## Waveguide Loads, WL series



Liquid Cooled Dummy Loads 2.6 - 18.0 GHz

- Extremely Rugged High Power Loads
- High Temperature Refractory Load Elements
- Optimized Transverse Cooling Fins
- Available with most Common Flanges
- Mounting in any position



Microlab WL series dummy loads are high power liquid cooled dry loads. They are used in the 2.60 to 18.0 GHz region.

The WL dummy loads employ high temperature refractory load elements designed to meet the requirements of MIL-D-3954A. Load elements are in direct contact with waveguide walls for optimum heat transfer. They can with-stand extremely high temperature, temperature gradients, and thermal shocks. They are designed to operate at the rated power without coolant for sufficient time to permit detection and correction of coolant system failure.

The units utilize a cylindrical aluminum cooling jacket. Stiffening ribs are employed for mechanical rigidity, improved heat transfer, and optimum coolant flow. Water is used as a coolant. Standard female pipe threads are provided for coolant connections. Coolant flow rates shown are the minimum recommended for proper flow. These units may be mounted in any position.

These loads can be supplied to operate over the full indicated waveguide frequency band. Generally faster delivery and a more economical unit can be furnished for use over narrower frequency ranges. Always specify your frequency and VSWR requirements.

The table below provides power ratings for each model. The independent average power rating assumes CW operation, and the independent peak power rating assumes negligible average power. The combined average and peak power ratings should be employed together.

Designs to meet special requirements for bandwidth, size, flanges, etc., are available on request. (06/09)

| VSWR:              | 1.10:1 max.   |  |  |  |
|--------------------|---------------|--|--|--|
| Coolant:           | Liquid        |  |  |  |
| Dissipative Mat'l: | Refractory    |  |  |  |
| Coolant:           |               |  |  |  |
| Max Inlet Temp:    | 150°F (65°C)  |  |  |  |
| Test Pressure:     | 50 psig. max. |  |  |  |
| Pressure:          | 100 psig max. |  |  |  |
| Coolant Connector: | NPT, female   |  |  |  |
| WL-0025:           | 3⁄4 - 14      |  |  |  |
| WL-0035:           | 3⁄4 - 14      |  |  |  |
| WL-0045:           | 3⁄4 - 14      |  |  |  |
| WL-0050:           | 1⁄4 - 18      |  |  |  |
| WL-0055:           | 1⁄4 - 18      |  |  |  |
| WL-0065:           | 1⁄4 - 18      |  |  |  |
| Housing Finish:    | Black Paint   |  |  |  |
|                    | Per TT-E-489  |  |  |  |
| Flange type:       |               |  |  |  |
| <2.6 GHz:          | Contact       |  |  |  |
| >2.6 GHz           | Flange Cover  |  |  |  |
| Flange Material:   | Aluminum      |  |  |  |
| Flange Finish:     | Iridite Per   |  |  |  |
|                    | MIL-C-5541    |  |  |  |

| Model<br>No.   | Frequency<br>Range<br>GHz | Wave<br>Si<br>RG | guide<br>ze<br>WR | Power<br>Independent <sup>†</sup><br>W kW pk.<br>avg. @45 psig | r Ratings<br>Combined<br>W kW pk<br>avg. @30 psig | Min.<br>Flow<br>Rate<br>g.p.m. | Nominal<br>Inche<br>L | Dimensions<br>s (mm)<br>Diam | Weight<br>nom.<br>Ibs (kg) |
|--|---------------------------|------------------|-------------------|--|---|--------------------------------|-----------------------|------------------------------|----------------------------|
| WL-0025  | 2.60 - 3.95               | 75               | 284               | 15,000 19,000  | 7,500 4,000                                       | 5                              | 17.5<br>(445)         | 5.9<br>(150)                 | 19<br>(8.6)                |
| WL-0035  | 3.95 - 5.85               | 95               | 187               | 10,000 7,750   | 4,000 1,800                                       | 4                              | 12.6<br>(320)         | 4.8<br>(122)                 | 10<br>(4.5)                |
| WL-0045  | 5.85 - 8.20               | 106              | 137               | 5,000 4,250  | 2,000 1,000                                       | 2                              | 9.0<br>(229)          | 3.4<br>(86)                  | 4.0<br>(1.8)               |
| WL-0050  | 7.05 - 10.0               | 68               | 112               | 4,000 2,750  | 1,500 750   | 2                              | 8.1<br>(206)          | 3.1<br>(79)                  | 3.0<br>(1.4)               |
| WL-0055  | 8.80 - 12.4 ‡             | 67               | 90                | 3,000 1,750  | 1,000 350   | 1                              | 7.5<br>(191)          | 2.9<br>(74)                  | 2.3<br>(1.05)              |
| WL-0065  | 12.4 - 18.0               | 349              | 62                | 1,500 1,000  | 500 250   | 1                              | 5.8<br>(147)          | 2.5<br>(64)                  | 1.3<br>(0.59)              |
| au Operation to 8.2 GHz with reduced VSWR of <1.15:1 |                           |                  |                   |  |   |                                |                       |                              |                            |

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