

Low-Loss Transmission up to 110 GHz

## Waveguide-to-Coaxial Adaptors

TEST & MEASUREMENT





## Waveguide-to-Coaxial Adaptors

For low-loss transmissions Rosenberger has developed a diversified range of waveguide-to-coaxial adaptors to allow an efficient transition between the rectangular waveguide and the coaxial connector.

- Circular and rectangular flanges
- Straight and right angle adaptors
- Frequency range from 7.05 GHz to 110 GHz in 11 waveguide bands
- WR-112 to WR-10 (R84 to R900) waveguides
- SMA, RPC-2.92, RPC-1.85, RPC-1.35 and RPC-1.00 coaxial interfaces



## Product Portfolio

| Rosenberger No. | Version     | Connector Interface     | Frequency Range      | Return Loss |
|-----------------|-------------|-------------------------|----------------------|-------------|
| 32K084-051      | Right angle | SMA female – WR-112     | 7.05 GHz to 10 GHz   | ≥ 19 dB     |
| 32K100-039      | Right angle | SMA female – WR-90      | 8.2 GHz to 12.5 GHz  |             |
| 32K120-UBR      | Right angle | SMA female – WR-75      | 10 GHz to 14 GHz     |             |
| 32K140-419      | Right angle | SMA female – WR-62      | 12.4 GHz to 18 GHz   |             |
| 02K220-UBR      | Right angle | RPC-2.92 female – WR-42 | 17.5 GHz to 26.5 GHz |             |
| 02K320-599      | Right angle | RPC-2.92 female – WR-28 | 26.5 GHz to 40 GHz   | ≥ 15 dB     |
| 08K400-383      | Right angle | RPC-1.85 female – WR-22 | 32.9 GHz to 50.1 GHz | ≥ 20 dB     |
| 08K500-383      | Straight    | RPC-1.85 female – WR-19 | 40 GHz to 60 GHz     | ≥ 20 dB     |
| 08S500-383      | Straight    | RPC-1.85 male – WR-19   |                      |             |
| 08K620-385      | Straight    | RPC-1.85 female – WR-15 | 50 GHz to 70 GHz     | ≥ 18 dB     |
| 08S620-385      | Straight    | RPC-1.85 male – WR-15   |                      |             |
| P9K620-385      | Straight    | RPC-1.35 female – WR-15 | 50 GHz to 75 GHz     | ≥ 16 dB     |
| P9S620-385      | Straight    | RPC-1.35 male – WR-15   |                      |             |
| P9K740-387      | Straight    | RPC-1.35 female – WR-12 | 60 GHz to 90 GHz     |             |
| P9S740-387      | Straight    | RPC-1.35 male – WR-12   |                      |             |
| 01K740-387      | Straight    | RPC-1.00 female – WR-12 |                      |             |
| 01S740-387      | Straight    | RPC-1.00 male – WR-12   | 75 GHz to 110 GHz    |             |
| 01K900-387      | Straight    | RPC-1.00 female – WR-10 |                      |             |
| 01S900-387      | Straight    | RPC-1.00 male – WR-10   |                      |             |

For specific details refer to the technical data sheets in our online catalog.  
[www.rosenberger.com/ok](http://www.rosenberger.com/ok)



