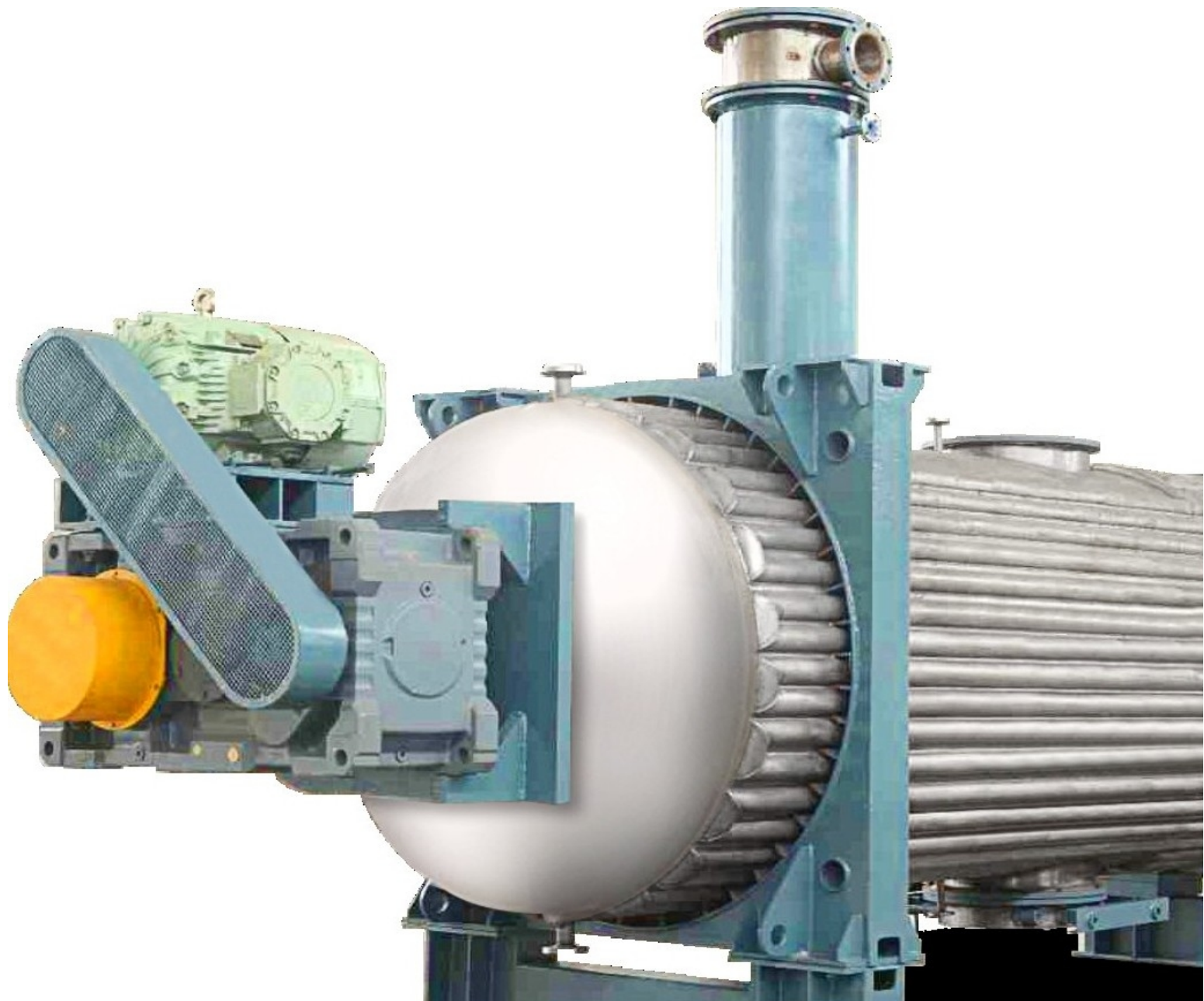


# Rotary Vacuum Paddle Dryer (RVPD)



**Performance Driven**  
Process Plants for : Paints, Resins,  
Minerals & Pigments.

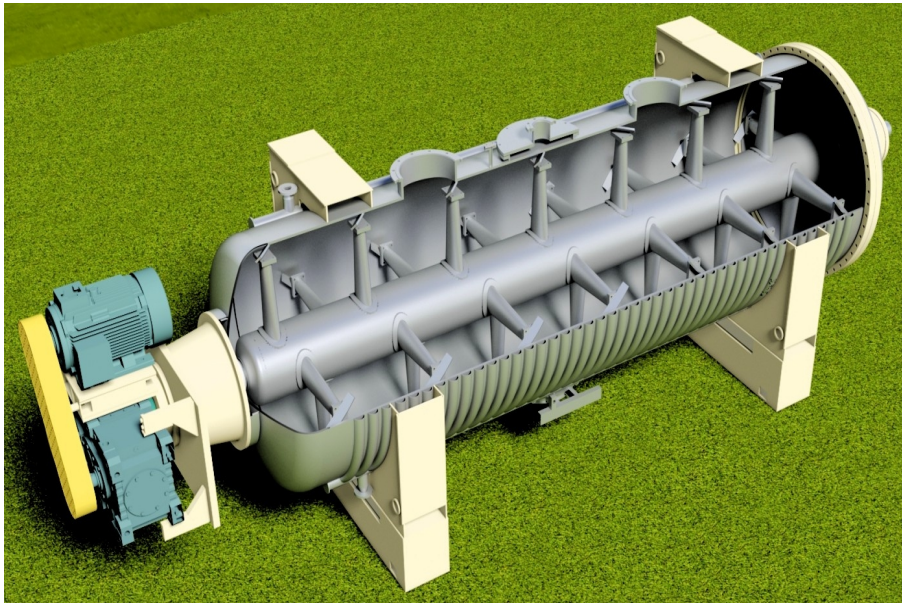
An ISO 9001:2015 Certified Company



# Industrial Process Solution for Vacuum Distillation & Low Temperature Drying

Is Longer Batch Time for Vacuum Distillation or Low Temperature Drying is disturbing your Bottom Line? Don't let your profit go.. . **“go for the best”** ..

**go for CHEMFILT** make Rotary Vacuum Paddle Dryer(RVPD)



Rotary Vacuum Paddle Dryer(RVPD) offers a versatile, clean, simple and effective Process Solution for Vacuum Drying at Low Temperatures, Extraction of useful Liquids, Solvent Distillation / Recovery, Reaction, Crystallization, Process commencing with either Slurries or Pastes or Wet Cake, in Batch Operation carried out by indirect heating and often under Vacuum.

It is possible to dry heat sensitive materials at well below boiling points of solvents.

Products having Lumping properties could be easily handled for powder production by use of breaker bars in the RVPD.

**CHEMFILT's Rotary Vacuum Paddle Dryers(RVPDs)** are built to perform and sustain / keep up under rough, rigorous, continuous 24 x 365 hours operations with minimal down time.

**Our “State Of The Art”, “In-House” Manufacturing Facility & Engineering Expertise backed by Experience of more than two decades in Manufacturing, allow us to manufacture equipment in accordance with Industry Accepted**

“International Codes and Standards” to service our esteem clients’ requirement, around the globe, and exceed their expectation,

## Constructional Features:

Exacting the Standards to Exceed Customer Expectation with Performance Par-Excellance

## **CHEMFILT's Rotary Vacuum Paddle Dryers(RVPDs)**

are designed in compliance with the International Industry Standard Code & Practices for Design of Unfired Pressure Vessels like ASME Section VIII Div I / IS 2825 / BS 5500 / PED etc.



