

LAB FLAT SHEET MEMBRANE CASTING MACHINE WITH HEATING FACILITY



INTRODUCTION

TECH INC offers Flat sheet Membrane casting machines with Heating facility used in Membrane research applications - are used for casting uniform flat sheets of membranes in laboratories to sizes 200 x 250mm max with adjustable speeds of casting. They are provided with gap adjustment facility to fix membrane thickness.

However, many research applications demand heating of cast membranes for solvent evaporation from the cast dope – for which membrane cast plates are shifted to hot air ovens. Uniform temperature of heating around membrane sheets is difficult to achieve in ovens generally. In addition, during transfer of uncured cast membranes to oven, membranes are disturbed due to handling and inside the oven, visibility of solvent evaporation from membrane surface is lost.

Understanding this need, we introduces Flat Sheet Membrane Casting machine with heating facility – where the temperature can be set to 150 deg C max.

This facilitates ease of operation and casting of thin film membranes.

This can be tried for various polymeric membranes and also for Fuel Cell membranes.

OVERVIEW

The Flat sheet casting machine is made up of corrosion free SS304.

The casting platform is capable of withstanding temperature upto 150 Deg C.

The Cast blade assembly with thickness adjusting rollers enables us to cast the membranes with thickness starting from 100 microns.

Heater is attached to the top casting plate which allows the temperature to spread evenly throughout the plate.

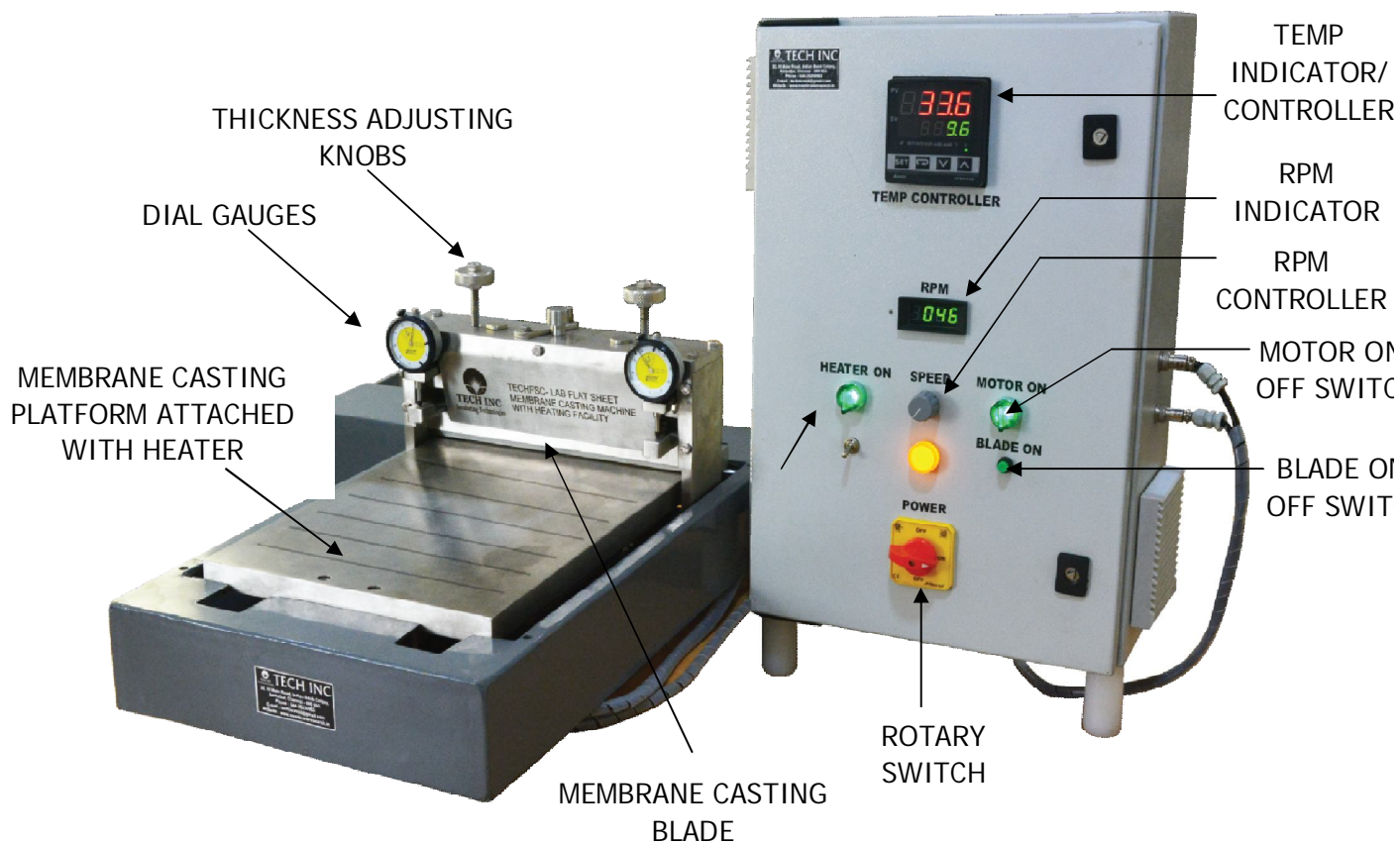
Temperature sensor with PID controller is provided to set the temperature of the casting surface.

