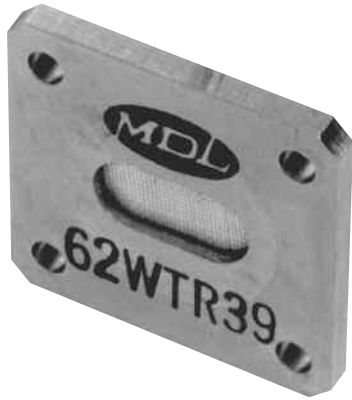


# Section 10

## Waveguide Pressure Windows



### Introduction

The MDL teflon/fiberglass pressure windows provide a seal within waveguide systems while passing microwave energy freely. The maintained pressure ensures maximum performance, and the seal prevents entry of moisture, dirt, and dust.

The teflon/fiberglass pressure flange windows will not hold a vacuum seal. These windows are made of aluminum base material with an iridite finish but can be made of copper alloy material with a silver plated finish on a special order basis.

A safety factor is included in the power handling specifications of all MDL pressure windows.

All window surfaces are design-tested at atmospheric pressure with a one microsecond pulse at 1000pps repetition rate.

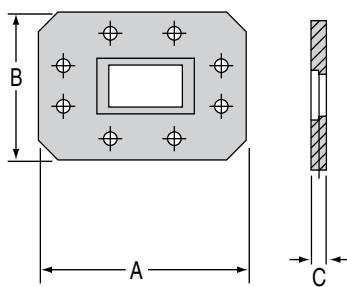
# Pressure Windows waveguide

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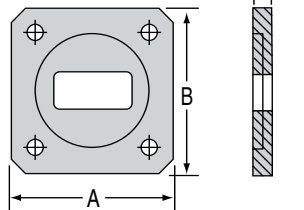
| W/G SIZE | FREQ. RANGE (GHz) | ELECTRICAL DATA |           |                     |                        |           | MECHANICAL DATA |               |             |
|----------|-------------------|-----------------|-----------|---------------------|------------------------|-----------|-----------------|---------------|-------------|
|          |                   | MODEL NUMBER    | MAX. VSWR | PEAK POWER (KW) *** | MAX. PRESSURE (PSIG) * | STYLE NO. | LENGTH A        | FRAME WIDTH B | THICKNESS C |

## Flange Windows

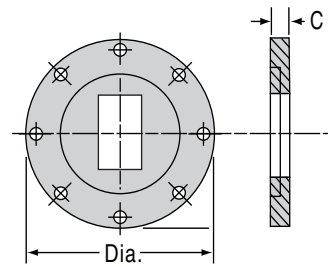
|       |           |               |            |      |       |       |      |           |           |      |
|-------|-----------|---------------|------------|------|-------|-------|------|-----------|-----------|------|
| WR28  | 26.5-40.0 | 28WT16        | 1.15       | 45   | 30/20 | 2     | 0.75 | 0.75      | 0.06      |      |
|       | 34.0-36.0 | 28WT26        | 1.06       | 45   | 30/20 | 2     | 0.75 | 0.75      | 0.06      |      |
| WR34  | 22.0-33.0 | 34WT16        | 1.15       | 50   | 30/20 | 2     | 0.87 | 0.87      | 0.06      |      |
| WR42  | 18.0-26.0 | 42WT16        | 1.15       | 60   | 30/20 | 2     | 0.87 | 0.87      | 0.06      |      |
| WR51  | 15.0-22.0 | 51WT16        | 1.10       | 100  | 45/45 | 2     | 1.31 | 1.31      | 0.12      |      |
| WR62  | 12.4-18.0 | 62WT16        | 1.10       | 150  | 45/45 | 2     | 1.31 | 1.31      | 0.12      |      |
|       |           | 62WT46++      | 1.10       | 150  | 45/45 | 2     | 1.31 | 1.31      | 0.12      |      |
| WR75  | 10.0-15.0 | 75WT16        | 1.10       | 300  | 45/45 | 2     | 1.50 | 1.50      | 0.12      |      |
| WR90  | 8.2-12.4  | 90WT36-1**    | 1.10       | 500  | 45/45 | 2     | 1.62 | 1.62      | 0.12      |      |
|       |           | 90WT36-2**    | 1.10       | 500  | 45/45 | 2     | 1.62 | 1.62      | 0.12      |      |
|       |           | 90WT36-3**    | 1.12       | 500  | 45/45 | 2     | 1.62 | 1.62      | 0.19      |      |
|       | 10.2-10.6 | 90WT46++      | 1.08       | 500  | 45/45 | 2     | 1.62 | 1.62      | 0.12      |      |
|       | 8.2-12.4  | 90WT56 $\phi$ | 1.10       | 500  | 45/45 | 2     | 1.62 | 1.62      | 0.37      |      |
|       | 8.2-11.0  | CPR90WT16     | 1.10       | 300  | 30/30 | 1     | 2.09 | 1.59      | 0.12      |      |
|       | 8.2-12.4  | 90WT16        | 1.10       | 300  | 45/45 | 2     | 1.62 | 1.62      | 0.12      |      |
| WR102 | 8.5-9.6   | 90WT26        | 1.08       | 300  | 45/45 | 2     | 1.62 | 1.62      | 0.12      |      |
|       | 8.2-12.4  | 90WT66 $\phi$ | 1.10       | 500  | 45/45 | 2     | 1.62 | 1.62      | 0.75      |      |
|       | 7.05-11.0 | 102WT16       | 1.10       | 800  | 45/45 | 2     | 1.68 | 1.68      | 0.12      |      |
|       | WR112     | 7.05-10.0     | CPR112WT16 | 1.10 | 500   | 30/30 | 1    | 2.50      | 1.75      | 0.12 |
|       |           | 8.5-9.6       | 112WT26    | 1.08 | 500   | 45/45 | 2    | 1.87      | 1.87      | 0.12 |
| WR137 | 5.85-8.2  | 137WT16       | 1.10       | 1000 | 45/45 | 3     |      | 3.12 Dia. | 0.18      |      |
|       |           | CPR137WT16    | 1.10       | 1000 | 30/30 | 1     | 2.69 | 1.94      | 0.19      |      |
|       | WR187     | 3.95-5.85     | 187WT16    | 1.10 | 1500  | 45/45 | 3    |           | 3.62 Dia. | 0.25 |
| WR284 | 3.3-4.9   | CPR187WT16    | 1.12       | 1500 | 30/30 | 1     | 3.50 | 2.50      | 0.25      |      |
|       |           | CPR229WT16    | 1.10       | 1750 | 30/30 | 1     | 3.88 | 2.75      | 0.25      |      |
|       | 2.6-3.95  | 284WT16       | 1.10       | 2000 | 45/45 | 3     |      | 5.31 Dia. | 0.25      |      |
|       |           | CPR284WT16    | 1.10       | 2000 | 45/45 | 1     | 4.50 | 3.00      | 0.25      |      |



STYLE 1



STYLE 2



STYLE 3

**Notes:** \* The higher number indicates maximum pressure applied to the insert side of the window.

The other number is the max. pressure applied to the opposite side of the window provided the insert side is supported by a cover flange.

- Choke/flat window adapter.

Flange configuration other than those shown are available on special order.

$\phi$  Choke/choke window adapter.

$\Delta$  Nominal, .xx = 0.020 inches.

\*\* 90WT36 groove equivalent to WR90 choke "O" ring groove.

MOD 1 with groove on insert side.

MOD 2 with groove on flat side.

MOD 3 with groove on both sides

\*\*\* Duty cycle .001