The **Rotary Vacuum Paddle Dryer(RVPD)** also known as Vanuleuth Dryer, is a cylindrical vessel with Limpet/jacket for heating and/or Cooling and a central agitator having specially designed scrapper blades.

The RVPD consists of following main components :

- The Main Equipment Comprising of
  - Main Shell with End Covers
  - Limpet or Jacket for Heating and/or Cooling
  - Agitator/Rotor for Mixing and agitation
    - Bearing Housings with Bearings
    - Rotor Sealing arrangement
    - Drive
  - Accessories Comprising of
    - Discharge valve
    - Dust Catcher
    - Power and control Panel
  - Utilities Comprising of
    - Heating System
    - Vacuum System with
    - Condensor
    - Receiver
    - Vacuum Unit



## **The Main Equipment:**

### Main Shell with End Closers:

The horizontal Shell with End Closers (Flat/Dished Ends) forms the Inner Process Chamber/Room, which is made in process compatible Material of Constructions (MOCs).

The standard MOCs for the Process Chamber/Room are SS conforming to SS304/304L or SS316/SS316L. Construction in Special/Exotic MOCs also could be offered, if the process demands. Construction in low cost MOCs like CS or CS BQ also could be offered, if process can accept.

The chamber is supported on sturdy saddle supports with carefully detailed expansion provision and could optionally be designed for reversible arrangement for high wear applications like Copper Pathelocynine Crude application.

### Limpet or Jacket:

The Main Shell and optionally End Covers forming the Process Chamber/Room, are provided with Limpet Coils/Jacket, for indirect heating of the Process mass.

The heating media could be Steam/Hot Thermic Fluid/Hot Water depending upon application.

The Limpet coils/ Jacket could be used for indirect cooling of the process mass, if process demands.

