



Corporate Office & Export Warehouse at Duty Free Zone, Noida



Roto's Manufacturing Plant



U.K. Office



Australia Office



ROTO PUMPS LTD.

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Infrastructure

Roto has strong roots in manufacturing engineering & has over the years been able to develop efficient manufacturing processes both in the field of metal cutting and rubber processing.

The present manufacturing infrastructure comprises of a facility spread over 20,000 sq.mt and deploys all modern machine tools. It has created multiple assembly sections in terms of pump sizes to meet the growing demand for its products.

The testing infrastructure comprises of both water and oil test bed facilities. The testing facility is equipped to comply with VDMA and API 676 standards. The facility can test pumps with capacity upto 1000 m³/hr and has power available upto 500KW.

Marketing & Distribution Network

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Quality Certifications and Registrations

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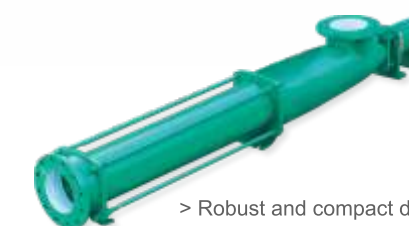
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Research and Development

Roto enjoys the legacy of being amongst the leading Progressive Cavity Pump manufacturers and processes deep & sound designing capabilities, which has been developed over the last 4 decades. R & D activity within Roto has lead to the launch of numerous new products with some of the most distinguished features, high degree of reliability & immaculate product performance.

Roto has a battery of licenses of 3D designing software such as solid works and also deploys advances software for flow analysis, mechanical strength and cost optimisation.

We understand your challenges in Waste Water Treatment plants



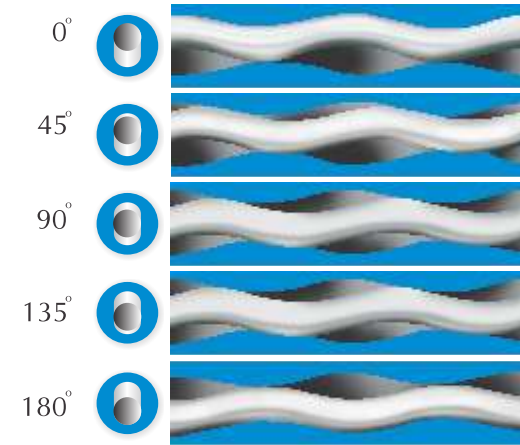
- > Robust and compact design
- > Proven two pin cardan joint
- > Lower maintenance cost



Progressive cavity pumping principle

The pumping element comprises of a precision machined single external helix metallic rotor and a double internal helix elastomer stator. Due to special profile of Rotor and Stator, a sealing line is formed along the axis of the rotor, which is maintained at static or dynamic condition.

As the rotor turns within the stator, these cavities progress from suction to discharge end of the pump carrying the fluid.



Cavity movement through 180° of Rotor rotation

Distinctive design features & benefits

- POSITIVE DISPLACEMENT** : Head developed is independent of speed whereas capacity is proportionate to speed. Delivers Uniform, metered and Non Pulsating Flow.
- SELF-PRIMING** : Inherently self-priming, can work on snore and does not require foot valve.
- NON-CLOGGING** : Handles solids in suspension or mixture containing high percentage of solids.
- LOW NPSH REQUIREMENT** : Suction lift capability up to 9.5 mwc and effective even in high vacuum conditions.
- LOW INTERNAL VELOCITY** : Minimum degradation of shear sensitive media.
- REVERSIBLE** : Provides flexibility in operation.

Treating Wastewater...a vital step needed for a sustainable aquatic environment as climate change & increasing population will demand better conservation of the environment through recycling, conservation, regeneration & restoration of water.

Roto has over four decades of process expertise to offer reliable solutions for waste water treatment in sewage & industrial effluents. Roto progressive cavity pumps are, indeed, a cost-effective alternative to expensive, less reliable & maintenance prone piston pumps & screw conveyors for transferring dewatered sludge in waste water applications.

