                    |                         |                            | 0.393                                            | 762.5                                                  | 0.510-0.760                                               |             |
| VTBJ8    | WR1150             | R8                 | 0.64-0.98        | Aluminum           | 292.1*146.05           | 0.38                      | 3.18                    |                         |                            | 0.513                                            | 584.6                                                  | 0.760-1.113                                               |             |
| VTBJ9    | WR975              | R9                 | 0.76-1.15        | Aluminum           | 247.65*123.82          |                           | 3.18                    |                         |                            | 0.605                                            | 495.6                                                  | 0.098-0.145                                               |             |
| VTBJ12   | WR770              | R12                | 0.96-1.46        | Aluminum           | 195.58*97.79           |                           | 3.18                    |                         |                            | 0.766                                            | 391.4                                                  | 0.140-0.206                                               |             |
| VTBJ14   | WR650              | R14                | 1.13-1.73        | Copper<br>Aluminum | 165.1*82.55            | 0.33                      | 2.03                    | 169.16*86.61            | 0.2                        | 0.908                                            | 330.4                                                  | 0.180-0.266                                               | 0.214-0.317 |
| VTBJ18   | WR510              | R18                | 1.45-2.2         | Copper<br>Aluminum | 129.54*64.77           | 0.26                      | 2.03                    | 133.6*68.83             | 0.2                        | 1.157                                            | 259.1                                                  | 0.259-0.382                                               | 0.309-0.456 |
| VTBJ22   | WR430              | R22                | 1.72-2.61        | Copper<br>Aluminum | 109.22*54.61           | 0.22                      | 2.03                    | 113.28*58.67            | 0.2                        | 1.372                                            | 218.4                                                  | 0.334-0.494                                               | 0.399-0.588 |
| VTBJ26   | WR340              | R26                | 2.17-3.3         | Copper<br>Aluminum | 86.36*43.18            | 0.17                      | 2.03                    | 90.42*47.24             | 0.17                       | 1.736                                            | 172.7                                                  | 0.475-0.702                                               | 0.567-0.837 |
| VTBJ32   | WR284              | R32                | 2.6-3.95         | Copper<br>Aluminum | 72.14*34.04            | 0.14                      | 2.03                    | 76.2*38.1               | 0.14                       | 2.078                                            | 144.3                                                  | 0.652-0.953                                               | 0.777-1.136 |
| VTBJ40   | WR229              | R40                | 3.22-4.9         | Copper<br>Aluminum | 58.17*29.08            | 0.12                      | 1.625                   | 61.42*32.33             | 0.12                       | 2.577                                            | 116.3                                                  | 0.860-1.270                                               | 1.026-1.514 |
| VTBJ48   | WR187              | R48                | 3.94-5.99        | Copper             | 47.549*22.149          | 0.095                     | 1.625                   | 50.8*25.4               | 0.1                        | 3.153                                            | 95.1                                                   | 1.231-1.795                                               | 1.467-2.140 |