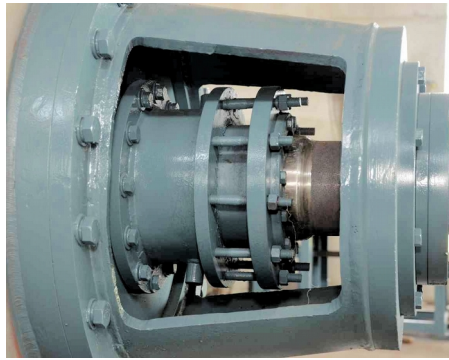
### Agitator/Rotor for Mixing and

agitation: It is made of heavy Central Hollow Pipe shaft, Sturdy Arms provided with Doctors' Knife type Scrapper Blades, arranged and sized to sweep entire internal surface and agitate/churn the process mass for efficient Heat transfer for Drying/Cooling.

The Rotor's end shafts are machined in single setting for better shaft sealing and extended life of gland packings/seals.

### Bearing Housings with Bearings:

The Agitator/Rotor is supported at both ends in Bearings, uniquely selected to take care of differential liner expansion because of heating and mounted in robust/sturdy designed Lantern type Bearing Housing to maintaining highest degree of concentricity.



### Rotor Sealing Arrangement:

Jacketed Stuffing Box or Mechanical Seal, as per requirement is provided for effectiveness of the process and energy efficiency.

### Drive:

Meticulously detailed Sturdy Rotor Drive comprises of:

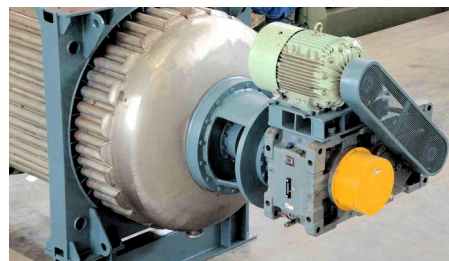
**Motor:** Induction Motor of adequate rating, conforming to international standard, of reputed makes Like CG/ABB/Siemens is provided.

The Motor can be in Flame-Proof (FLP)/ Non-Flame-Proof (NFLP) construction, as per process requirement.

### **Belt Pulleys and Belts:**

**Gearbox:** A carefully selected High efficiency Helical Gearbox with Hollow output shaft of reputed makes like SEW /NORD is provided.

The Gearbox shall be with adequate Rating to give recommended Service Factor.



## **Accessories**

### Dust Catcher:

A Dust Catcher/Filter is provided to prevent carry over of dried product particles to Distillate collection system. The Dust Catcher/Filter is provided with Jacket or limpets for heating to avoid condensation in Dust Catcher.

### Discharge valve:

A Plug Type Manually operated

Discharge Valve is provided. For ease of operation Linkages and Lever Mechanism with locking arrangement is provided. Optionally, Pneumatically actuated Flush type Ball valve could be offered.

### Power and control Panel:

A power panel with appropriate switch gear/starters is required for proper functioning of the Unit.

Use of Soft Starters/ Variable Speed Drive (Inverter) are recommended.

### **Utilities:**

The below listed Utilities required for efficient use of the unit.

If, the RVPD is for replacement, then existing facility specifications could be used for design.

### Heating/Cooling System/source:

Steam or Hot Water or Hot Thermic Fluid or cold water/ brine could be used as heating/cooling Media.

A suitable source for the media and its duty conditions are required as input for design of the equipment.

### Vacuum System comprising of

#### Condenser:

A Condenser of adequate Heat Transfer Surface Area is required wherein the evaporated vapours of solvents are condensed for recovery.

It is Designed and manufactured, in accordance to TEMA standard, counter current, with the Process Vapours through tubes and Cooling Water/Chilled water through Shell.

#### Receiver:

The Condensate of the Solvent is collected in the receiver of adequate capacity, placed beneath the condenser. Its designed and manufactured as per ASME code practices of Unfired Pressure Vessel Design, Section VII Div 1

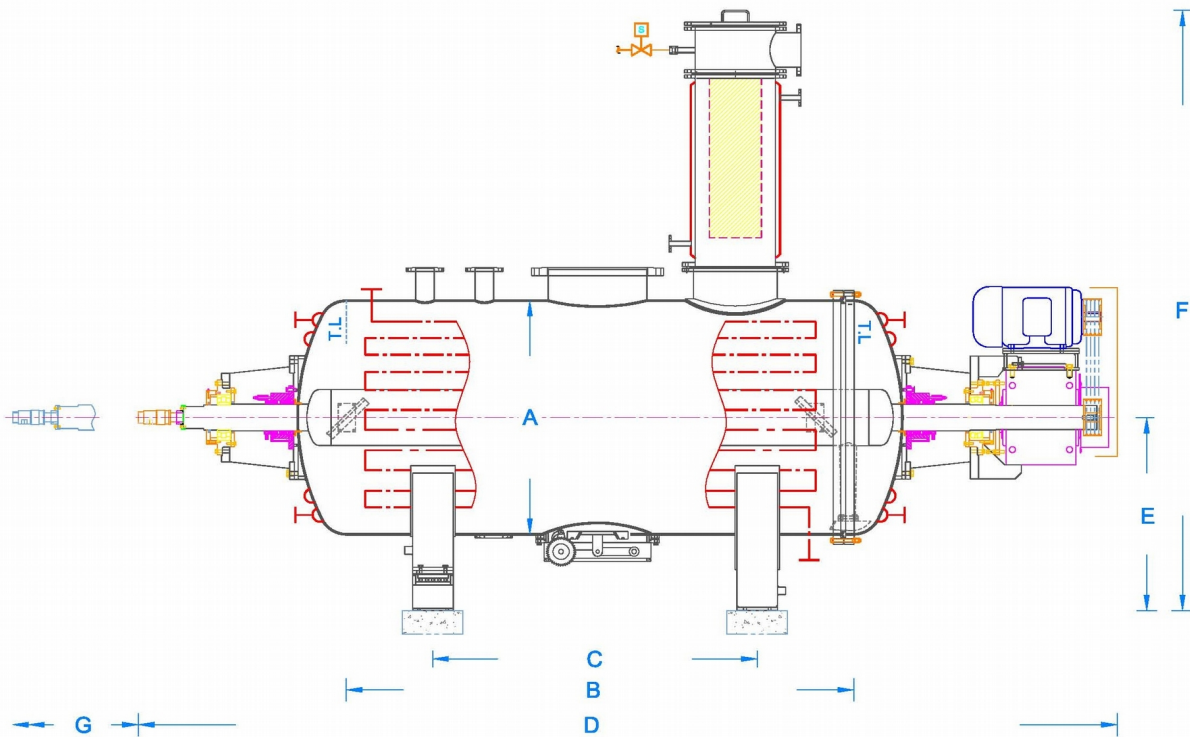
#### Vacuum Unit:

A Vacuum System, in synergy to the process, comprising of Vacuum Pump (Water Ring/Dry type) with or without booster or Steam Jet Ejector of adequate rating, is required. A careful consideration of its design and process parameters is essential as it forms the heart of the system.

**Product Range:**

The CHEMFILT make RVPDs' present manufacturing range include sizes from 2.0 KL to 16.0 KL

The Larger capacities could also be manufactured, on request.



Sr.	Model	Net Vol	Sh Dia	SheLen	SupDis	OALen	CentHt	OAht	DisLen	MPower KP	H.TrA SqM
		KL *	mm	mm	mm	mm	mm	mm	mm		
		A	B	C	D	E	F	G			
1	CRVD 2	2.00	1000	2550	1900	4350	900	3200	3950	12.50	5.70
2	CRVD 3	3.00	1200	2800	2100	4900	1100	4175	4350	15.00	7.80
3	CRVD 5	5.00	1250	4150	2650	6850	1550	3900	5750	30.00	11.60
4	CRVD 6	6.00	1400	4000	2400	6100	1100	3118	5250	40.00	14.40
5	CRVD 8	8.00	1500	4650	3000	7550	1390	3850	6450	50.00	18.40
6	CRVD 10	10.00	1600	5220	4360	8880	1430	4750	6950	75.00	18.80
7	CRVD 12	12.00	1700	5680	4400	8950	1430	4850	7250	75.00	37.50
8	CRVD 14	14.00	1800	5650	4400	8950	1530	4225	7550	100.00	25.40
9	CRVD 16	16.00	1800	6420	4600	9590	1530	4225	8250	100.00	28.3

Dimensions are indicative/subject to change

\*Recommended Fill Factor 0.5 to 0.6

**Application Areas:**

- Dyes & Pigments,
- Pharma Products & Intermediates,
- Agro- chemicals Like Herbicides, Pesticides, Insecticides,
- Fine Organic/Inorganic
- Chemicals
- Waste Disposal

**Also, Available:**

Dryers	Size Reduction and Control
Spin Flash Dryers(SFDs)	Wet Milling (Sand Mills)
Rotary Drum Dryers (RDDs)	Dry Milling & Size Control Solutions with Ball Mills & Air Cassifiers and Air Jet Mills

*Your Expert Partner for Drying, Size Reduction, Product Finishing and Process Solutions!*

**Aachha Hai ! ... Damdar Hai ! ..... Aur Kya Chaiye !**



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