



Rotary Evaporator



“TRANSROTTA” ROTARY VACUUM FILM EVAPORATOR

TRANSMECH INDUSTRY incorporated in Year 2003 to diversify Business by Mr. Jay Shah having rich experience in manufacturing Equipment for Lab and Kilo Lab. We engaged in manufacturing of Industrial Evaporation equipment for the Pharmaceuticals, Chemical, Cosmetics, Herb Extraction, Research & Drying and allied industries.

TRANSMECH INDUSTRY is a leading manufacturer, Designer and supplier of Rotary Evaporator to Major Industries since Year 2003.

“TRANSROTTA” Rotary Film Evaporator are designed and Manufacture in India for Industrial Evaporation applications. Exclusive use of Borosilicate 3.3 Grade Glass and PTFE/GFT[Glass filled Teflon] for all Contact parts ensures High Chemical Resistance and High Temperature operation.

Rotary Evaporator is primarily used for distillation of high sensitive and volatile components, owing to its unique construction. It can operate under full vacuum and is an essential equipment in Chemical and Pharmaceutical Industries.

WORKING PRINCIPLE OF ROTARY EVAPORATOR

A Rotary Evaporator works on the principle of reducing the pressure and temperature of a mixture to facilitate the evaporation of solvents. Here's a step-by-step explanation:

1. **Sample loading:** A sample is placed in a round-bottom flask connected to the Rotary Evaporator.
2. **Vacuum application:** A vacuum pump reduces the pressure inside the system, lowering the boiling point of the solvent.
3. **Heating:** The flask is partially submerged in a water bath or heating mantle, providing gentle heat to the sample.
4. **Rotation:** The flask rotates, increasing the surface area of the sample and promoting uniform heating.
5. **Evaporation:** The solvent evaporates, forming vapor that rises into the condenser.
6. **Condensation:** The condenser, cooled by a chiller or cold water, condenses the vapor back into a liquid.
7. **Collection:** The condensed solvent collects in a separate flask, leaving the concentrated sample behind.



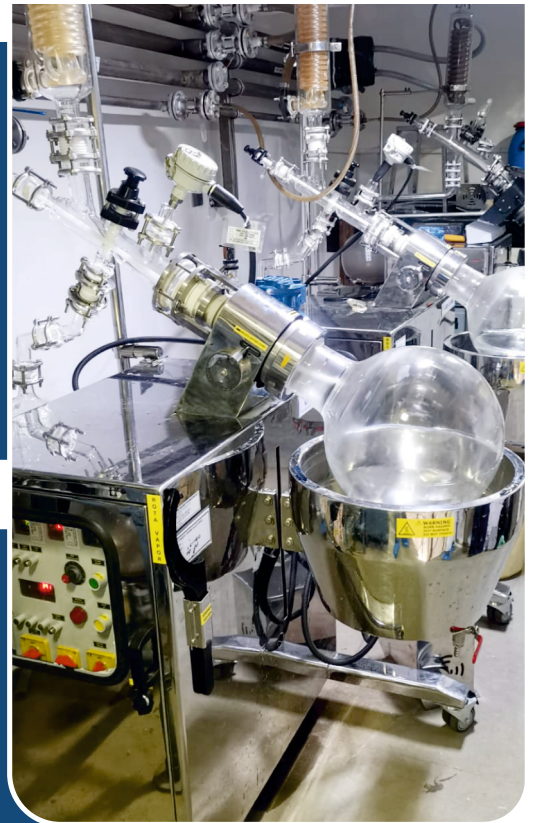
APPLICATION OF ROTARY EVAPORATOR

A Rotary Evaporator is a laboratory equipment used for the removal of solvents from samples through evaporation. Some applications of Rotary Evaporators include:

- Concentration of solutions
- Purification
- Drying
- Reaction mixing
- Distillation
- Crystallization
- Food processing
- Pharmaceutical research
- Chemical synthesis

These applications take advantage of the Rotary Evaporator's ability to efficiently remove solvents under controlled conditions, making it a versatile tool in various industries as follows.

