

# Waveguide Terminations, Fixed Attenuators

DC to 40 GHz Applications

## Termination Features

- WR650 to WR28 available
- Pressurized to 30 PSI
- Low VSWR (Suitable for test standard)
- Dummy Loads to 5000 W (WR430) and 4000 W (WR284, WR229)
- Stub Terminations for tight locations

**MIDISCO** provides a wide assortment of Waveguide (W/G) components in addition to the adapters shown elsewhere. They are too numerous to include all data here, and include terminations, dummy loads, straight sections, transitions, mitered and swept 90° bends, directional couplers, pressure inlets, as well as fixed attenuators, and flexible W/G sections. Medium power terminations and dummy loads are shown. Both are available in low and high power as well. For information on components not shown, contact factory.

New Products

**Medium Power Terminations, Dummy Loads (Frequency in GHz per EIA Designations)**

Model No.	Frequency	W/G	Max. VSWR	CW Pwr	A Dim.	B Dim.	C Dim.	D Dim.
T-X-650-M (1)	1.12-1.17	WR650	1.05	50 W	15	NA	NA	NA
T-X-430-M (1)	1.7-2.6	WR430	1.07	30 W	12	NA	NA	NA
T-X-284-M	2.6-3.95	WR284	1.07	30 W	11	NA	NA	NA
T-X-229-M	3.3-4.9	WR229	1.07	30 W	8	NA	NA	NA
T-X-187-M	3.95-5.85	WR187	1.07	30 W	7	NA	NA	NA
T-X-159-M	4.9-7.05	WR159	1.07	30 W	6	NA	NA	NA
T-X-137-M	5.85-8.2	WR137	1.07	30 W	6	NA	NA	NA
T-X-112-M	7.05-10.0	WR112	1.07	30 W	6	NA	NA	NA
T-X-90-M	8.2-12.4	WR90	1.07	40 W	5	NA	NA	NA
T-X-75-M	10.0-15.0	WR75	1.07	50 W	4	NA	NA	NA
T-X-62-M	12.4-18.0	WR62	1.07	30 W	4	NA	NA	NA
T-X-42-M	18.0-26.5	WR42	1.07	15 W	3	NA	NA	NA
T-X-28-M	26.5-40.0	WR28	1.07	15 W	2	NA	NA	NA
ST-X-229-M	3.7-4.2	WR229	1.20	60 W	3	NA	NA	NA
ST-X-187-M	5.0-6.0	WR187	1.20	50 W	3	NA	NA	NA
ST-X-159-M	5.9-6.5	WR159	1.10	50 W	2	NA	NA	NA
ST-X-137-M	5.9-6.5	WR137	1.10	50 W	1.5	NA	NA	NA
ST-X-112-M	7.25-8.4	WR112	1.15	35 W	1.5	NA	NA	NA
ST-X-90-M	11.7-12.2	WR90	1.10	35 W	1.5	NA	NA	NA
ST-X-75-M	11.7-12.2	WR75	1.10	30 W	1.25	NA	NA	NA
ST-X-75-M	14.0-14.5	WR75	1.10	30 W	1.25	NA	NA	NA
ST-X-62-M	14.0-14.5	WR62	1.10	25 W	1	NA	NA	NA
DL-X-650-M (1)	1.12-1.17	WR650	1.10	3000 W	35	10	9	.265
DL-X-430-M (1)	1.7-2.6	WR430	1.10	2000 W	25	7.5	6.5	.265
DL-X-284-M	2.6-3.95	WR284	1.10	2000 W	15	6	5	.265
DL-X-229-M	3.3-4.9	WR229	1.10	1500 W	21	6	5	.265
DL-X-187-M	3.95-5.85	WR187	1.10	1500 W	14	5	4	.265
DL-X-159-M	4.9-7.05	WR159	1.10	1500 W	18	5	4	.265
DL-X-137-M	5.85-8.20	WR137	1.10	1500 W	9.5	5	4	.265
DL-X-112-M	7.05-10.0	WR112	1.10	1000 W	11	5	4	.265
DL-X-90-M	8.2-12.4	WR90	1.10	1000 W	11	5	4	.203
DL-X-75-M	10.0-15.0	WR75	1.10	1000 W	11	5	4	.265
DL-X-62-M	12.4-18.0	WR62	1.10	1000 W	11	5	4	.265
DL-X-42-M	18.0-26.5	WR42	1.10	500 W	7.5	3.5	3	.203
DL-X-28-M	26.5-40.0	WR28	1.10	250 W	5.5	2	2.5	.203

(1): Available in aluminum only

Part Number Construction **X**: Insert 1, 2, 3, 4, 5, or 6 in place of X for flange type. **M**: Insert A, B, C or S for material required.