Introducing RJ series pump for precise metering applications



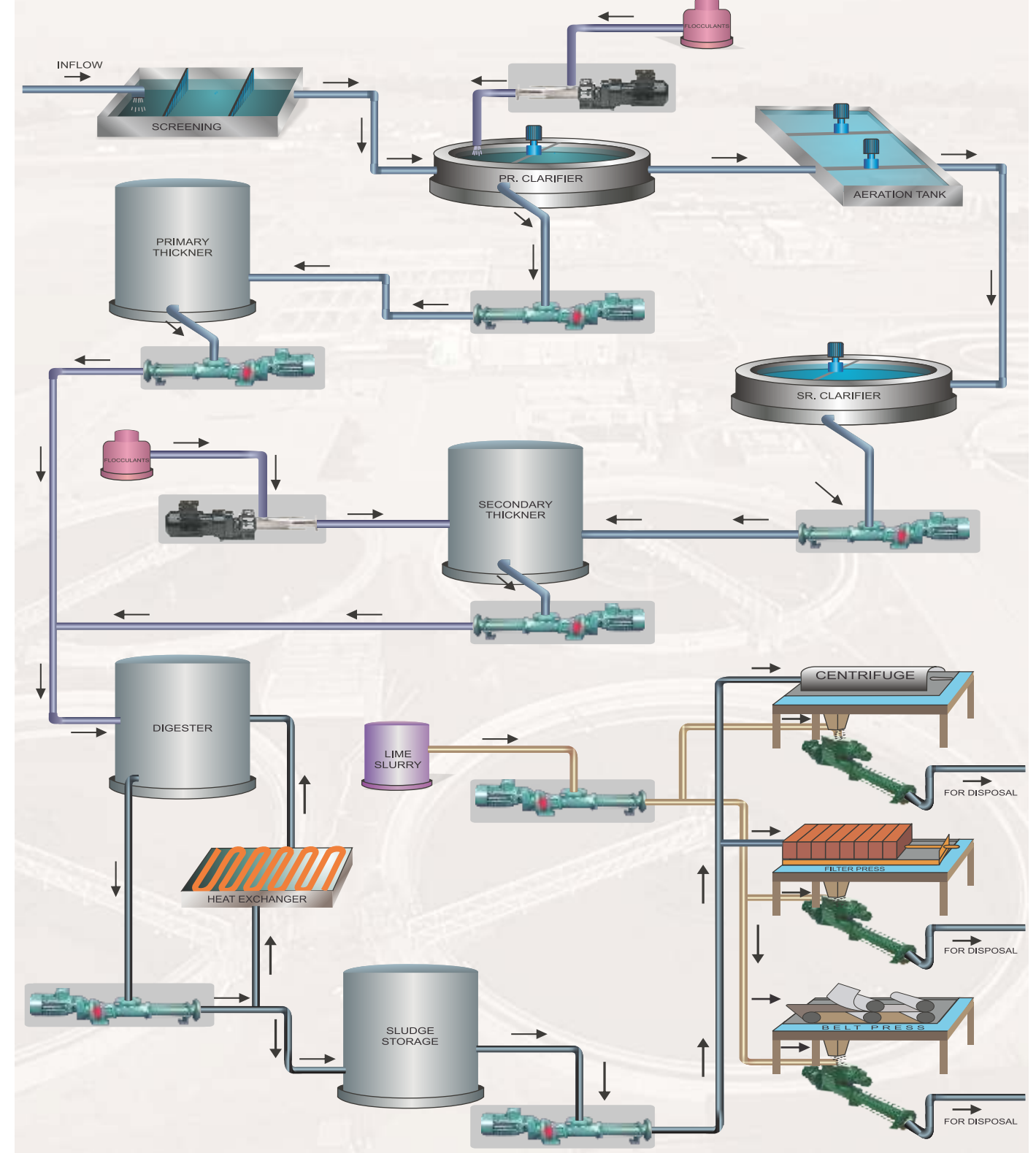
RJ series of metering pumps

Roto RJ series pumps are developed for low flow applications that demand high accuracies and repeatability. These pumps can handle wide variety of fluids ranging from clean and clear liquids to abrasive, corrosive, viscous and solid laden media. The repeatability accuracy has less than 1% fluctuation. Available in 6 capacities and 3 pressure ranges, flow rates from 0.003 – 2.2 USgpm (0.68 – 500 l/h) at 87, 174 & 348 psi (6, 12 and 24 bar) differential pressure.

Advantages

- Capacity is directly proportionate to the speed.
- Head developed, is independent of speed.
- Inherently self-priming.
- Non-clogging.
- Single rotating element. No valves or gears required.
- Low NPSH (R) .
- Low shear and linear flow.
- Reversible.
- Smooth & non-pulsating flow.
- High suction lift capability up to 9.5 mwc.
- Only change of pumping elements is required to obtain different capacities.
- Simple to operate.
- Low operating costs.