- Pharmaceutical
- Chemical
- Herb extraction
- Petrochemical
- Cosmetics
- Fragrance and aromatics and many more



“TRANSROTTA” ROTARY SALIENT FEATURES

- MADE IN INDIA, Designed considering INDIA's environment. Compact, Rigid, Easy to Operate and Robust Construction.
- All parts are Developed in house and Indigenous.
- All Glass parts are made from Borosilicate 3.3 Grade.
- Noise free, Oil Free / Leakage free Gearbox for Flask Rotation.
- All External NON Contact parts with Glass are from SS 304 Material and All contact parts with Product is from Teflon / GFT.
- Flask Rotation Gearbox is Suitable for 4" /100mm Flask Core Hole for easy Product removal from flask.
- First in class, Jacketed Insulation Heating Bath for better heat resistance and operator safety.
- Heater Immersion U type with FLP / Weather Proof Electrical Enclosure.
- Heavy duty Grease Filled Gearbox's Bearings for Long running life.
- M.S Powder coated Gearbox body & With SS304 Cover for GMP Versions
- M.S. Skid / Body with Powder Coating and SS304 Body for GMP Versions.
- Imported Twin wheel heavy Duty Caster Wheel with Wheel Centre made of Polypropylene and Tread of ThermoPlastic Rubber, Grey non Marking, Precision ball bearing for smooth, Vibration free and easy movement of rotary.
- Teflon bellow Mechanical Seal with GFT Face for Long term stable leak proof and High vacuum system.
- All parameters can control from one single control panel.
- All TRANSROTTA Rotary Evaporator models 5L /10L /20L/50L/100L/200L Performance are at par as per all Renown Imported Brand Available in Indian Market.



ELECTRICALS

"TRANSROTTA" Rotary Evaporators are supplied with Standard PID controls and customised as per Client's requirement. On request we make PLC Automatic Controlled Rotary which can be controlled by SCADA.

- Digital temperature Controller with Indicator for heating Bath.
- Digital Indicator for Vapour Temperature.
- Digital Hour Meter for Batch Process Time
- Digital RPM Indicator
- Vacuum Gauge and Vacuum Controlling System [as per client requirement]
- Variable Frequency Drive to change Flask Rotation Speed
- Electric Motors – Flame or Non Flame proof
- MCB switches for extra protection of VFD and Electricals.
- Main power supply – 230V Single phase / 415V 3Phase [as per client requirement]



HMI / PLC/ SCADA / ATEX Electrical Panel Available on Request.

VACUUM PUMP

We supply required capacity Vacuum pump for Rotary Evaporator as per Client Requirement.

Oil Filled / Dry / Chemical Resistance Vacuum Pump Available.



RECIRCULATING CHILLER FOR ROTARY EVAPORATOR

- ❑ Transmech Chillers are specially designed for Optimum efficiency of Rotary evaporator.
- ❑ Powerful designed considering the Indian ambient temperature
- ❑ Superior Quality SS304 Tank with copper cooling coils
- ❑ Skid mounted for easy movability
- ❑ Heavy duty hermetically sealed compressor used which is rated for continuous working
- ❑ High cooling capacity allows for the use of a single chiller with multiple rotary evaporator.



SPECIFICATIONS

Chiller Model	TRCHL-O.070+10X	TRCHL-O.30+20X	TRCHL-O.85+20XAA
Suitable for Rotary Model	5L / IOL	20L	20 / 50L
Power Consumption	1 KW @ 0 °C	2.4KW @ 0 °C	4.4KW @ 0 °C
Display	1.1 KW	2.1 KW	3.3 KW
Temperature Range	EG-30%		
Ambient Temperature	Digital		
Refrigerant	0 °C to 20.8 °C		
Temperature Regulation Accuracy	R 404a		
Tank Volume	+/- 1 C		
Hose connection	20L	30L	70L
Pump Pressure	25 LPM	35 LPM	40 LPM
Flow Rate	1/2" BSP thread - 13mm		
Type of Condenser	Ail Cooled Copper Coil		
Power Supply	230V, 1Ph, 50Hz		
OTHER MODELS AVAILABLE ON REQUEST			