Toughened glass plate is provided to withstand the high temperature.

Motor is provided with speed controlling facility.

The switches and knobs are provided to switch ON & Off the Motor & Heater

PARTS OF THE MACHINE



Note: Picture shown is symbolic/ typical. Size/ shape and control shall change at the time of manufacturing

TECHNICAL SPECIFICATION

S.No	Product Description	
a	Machine	
	MOC of the Machine	: SS304
	MOC of the Casting plate	: SS304
	Thickness of the Casting plate	: 20mm Min
	Type of movement mechanism	: Belt driven with timer pulley
	MOC of movement belt	: PU
	Drive	: Motor with gear reduction
	Input	: 230 VAC, 50 Hz, single phase.
b	Thickness adjusting mechanism	
	MOC of the thickness adjusting mechanism	: SS304
	Rollers for thickness adjustment	: 2 Nos Provided

	Vibration resistant springs & adaptors	: provided
	Dial Gauges	: 2 Nos provided
	Make of gauge	: Yamayo/ eqvt
	Gauge holding mechanism	: provided
	High precision casting blade	: provided
	Flat sheet membrane size	: 200mm x 250mm
	Casting Bed	: Glass Plate
	Film thickness control	: 50 -100 mm/ Sec
	Head Control Accuracy	: 10 Microns
	MOC of blade	: SS316
	Thickness of blade	: 5mm Min
	Blade lifting rod	: provided
	Side Roller mechanism for precision movement	: Provided
	Thickness Range	: 100 to 500 microns
c	Electrical & Temperature panel	
	Location	: Remote Stand alone, isolated from machine. Electrical parts away from chemical and heat exposure
	MOC	: MS powder coated
	Make of the panel	: Schneider/ BCH/ Reputed make
	Make of the MCB	: Schneider/ Reputed make
	Rotary Switch	: Provided
	Switch control for switch ON the Motor	: Provided
	Switch control for switch ON the Heater	: provided
	RPM Controlling system	: provided
	RPM controlling knob	: provided
	Digital RPM Indicating panel	: provided
	Toggle switch for forward/ backward movement	: Provided
	Make of the cables	: Polycab/ reputed make
	Length of the power cable	: 2 mtrs min
	Length of the cable from Panel to motor	: 2 Mtrs min
d	Heating Mechanism	
	Type of heating mechanism	: Plate
	Heater plate mounting plate & frame	: provided below the casting plate
	Temperature sensor	: provided with sensing RTD
	MOC of the RTD	: SS
	Length of the RTD cable	: 2 Mtrs
	Make of Temperature sensor	: Delta/ Eqvt
	Temperature range	: 0 – 150 Deg C
	Motor Protecting cover	: provided
	MOC	: FRP

TECH INC OFFERS...

MEMBRANE CASTING EQUIPMENT

Flat Sheet Membrane Casting Machine
Flat Sheet Membrane Roll Casting Machine
Hollow Fiber Membrane Casting Machine
Large scale Hollow Fiber Membrane Casting Machine
Large scale Automatic Roll Casting of Flatsheet
Large scale Interfacial Polymerisation Coating machine

MEMBRANE DISTILLATION AND CONTACTORS

Membrane Distillation Skid
Membrane Distillation Stack

MEMBRANE TESTING EQUIPMENT

FO & RO Test Skid	Contact Angle
UF Membrane Test Skid	Membrane Strength
Lab Scale MBR	Pore size/Porosity

MEMBRANE TEST CELLS

Rectangular Cell
Circular Cell
MD Cell
FO/RO Cell

STIRRED CELLS

High Pressure Stirred Cell
Low Pressure Stirred Cell
Solvent Stirred Cell

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