



Microwave Magnetron Heads

TI SERIES INTEGRAL HEAD WITH ISOLATOR TM SERIES CLOSED FRAME HEAD TX SERIES OPEN FRAME HEAD

MKS, Alter® microwave magnetron heads are available for industrial heating applications in several different construction styles. The magnetron power ranges from 1 kW (at 2,450 & 5,800 MHz) up to 10 kW (at 2,450 MHz). Heads at 2,450 MHz frequency are equipped with standard ending flange type R29; heads for frequency 5,800 MHz are equipped with Type R58 flange.

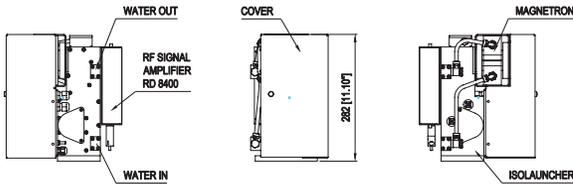
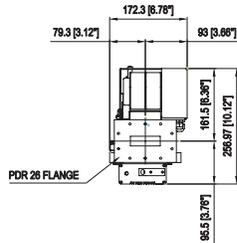
The three different styles are the Integral Head, the Closed Frame Head and the Open Frame Head. The Integral Head (TI) is available in 3 power levels (1.2 kW, 2 kW and 3 kW), all are water-cooled. The Closed Frame Head is available in air-cooled (TMA) with power ranging from 1 kW up to 2 kW, or with water-cooled (TM0) with power ranging from 1 kW up to 10 kW. The third style is the Open Frame Head, available in either air-cooled (TXA) with power ranging from 1 kW up to 2 kW or water-cooled (TX0), with power ranging from 1 kW up to 3 kW. Reference the table below for an overview of head types and power levels.

Features & Benefits

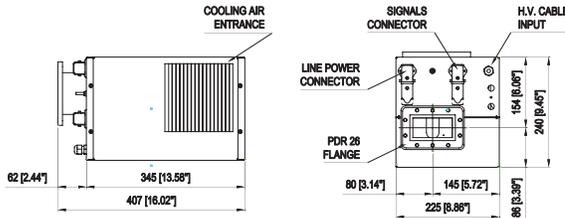
- Simple, rugged and cost effective design
- Broad portfolio of heads covering a wide range of power needs and applications
- Standard waveguide size WR 340, able to handle up to 10 kW power @ 2,450 MHz
- TI & TM types may be supplied in several versions, with different accessories including power signal amplifier, water flow and/or air flow sensors
- Complete cable sets, with length on request, for an easy plug & play with our power supplies portfolio

Microwave Magnetron Heads Overview									
TYPE	COOLING	FLANGE	FREQ (MHz)	1 kW	1.2 kW	2 kW	3 kW	6 kW	10 kW
TI	Water	R26	2,450	NA	Yes	Yes	Yes	NA	NA
TMA	Air	R26	2,450	Yes	Yes	Yes	Ask	NA	NA
TM0	Water	R26	2,450	NA	Yes	Yes	Yes	Yes	Yes
TM5810	Water	R58	5,800	Yes	NA	NA	NA	NA	NA
TXA	Air	R26	2,450	Yes	Yes	Yes	Ask	NA	NA
TX0	Water	R26	2,450	NA	Yes	Yes	Yes	NA	NA

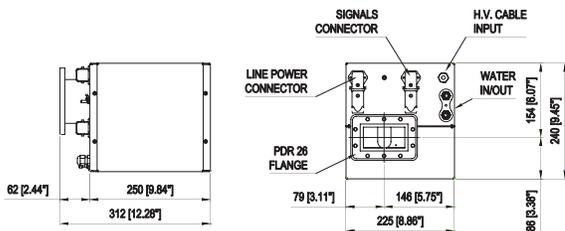
Overview of Models



T10 Head with Amplifier, water-cooled



TMA Head, air-cooled



TMO Head, water-cooled

Dimensional Drawings —

Note: Unless otherwise specified, dimensions are nominal values in millimeters (inches referenced).



MKS Instruments, Inc. Global Headquarters

2 Tech Drive, Suite 201
Andover, MA 01810

Tel: 978.645.5500
Tel: 800.227.8766 (in USA)
Web: www.mksinst.com

MKS Instruments Italy S.r.l. Plasma & Reactive Gas Solutions

Via P. e M. Curie, 8
42122 Reggio Emilia, Italy

Tel: +39 0522 553 820

The T10x microwave magnetron head integrates into the same mechanical structure as the launcher section and the isolator with water load. The T10x head is available in different power ranges up to 3 kW @ 2450 MHz, water-cooled only.

The basic version includes the following components:

- compact, all-in-one, waveguide launcher with integrated isolator and water load with flange PDR26
- two monitor probe antenna for forward and reverse power measurement (attenuation 57 dB approx)
- terminal block
- water-cooled magnetron, with power and characteristics depending on head model
- filament transformer
- thermoswitch to protect the magnetron

The TMx closed frame microwave magnetron head is available with either air-cooled magnetron (TMA) or water-cooled magnetron (TMO), with power ranging from 1.0 kW up to 10 kW.

These heads are designed for applications where the head will not have any further enclosure. They are easy to install having connectors for line power and signals, and have been designed for the highest energy transfer to load, and when installed and used according the magnetron's manufacturers specification it can be expected to reach the longest tube life. If the power level exceeds 2 kW, it is recommended that an isolator be installed.

The TMA or TMO heads may be supplied with several accessories. The basic version includes the following components:

- aluminum waveguide launcher with flange PDR26
- closed aluminum cabinet, with removable panels
- two separate connectors for main line and signals, for industrial environments (IP44 and up)
- magnetron with a thermoswitch and the filament transformer

The TX type is an open frame version of the TMx. It is available with either an air or water-cooled magnetron up to 3 kW. It is designed as a simple but complete configuration, with its filament transformer, a thermoswitch, and a wiring terminal, ideal on reducing complexity in medium to large quantity installations.