NON GMP ROTARY EVAPORATOR SPECIFICATIONS

Model	NON GMP Models					
Rotating Flask Capacity	5L	10L	20L	50L	100L	200L
DESCRIPTION						
Movable Body / Skid	MS Powder Coated					
Caster with Twin Wheels [Double wheel] All With Brake	Twin wheel heavy Duty Caster Wheel with Centre made of Polypropylene and 25mm Tread of ThermoPlastic Rubber, Grey non Marking, Precision ball bearing for smooth Movement, Size 75mm Dia x 25mm [2nos]					
POWER SOURCE	Electric Panel Non Flameproof Type					
Voltage Supply	230V, 1Ph, 50Hz		415V, 3Ph + N + E , 50Hz			
Power Consumption in KW	2.2	4.25	4.5	7	13	15
ELECTRIC MOTOR & DRIVE						
Flask Drive Motor-AC Synchronize Motor Capacity in KW/HP	0.16 / 0.18	0.18/0.25	0.18/0.25	0.37/0.50	0.75/1.0	0.75/1.0
Rotation speed in RPM	15-180	10-135	10-135	10-135	20-90	20-90
RPM Controlling	Soft Start and Controlled By VFD					
RPM Accuracy	1-2 RPM					
RPM Accelaration & Deacceleration	Adjustable					
Noise Level of Gearbox & Motor	≤ 60 db @ 1meter Distance					
Over Load Trip for Motor Safety	Available					
Safety Measures for Panel	MCB for Short Circuit and current over load protaction for heater and VFD					
INSTRUMENTS & CONTROLS						
RPM Display	Digital					
BATH Temp & Controller	Digital Display with PID Controller					
Vapour Temp Indicator	Digital Display					
Digital Vacuum Sensors & Controlling	On Demand					
Vacuum Gauge	Yes					
Vapour Temperature Sensor	PT - 100, 3 wire					
Bath Temperature Sensors	PT - 100, 3 wire					
HEATING BATH [Water / Oil]						
Temepreature Range	Ambient to + 90 ° C with Water, Ambient to + 180 ° C with Oil [for higher Temp range Contact us]					
Bath Heater Type	Immersion U Type Coil					
Bath Heater power in KW	2	3.6	4	6	6 x 2	6 x 2
Bath Heater Power Terminals Safety	All Terminals are in Flame Proof Encosure					
Bath Heating Control & Accuracy	PID Control, Accuracy +/- 1° C					
Bath Construction	Stainless steel 304 Jacketed Insulation for better Heat Resistance & Resulting less start stop of heater					
Bath Lift	Electrically Controlled by Motor					
Bath Lift Motor-AC Synchronize Motor Capacity in KW	0.12	0.18	0.18	0.37	0.75	0.75
Bath Lift Safety	Top & Bottom Linear Movement Position Controlled by Limit switches					
Over heating Auto Cutoff above Set Point	Yes with Thermostate					
Drain Valve	Yes					
Over Flow Valve	Yes					
Auto Filling of Water / Oil	On Request					
Anti Splash Acrylic Cover	Yes					
Vacuum Sealing						
Flask Rotation Side	Teflon Bellow Mechanical Seal with GFT Face and Stationary of Ceramic					
Vapor Hollow Shaft	Non Breakable Type of MOC GFT - Long Life Operation					
Sealing of Flask	FEP Encapsulated O ring for Long Life Operation					
Glass to Glass Sealing	PTFE Rings / FEP Encapsulated O ring					
Ultimate Vacuum in Dry Condition	≤ 1 Torr / Ultimate to 1mbar					
GLASSWARES Borosilicate 3.3						
Evaporation Flask [Rotating]	5L	10L	20L	50L	100L	200L
Flask Core size	2"	4"	4"	4"	6"	6" / 8"
Receiver Flask with Drain & Aeration Valve	2L x 1no.	5L x 1no.	10L x 1no.	20L x 1no.	20L x 2nos	20L x 2nos.
Condensor Type	Double Coil / Triple Coil - Vertical / Diagonal					
Condensor Area	≥0.5 m²	≥0.6 m²	≥1.0 m²	≥1.2 m²	≥2.5 m²	≥4.0 m²
Vapour Header	1	1	1	1	1	1
Reflux	Yes					
Product Cooler	Yes					
MATERIAL OF CONSTRUCTION						
Product Inlet Tube [Under Vacuum]	Teflon [PTFE] - Non Breakable					
Gaskets	PTFE Rings / FEP Encapsulated O ring					
Flanges & Fasteners	SS 304					



