

# TWAL

## 4 ... 8 GHz

## Travelling Wave Tube

### Standard Models

| Model        | Frequency Range | Output Power<br>$P_N$ / W | Gain<br>min / typ<br>dB | Harmonics<br>2nd / 3rd<br>dBc | Line Power<br>W | Dimensions<br>(H,D)<br>19"-System | Weight<br>kg |
|--------------|-----------------|---------------------------|-------------------------|-------------------------------|-----------------|-----------------------------------|--------------|
| TWAL 0408–20 | 4 ... 8 GHz     | 20                        | 43 / 48 ±5              | 5 / 20                        | 400             | 3 HU, 550 mm                      | 20           |

### Standard Specifications:

|                       |  |
|-----------------------|--|
| Input Power           | 0 dBm (1 mW) max.                                    |
| Overdrive Protection: | up to +10 dBm for no damage                          |
| Input Impedance:      | 50 Ohm nominal                                       |
| Output Impedance:     | 50 Ohm nominal                                       |
| Input VSWR:           | <2:1 typ.  |
| Load VSWR:            | 2:1 max. for $P_N$ –0.5 dB<br>infinite for no damage |
| Spurious (at $P_N$ ): | –50 dBc typ.(excluding harmonics)                    |
| Noise Figure:         | 20 dB max.   |
| Class of Operation:   | A–linear   |

### General:

|                      |                                 |
|----------------------|---------------------------------|
| RF Input:            | N–f; standard on rear panel     |
| RF Output:           | N–f; standard on rear panel     |
| Mains Supply:        | 200 ... 264 V AC / 47 ... 63 Hz |
| Elapsed Time Meter:  | via status display              |
| Ambient Temperature: | 0 ... +40 °C                    |
| Storage Temperature: | –20 ... +85 °C                  |

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|                      |  |
|----------------------|--|
| Relative Humidity:   | up to 95% (non-condensing)   |
| Operating Altitude:  | up to 2000 m above sea level                                       |
| Vibration and Shock: | normal laboratory environment                                      |
| Cooling:             | forced air with integral blower,<br>air intake and exhaust at rear |

**Options:**

- |                                      |                            |
|--------------------------------------|----------------------------|
| A) RF Monitor Outputs                | G) Output Isolator         |
| B) External Dual Directional Coupler | M) 115 V AC / 47 ... 63 Hz |
| C) IEEE-488.2 GPIB Remote Control    | N) Harmonic Filter         |
| D) Front Panel RF Connectors         | R) RS-232C Remote Control  |
| E) Power Indication (digital)        | U) USB Remote Control      |
| F) Gain Adjustment                   |                            |

Specifications are subject to change without notice



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