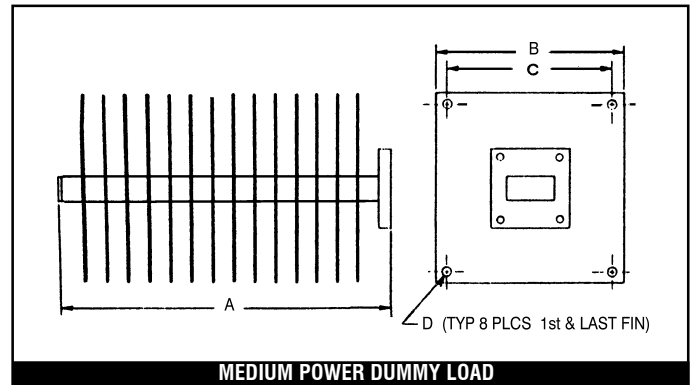
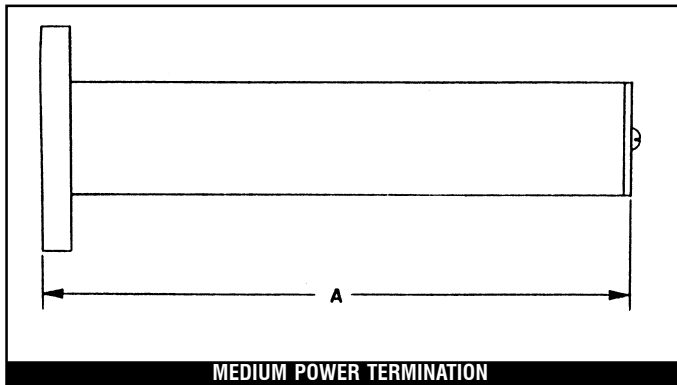
**Material**: A = Aluminum, B = Brass, C = Copper, S = Special **Flange**: 1 = Cover, 2 = Choke, 3 = CPRF, 4 = CPRG, 5 = Special, 6 = CMR

Example: A WR90, 50 watt termination with a brass choke flange is part number *T-2-90-B*

Notes: Standard Finish is black polyurethane enamel. All dimensions are in inches. See next page for outline drawings.

## Medium Power Waveguide Termination and Dummy Load Outline Drawings

New Products

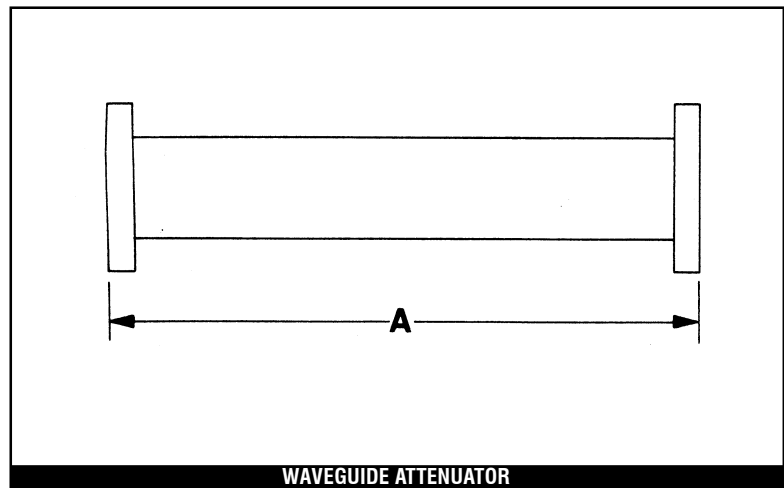


### Attenuator Features

- 3, 6, 10, 20 dB Standard Values
- Full Waveguide Bandwidth
- Calibrated @ Center Frequency (+/- 0.2 dB Accuracy)
- 2.6 – 40 GHz Coverage
- VSWR: 1.15 max., all cases

**MIDISCO's** W/G attenuator repertoire includes fixed units operating to 40 GHz. Standard values are 3, 6, 10, and 20 dB. Other values are available. Standard exterior finish is flat black polyurethane paint.

Model No.	Frequency	W/G	Pwr	A
A-XY-284-M-DB	2.6-3.95	WR284	10 W	10
A-XY-229-M-DB	3.3-4.9	WR229	8 W	9
A-XY-187-M-DB	3.95-5.85	WR187	5 W	8.5
A-XY-159-M-DB	4.9-7.05	WR159	5 W	8
A-XY-137-M-DB	5.85-8.2	WR137	4 W	8
A-XY-112-M-DB	7.05-10.0	WR112	1 W	4.5
A-XY-102-M-DB	7.0-11.0	WR102	1 W	4
A-XY-90-M-DB	8.2-12.4	WR90	1 W	3.5
A-XY-75-M-DB	10.0-15.0	WR75	1 W	3.5
A-XY-62-M-DB	12.4-18.0	WR62	1 W	3
A-XY-51-M-DB	15.0-22.0	WR51	1 W	2.5
A-XY-42-M-DB	18.0-26.5	WR42	1 W	2.5
A-XY-34-M-DB	22.0-33.0	WR34	1 W	2
A-XY-28-M-DB	26.5-40.0	WR28	1 W	2



**Part Number Construction:** Part numbers for attenuators are constructed by inserting the codes for flange type and material as shown on the previous page for terminations (with the addition of "Y" for the second flange), and an added suffix for the dB value desired. For example, a WR90 brass 10 dB attenuator with one cover flange and one choke flange is part number **A-12-90-B-10**.

### Other Midisco Waveguide Products

Please contact **MIDISCO** for all of your waveguide component requirements. In addition to the terminations and attenuators summarized here - and the products mentioned in the introduction to this section - we can supply many other rectangular and double ridge waveguide components. These include but are not limited to flanges, gaskets for pressure and EMI sealing, twists with flanges, end launch W/G to coaxial adapters, pressure windows, hybrid tees, and more.