GMP FLP ROTARY EVAPORATOR SPECIFICATIONS

Models	GMP Models [SS304 / 316 Skid Body]					
Rotating Flask Capacity	5L	10L	20L	50L	100L	200L
DESCRIPTION						
Movable Body / Skid	SS 304 Matter or Gloss Finish					
Dimensions in mm [L X W X H]						
Caster with Twin Wheels [Double wheel] - All With Brake	Twin wheel heavy Duty Caster Wheel with Centre made of Polypropylene and 25mm Tread of ThermoPlastic Rubber, Grey non Marking, Precision ball bearing for smooth Movement, Size 75mm Dia x 25mm [2nos]					
POWER SOURCE	Electric Panel Flameproof Type					
Voltage Supply	230V, 1Ph, 50Hz		415V, 3Ph + N + E , 50Hz			
Power Consumption in KW	2.2	4.25	4.5	7	13	15
ELECTRIC MOTOR & DRIVE						
Flask Drive Motor-AC Synchronize Flame Proof Motor Capacity in KW/HP	0.16 / 0.18	0.18/0.25	0.18/0.25	0.37/0.50	0.75/1.0	0.75/1.0
Rotation speed in RPM	15-180	10-135	10-135	10-135	20-90	20-90
RPM Controlling	Soft Start and Controlled By VFD					
RPM Accuracy	1-2 RPM					
RPM Accelaration & Deaccelaration	Adjustable					
Noise Level of Gearbox & Motor	≤ 60 db @ 1meter Distance					
Over Load Trip for Motor Safety	Available					
Safety Measures for Panel	MCB for Short Circuit and current over load protaction for heater and VFD					
Gearbox and Motor Safety Cover	SS304					
INSTRUMENTS & CONTROLS						
RPM Display	Digital					
BATH Temp & Controller	Digital Display with PID Controller					
Vapour Temp Indicator	Digital Display					
Digital Vacuum Sensors & Controlling	On Demand					
Vacuum Gauge	Yes					
Vapour Temperature Sensor	FT - 100, 3 wire with Flameproof Terminal Head					
Bath Temperature Sensors	FT - 100, 3 wire with Flameproof Terminal Head					
HEATING BATH [Water / Oil]						
Tempeature Range	Ambient to + 90 ° C with Water, Ambient to + 180 ° C with Oil [for higher Temp range Contact us]					
Bath Heater Type	Immersion U Type Coil					
Bath Heater power in KW	2	3.6	4	6	6 x 2	6 x 2
Bath Heater Power Terminals Safety	All Terminals are in Flame Proof Encosure					
Bath Heating Control & Accuracy	PID Control, Accuracy +/- 1° C					
Bath Construction	Stainless steel 304 Jacketed Insulation for better Heat Resistance & Resulting less start stop of heater					
Bath Lift	Electrically Controlled by Motor					
Bath Lift Motor-AC Synchronize Flame Proof Motor Capacity in KW/HP	0.12	0.18	0.18	0.37	0.75	0.75
Bath Lift Safety	Top & Bottom Linear Movement Position Controlled by Limit switches					
Over heating Auto Cutoff above Set Point	Yes with Thermostate					
Drain Valve	Yes					
Over Flow Valve	Yes					
Auto Filling of Water / Oil	On Request					
Anti Splash Acrylic Cover	Yes					
Vacuum Sealing						
Flask Rotation Side	Teflon Bellow Mechanical Seal with GFT Face and Stationary of Ceramic					
Vapor Hollow Shaft	Non Breakable Type of MOC GFT - Long Life Operation					
Sealing of Flask	FEP Encapsulated O ring for Long Life Operation					
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Ultimate Vacuum in Dry Condition	≤ 1 Torr / Ultimate to 1mbar					
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Flask Core size	2"	4"	4"	4"	6"	6" / 8"
Receiver Flask with Drain & Aeration Valve	2L x 1no.	5L x 1no.	10L x 1no.	20L x 1no.	20L x 2nos.	20L x 2nos.
Condensor Type	Double Coil / Triple Coil - Vertical / Diagonal					
Condensor Area	≥0.5 m²	≥0.6 m²	≥1.0 m²	≥1.2 m²	≥2.5 m²	≥4.0 m²
Vapour Header	1	1	1	1	1	1
Reflux	Yes					
Product Cooler	Yes					
MATERIAL OF CONSTRUCTION						
Product Inlet Tube [Under Vacuum]	Teflon [PTFE] - Non Breakable					
Gaskets	PTFE Rings / FEP Encapsulated O ring					
Flanges & Fasteners	SS 304					
Rotary Evaporator Flame Proof Model also available in M.S. Powder Coated Skid Body						



Our Other Products

**NUTSCHE FILTER LOWERING SYSTEM-5L / 500L CAPACITY
VESSEL / REACTOR / BATH LIFTING SYSTEM-5L / 500L
JACKETED BATH / VESSEL - UPTO 500L
ATEX ELECTRICALS & PANELS
FLAMEPROOF MOTORS / ATEX MOTORS
FLAME PROOF ELECTRIC PANELS
GEARED MOTOR
VARIABLE FREQUENCY DRIVE (VFD)
MECHANICAL VARIABLE SPEED DRIVES
STIRRER DRIVES
FABRICATION OF SCIENTIFIC EQUIPMENTS**

Dealer



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