## Technical Data

| Waveguide Designations |       |       | Basic Inner Dimensions (mm) | Rosenberger Standard Flange | Frequency Range (GHz) | Frequency Band Name |
|------------------------|-------|-------|-----------------------------|-----------------------------|-----------------------|---------------------|
| EIA                    | IEC   | UK    |                             |                             |                       |                     |
| WR-112                 | R 84  | WG 15 | 28.449 x 12.624             | UG-51/U                     | 6.58 – 10.0           | X <sub>b</sub> band |
| WR-90                  | R 100 | WG 16 | 22.860 x 10.160             | UG-39/U                     | 8.20 – 12.5           | X band              |
| WR-75                  | R 120 | WG 17 | 19.050 x 9.525              | UBR 120                     | 9.84 – 15.0           | M band              |
| WR-62                  | R 140 | WG 18 | 15.799 x 7.899              | UG-419/U                    | 11.9 – 18.0           | K <sub>u</sub> band |
| WR-42                  | R 220 | WG 20 | 10.668 x 4.318              | UBR 220                     | 17.6 – 26.7           | K band              |
| WR-28                  | R 320 | WG 22 | 7.112 x 3.556               | UG-599/U                    | 26.3 – 40.0           | K <sub>a</sub> band |
| WR-22                  | R 400 | WG 23 | 5.690 x 2.845               | UG-383/U                    | 32.9 – 50.1           | Q band              |
| WR-19                  | R 500 | WG 24 | 4.775 x 2.388               | UG-383/U-M <sup>1)</sup>    | 39.2 – 59.6           | U band              |
| WR-15                  | R 620 | WG 25 | 3.759 x 1.880               | UG-385/U                    | 49.8 – 75.8           | V band              |
| WR-12                  | R 740 | WG 26 | 3.099 x 1.549               | UG-387/U                    | 60.5 – 91.9           | E band              |
| WR-10                  | R 900 | WG 27 | 2.540 x 1.270               | UG-387/U-M <sup>1)</sup>    | 73.8 – 112            | W band              |

<sup>1)</sup> Flange UG-38X/U-M means that only the waveguide size is reduced.  
All other flange parameters remain the same as UG-38X/U



## Dimensions



### Rectangular Flanges

|        | UG-51/U   | UG-39/U   | UBR 120   |
|--------|-----------|-----------|-----------|
| A      | 47.80 mm  | 41.40 mm  | 38.00 mm  |
| B      | 47.80 mm  | 41.40 mm  | 38.00 mm  |
| C      | 5.00 mm   | 5.00 mm   | 5.00 mm   |
| D      | 17.17 mm  | 15.49 mm  | 13.21 mm  |
| E      | 18.72 mm  | 16.25 mm  | 14.25 mm  |
| Hole F | Ø 4.20 mm | Ø 4.17 mm | Ø 4.00 mm |

|        | UG-419/U  | UBR 220   | UG-599/U  |
|--------|-----------|-----------|-----------|
| A      | 33.30 mm  | 22.40 mm  | 19.10 mm  |
| B      | 33.30 mm  | 22.40 mm  | 19.10 mm  |
| C      | 5.00 mm   | 4.00 mm   | 3.00 mm   |
| D      | 12.62 mm  | 8.13 mm   | 6.73 mm   |
| E      | 12.13 mm  | 8.51 mm   | 6.35 mm   |
| Hole F | Ø 4.20 mm | Ø 3.00 mm | Ø 3.00 mm |

### Circular Flanges

|        | UG-383/U  | UG-385/U  | UG-387/U  |
|--------|---|---|---|
| A      | ø 28.58 mm  | ø 19.05 mm  | ø 19.05 mm  |
| B      | ø 23.812 mm   | ø 14.288 mm   | ø 14.288  |
| C      | ø 12.7 mm   | ø 9.52 mm   | ø 9.52 mm   |
| D      | 3.30 mm   | 3.30 mm   | 3.30 mm   |
| E      | 0.76 mm   | 0.76 mm   | 0.76 mm   |
| Pin F  | ø 1.562 mm  | ø 1.562 mm  | ø 1.562 mm  |
| Hole G | ø 1.70 mm   | ø 1.70 mm   | ø 1.70 mm   |
| Hole H | 4-40 UNC-2B<br>Ø 3.56<br>Counter bore<br>Deep 0.76 mm | 4-40 UNC-2B<br>Ø 3.56<br>Counter bore<br>Deep 0.76 mm | 4-40 UNC-2B<br>Ø 3.56<br>Counter bore<br>Deep 0.76 mm |



## Website

For more information refer to our website:  
[www.rosenberger.com/t&m](http://www.rosenberger.com/t&m)

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