## Section 4

### Technical Reference

# 34

## Rectangular Waveguide Tubing Information

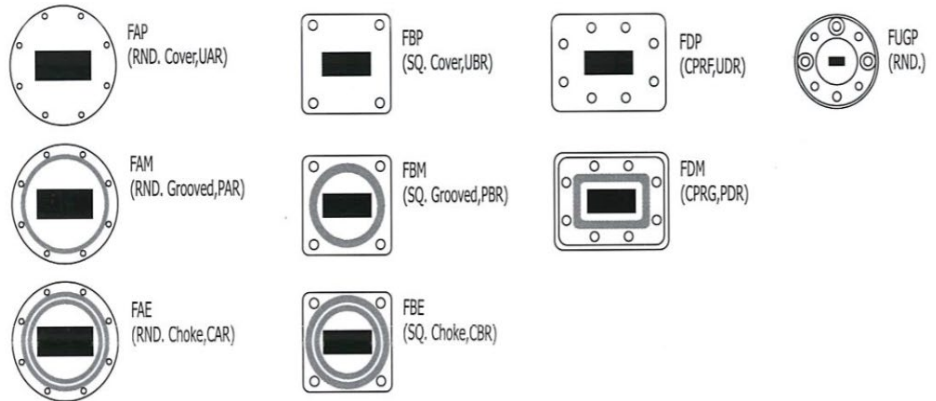


|         |       |      |           |                    |               |        |       |             |      |        |       |               |                     |
|---------|-------|------|-----------|--------------------|---------------|--------|-------|-------------|------|--------|-------|---------------|---------------------|
|         |       |      |           | Aluminum           |               |        |       |             |      |        |       |               |                     |
| VTBJ58  | WR159 | R58  | 4.64-7.05 | Copper<br>Aluminum | 40.386*20.193 | 0.081  | 1.625 | 43.64*23.44 | 0.08 | 3.712  | 80.77 | 1.487-2.195   | 1.773-2.617         |
| VTBJ70  | WR137 | R70  | 5.38-8.17 | Copper<br>Aluminum | 34.849*15.799 | 0.07   | 1.625 | 38.1*19.05  | 0.08 | 4.301  | 69.7  | 2.004-2.910   | 2.390-3.470         |
| VTBJ84  | WR112 | R84  | 6.57-9.99 | Copper             | 28.499*12.624 | 0.057  | 1.625 | 31.75*15.88 | 0.05 | 5.260  | 57    | 2.761-3.993   | 3.292-4.761         |
| VTBJ100 | WR90  | R100 | 8.2-12.5  | Copper<br>Aluminum | 22.86*10.16   | 0.046  | 1.27  | 25.4*12.7   | 0.05 | 6.557  | 45.72 | 3.833-5.547   | 4.570-6.614         |
| VTBJ120 | WR75  | R120 | 9.84-15   | Copper<br>Aluminum | 19.05*9.525   | 0.038  | 1.27  | 21.59*12.06 | 0.05 | 7.869  | 38.1  | 4.590-6.775   | 5.472-8.078         |
| VTBJ140 | WR62  | R140 | 11.9-18   | Copper<br>Aluminum | 15.799*7.899  | 0.031  | 1.015 | 17.83*9.93  | 0.05 | 9.488  | 31.6  | 6.077-8.971   | 7.246-10.696        |
| VTBJ180 | WR51  | R180 | 14.5-22   | Copper<br>Aluminum | 12.95*6.477   | 0.026  | 1.015 | 14.99*8.51  | 0.05 | 11.575 | 25.91 | 8.185-12.082  | 9.759-14.406        |
| VTBJ220 | WR42  | R220 | 17.6-26.7 | Copper<br>Aluminum | 10.668*4.318  | 0.021  | 1.015 | 12.7*6.35   | 0.05 | 14.051 | 21.34 | 12.970-18.487 | 15.464-22.042       |
| VTBJ260 | WR34  | R260 | 21.7-33   | Copper<br>Aluminum | 8.636*4.318   | 0.02   | 1.015 | 10.67*6.35  | 0.05 | 17.358 | 17.27 | 15.036-22.197 | 17.928-26.465       |
| VTBJ320 | WR28  | R320 | 26.3-40   | Copper<br>Aluminum | 7.12*3.556    | 0.02   | 1.015 | 9.14*5.59   | 0.05 | 21.053 | 14.22 | 20.120-29.701 | 23.989-35.413       |
| VTBJ400 | WR22  | R400 | 32.9-50.1 | Copper<br>Aluminum | 5.69*2.845    | 0.02   | 1.015 | 7.72*4.88   | 0.05 | 26.344 | 11.38 | 28.119-41.508 | 33.526-49.491       |
| VTBJ500 | WR19  | R500 | 39.2-59.6 | Copper             | 4.775*2.388   | 0.02   | 1.015 | 6.81*4.42   | 0.05 | 31.393 | 9.55  |               | 43.603-64.367       |
| VTBJ620 | WR15  | R620 | 49.8-75.8 | Copper             | 3.795*1.88    | 0.02   | 1.015 | 5.79*3.91   | 0.05 | 39.499 | 7.52  |               | 62.425-92.152       |
| VTBJ740 | WR12  | R740 | 60.5-91.9 | Copper             | 3.0988*1.5494 | 0.0127 | 1.015 | 5.13*3.58   | 0.05 | 48.374 | 6.2   |               | 83.409-123.12<br>8  |
| VTBJ900 | WR10  | R900 | 73.8-112  | Copper             | 2.54*1.27     | 0.0127 | 1.015 | 4.57*3.3    | 0.05 | 59.016 | 5.08  |               | 112.397-165.9<br>20 |



## 35 Flange Information

Click Flange Type No to see the detailed outline drawings.



