

**COMPUTERISED MAGNESIUM AND ALUMINIUM METAL MATRIX
COMPOSITE CASTING MACHINE**

Photo of Instrument:



Instrument Name	Computerised Magnesium and Aluminium Metal matrix composite Casting machine
Instrument Model & Serial No.	
Instrument Make	SwamEquip, Chennai
Category of Instrument	Casting machine (Manufacturing)
Description of Instrument	This automated casting machine produces Mg/Al alloys & composites in an inert atmosphere. It supports gravity, squeeze, vacuum, and rotary casting with stirring and ultrasonic probe for homogenization of reinforcements.
Instrument Technical Description and Major Specifications (This Specifications Limited to Major 5)	<p>1) BOTTOM POURING TYPE STIR CASTING MACHINE</p> <p>Capacity: 800 gms to 2 Kg of Aluminium or Magnesium</p> <p>Maximum Temperature: 1000 °C</p> <p>Stirrer Arrangement: Variable from 300 to 1200 RPM</p> <p>Pre-heating furnace for reinforcement (Powders): Maximum Temperature: 800 °C</p> <p>Pre-heater for Mould: Max. Temperature: 450 °C</p> <p>Inert & Gas Mixing System:</p> <p>2) Attachment-1: Vacuum Die Casting Vacuum: 700mmHg</p> <p>3) Attachment-2: Squeeze Die Casting Maximum pressure of hydraulic press: 0 to 40</p>

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	<p>Tons</p> <p>4) Attachment-3: Rotary Centrifugal Casting AC/DC motor to drive the rotary die at 1400 RP</p> <p>5) Attachment-4: Ultrasonic Vibrator Horn, 2500 Watts Ultrasonic Power 2500 Watts with power adjustment of 60%, 70%, 90% & 100%. Ultrasonic Frequency 20 KHz Control Panel: Human Machine Interface (HMI)</p>
Application of Instrument (Limited to Major 4 or 5)	To produce Mg or Al alloys and composite
Type of Sample Required for Analysis / Testing (Quantity, Pre-Preparation, State etc.) Guidelines for Sample Submission – User Instructions	Only Aluminium and Magnesium alloys and composite, Quantity of charge depend on the mould cavity and density of the charge.
Types of Analysis / Testing	Manufacturing
Faculty In-Charge Name / Email / Contact	Dr. K. Sekar 9746562695 sekar@nitc.ac.in
Technical Staff Name / Email / Contact	Mr. Sanal P R sanal@nitc.ac.in 9497186556
Location of Instrument	Materials Science Lab Production Engineering Block
Other Details	

User Charges:

S.NO.	Type of Analysis/ Testing	Internal - within Department of NITC	Internal - Other Departments NITC	External Academic Educational Institutes	National Labs	Industry
1	Casting	1000/Sample	1000/Sample	3000/Sample	3000/Sample	3000/Sample

Slot Booking and Payment Work Flow: