

**CHEMiTEK**  
Innovative Pumping Solution

**ANSI**  
**NON-METALLIC**  
**CENTRIFUGAL**  
**PUMPS**



EFFICIENT | RELIABLE | GENUINE

**MS RADIX**  
IMPEX SOLUTIONS



**PRODUCT OVERVIEW**

**NM SERIES-ANSI NON-METALLIC CENTRIFUGAL PUMPS**

NM series is newly developed **Efficient & Reliable** non-metallic pumps for handling of aggressive chemicals with or without slurry content up to 210 °C processing Temperature. Pump design meets ANSI/ASME B73.1 dimensional requirements. Flow-optimum hydraulic design ensures improved efficiency and reliability. Special Design Feature of NM series pump is Thick Walled Polymer moulded with Metal Armour support. Pump model and wetted parts will be specifically selected based on process requirements and are available in four different Polymers optimally covering all applications. Pumps are fitted with Universal Internal Mounted mechanical seal with robust design, no metal contact ensuring trouble free operation and extended seal life. **We can offer customised pumping solution for your Critical Applications.**

**TECHNICAL SPECIFICATION**

<b>NOZZEL SIZE</b>	25 MM TO 250MM (1" TO 10")
<b>MAXIMUM FLOW</b>	1000 M3/HR
<b>MAXIMUM HEAD</b>	120 M
<b>FLANGE RATING</b>	ASA 150 / ASA 300
<b>MAXIMUM OPERATING TEMP</b>	210 °C
<b>MAXIMUM WORKING PRESSURE</b>	25 KG/CM <sup>2</sup> (BAR)
<b>STANDARD</b>	ANSI/ASME B73.1
<b>IMPELLER TYPE</b>	OPEN/SEMI-OPEN
<b>SHAFT SEALING</b>	MECHANICAL SEAL-INSIDE SINGLE/DOUBLE
<b>Material of Construction</b>	Kynar PVDF (Arkema-USA)
	Neoflon PFA (Daikin-Japan)
	Neoflon FEP (Daikin-Japan)
	PPH (Lyondellbasell-Netherland)

**GENERAL POLYMER SELECTION GUIDE**

Parameters		Fluoropolymers			Polypropylene
		PFA	FEP	PVDF	PP-H
Corrosion Resistance	Acid	Excellent	Excellent	Excellent	Good
	Alkali	Excellent	Excellent	Up to 12 pH only	Good
	General Remark	Virtually all chemicals except fluorine & related compounds and violent reducing agents like metallic sodium and molten alkali metals		Corrosion resistance varying with respect to concentration and temperature. Refer detailed corrosion resistance chart to ensure chemical compatibility.	
Solvent Resistance		Virtually resistance to all solvents		Common industrial Ketones	NA
Temperature Resistance	Theoretical Max Temp	260 °C	200 °C	140 °C	100 °C
	Recommended Max. Temp.	210 °C	130 °C	120 °C	85 °C
Mechanical Strength		Good	Average	Excellent	Very Good
Abrasion Resistance		Good	Average	Excellent	Very Good

Following parameters to be taken in consideration before chemical resistance assessment  
a) Concentration of Chemicals, b) Nature of Chemicals, c) Operating Temperature, d) Slurry Content, e) Service, f) Other variables like Impact, Vacuum, thermal cycling, radiation, permeation, pressure expectation etc



## DESIGN FEATURES

### 1 Volute Casing

- Smooth trapezoidal shape of volute casing efficiently ensures conversion of velocity energy into pressure energy, resulting in better efficiency.
- Thick wall polymer moulded inside Metal armour to ensure strong support to polymer specially at elevated temperature.
- Top discharge, self venting, back pull out.
- Flow optimum hydraulic design.

### 2 Impeller

- Open impeller design.
- Ideal for corrosive and abrasive liquid.
- Available in van support design for high temperature & high pressure services.
- Easy clearance adjustment, when wear and tear takes place.
- Improved Hydraulic design.

### 3 Shaft & Bearing

- Heavy duty shaft design for minimum deflection.
- Designed for toughest services.
- Maximum 0.05 mm deflection at stuffing box face at maximum load.
- Exceeds ANSI B73.1 bearing life specification requirements.

### 4 Constant oil Leveller

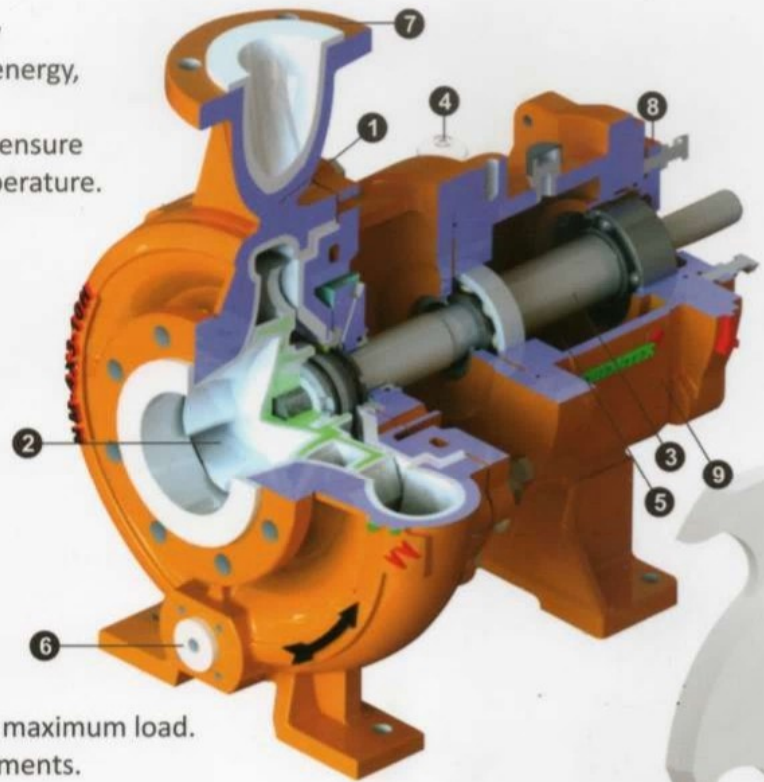
- It ensures sufficient oil level in the bearing housing for reliable lubrication.
- Polycarbonate dome offer excellent visibility and its virtually unbreakable.

### 5 Oil Sump Design

- Increased oil capacity for better heat transfer.
- Contoured Internal Slope for positive collection of metal contaminants by magnetic drain plug.

### 6 Casing Drain

- Casing drain will be provided on request.
- Nozzle size-1/2" Blind Flange End.



### 7 Flange

- Standard 150 lb. RF flanges, 300 lb. flanges available.

### 8 Bearing Cover

- Telescopic Design
- Easy Impeller adjustment.

### 9 Bearing frame

- Heavy duty design to reduce the loads on shaft.

## MECHANICAL SEAL

Chemitek make Internal mechanical seal (IMS) for handling of corrosive and abrasive chemicals has proven its performance in process industry. IMS seals have comprehensive set of features with ease of fitment & are available in Single and double seal Arrangement to fit process Requirement.

- Seal faces are designed with thick section to enhance life cycle.
- Primary Seal rings are submerged in process liquid to improve heat dissipation.
- Slurry particle pushed away from sealing face in large & taper seal chamber due to centrifugal action of rotary face and impeller .
- Shaft sleeve is not in contact with process liquid.
- Available in single and double seal arrangement.
- API plan Applicable: 52 / 53A / 54 / 62.
- Easy Maintenance and installation - Semi Cartridge Design.
- Slurry content : up to 40% .
- Operating Temperature : up to 210 °C.
- Working Pressure : Up to 25 kg/cm<sup>2</sup> (Bar).