| WG Type |         | A Type             |                      |                    | B Type            |                     |                   | D Type        |               | FUGP |
|---------|---------|--------------------|----------------------|--------------------|-------------------|---------------------|-------------------|---------------|---------------|------|
| EIA Std | IEC Std | FAP (RND<br>COVER) | FAM (RND<br>GROOVED) | FAE (RND<br>CHOKE) | FBP (SQ<br>COVER) | FBM (SQ<br>GROOVED) | FBE (SQ<br>CHOKE) | FDP<br>(CPRF) | FDM<br>(CPRG) |      |
| WR2300  | R3      |                    |                      |                    |                   |                     |                   | FDP3          | FDM3          |      |
| WR2100  | R4      |                    |                      |                    |                   |                     |                   | FDP4          | FDM4          |      |
| WR1800  | R5      |                    |                      |                    |                   |                     |                   | FDP5          | FDM5          |      |
| WR1500  | R6      |                    |                      |                    |                   |                     |                   | FDP6          | FDM6          |      |
| WR1150  | R8      |                    |                      |                    |                   |                     |                   | FDP8          | FDM8          |      |
| WR975   | R9      |                    |                      |                    |                   |                     |                   | FDP9          | FDM9          |      |
| WR770   | R12     |                    |                      |                    |                   |                     |                   | FDP12         | FDM12         |      |
| WR650   | R14     |                    |                      |                    |                   |                     |                   | FDP14         | FDM14         |      |
| WR510   | R18     |                    |                      |                    |                   |                     |                   | FDP18         | FDM18         |      |
| WR430   | R22     |                    |                      |                    |                   |                     |                   | FDP22         | FDM22         |      |
| WR340   | R26     |                    |                      |                    |                   |                     |                   | FDP26         | FDM26         |      |
| WR284   | R32     | FAP32              | FAM32                | FAE32              |                   |                     |                   | FDP32         | FDM32         |      |
| WR229   | R40     | FAP40              | FAM40                | FAE40              |                   |                     |                   | FDP40         | FDM40         |      |
| WR187   | R48     | FAP48              | FAM48                | FAE48              |                   |                     |                   | FDP48         | FDM48         |      |
| WR159   | R58     | FAP58              | FAM58                | FAE58              |                   |                     |                   | FDP58         | FDM58         |      |
| WR137   | R70     | FAP70              | FAM70                | FAE70              |                   |                     |                   | FDP70         | FDM70         |      |
| WR112   | R84     |                    |                      |                    | FBP84             | FBM84               | FBE84             | FDP84         | FDM84         |      |
| WR90    | R100    |                    |                      |                    | FBP100            | FBM100              | FBE100            | FDP100        | FDM100        |      |
| WR75    | R120    |                    |                      |                    | FBP120            | FBM120              | FBE120            | FDP120        | FDM120        |      |
| WR62    | R140    |                    |                      |                    | FBP140            | FBM140              | FBE140            | FDP140        | FDM140        |      |
| WR51    | R180    |                    |                      |                    | FBP180            | FBM180              | FBE180            | FDP180        | FDM180        |      |
| WR42    | R220    |                    |                      |                    | FBP220            | FBM220              | FBE220            |               |               |      |



## Section 4

### Technical Reference

|      |      |        |        |  |        |        |        |  |  |         |
|------|------|--------|--------|--|--------|--------|--------|--|--|---------|
| WR34 | R260 |        |        |  | FBP260 | FBM260 | FBE260 |  |  |         |
| WR28 | R320 |        |        |  | FBP320 | FBM320 | FBE320 |  |  |         |
| WR22 | R400 | FAP400 | FAM400 |  |        |        |        |  |  | FUGP400 |
| WR19 | R500 | FAP500 | FAM500 |  |        |        |        |  |  | FUGP500 |
| WR15 | R620 | FAP620 | FAM620 |  |        |        |        |  |  | FUGP620 |
| WR12 | R740 | FAP740 | FAM740 |  |        |        |        |  |  | FUGP740 |
| WR10 | R900 | FAP900 | FAM900 |  |        |        |        |  |  | FUGP900 |

# 35

## Flange Information



# Revision History

| Date        | Revision | Changes             |
|-------------|----------|---------------------|
| 9-Sep-2020  | 1        | First release       |
| 10-Dec-2024 | 2        | Revision and update |

Information furnished is believed to be accurate and reliable. However, Vector Telecom assumes no responsibility for the consequences of use of such information nor for any infringement of patents or other rights of third parties which may result from its use. No license is granted by implication or otherwise under any patent or patent rights of Vector Telecom. Specifications mentioned in this publication are subject to change without notice. This publication supersedes and replaces all information previously supplied. Vector Telecom products are not authorized for use as critical components in life support devices or systems without express written approval of Vector Telecom.



The Vector Telecom logo is a registered trademark of Vector Telecom Pty Ltd.

© 2024 Vector Telecom Pty Ltd - All rights reserved