Flow diagram of a typical Waste Water Treatment plant



Key Application Areas

Roto Pumps	Raw Sewage	Primary/ Secondary Sludge	Digested/ Activated Sludge	Thickened Sludge	Flocculants	Cake Sludge
					✓	
	✓	✓	✓	✓		
						✓



Roto Extra Value Advantage

Optimised Rotor Stator Geometry

- Improved Rotor - Stator geometry minimises wear due to lower rubbing velocities as compared to conventional geometry, particularly useful in abrasive applications
- Lower starting torque and effective sealing line (Zero Leakage) improves volumetric efficiency
- Resulting in reduced power consumption and extended service life



Keine Rückströmung @ niedriges Drehmoment

Improved Pump Housing

- A sloped housing design reduces entry losses
- Facilitates easy drainage
- Its flexible housing orientation allows the suction port to be rotated in steps of 90° to suit any installation

Tapered Entry Stator

- Facilitates easier entry for fluids
- Improves suction capability

Close Coupled

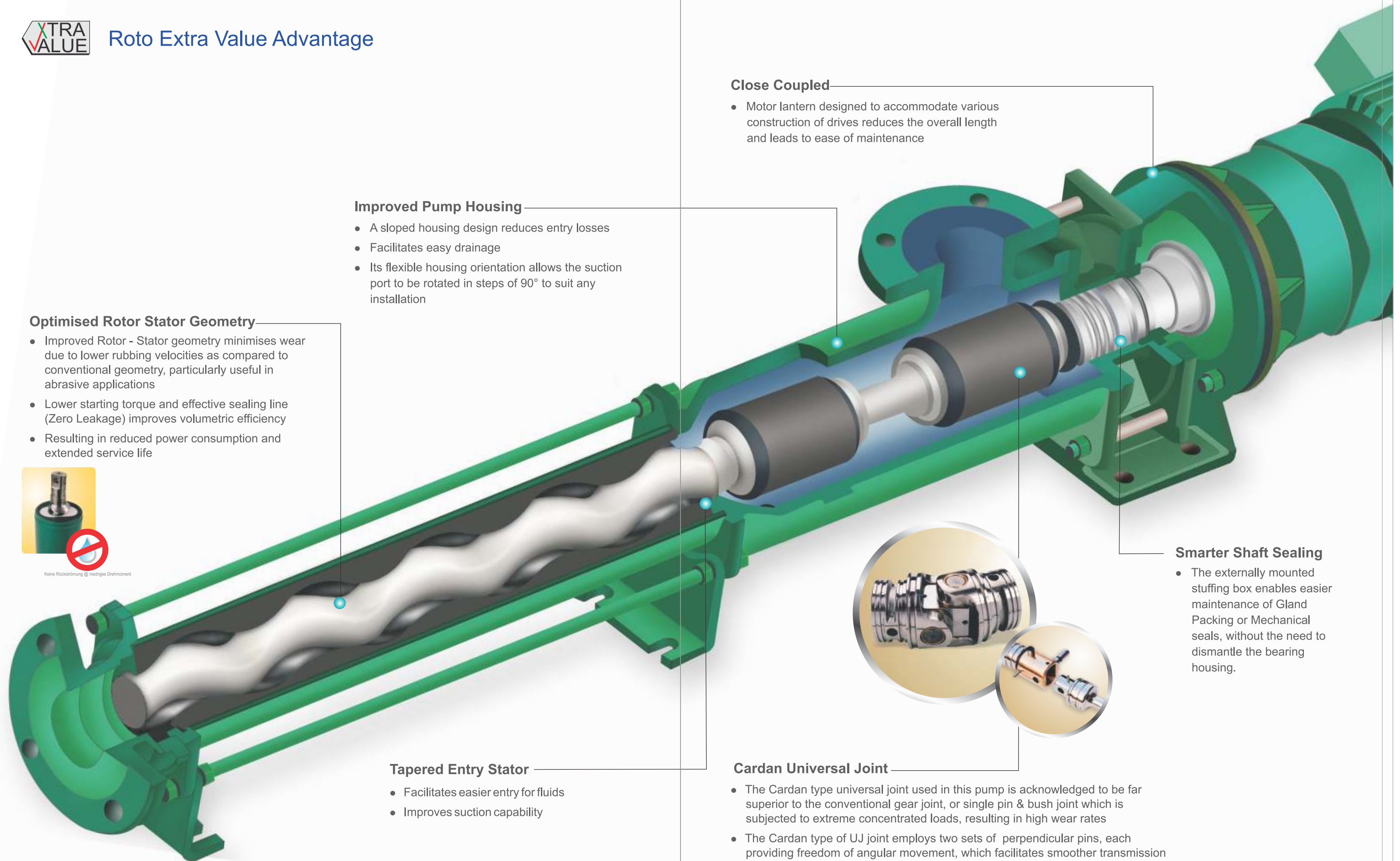
- Motor lantern designed to accommodate various construction of drives reduces the overall length and leads to ease of maintenance

Smarter Shaft Sealing

- The externally mounted stuffing box enables easier maintenance of Gland Packing or Mechanical seals, without the need to dismantle the bearing housing.

Cardan Universal Joint

- The Cardan type universal joint used in this pump is acknowledged to be far superior to the conventional gear joint, or single pin & bush joint which is subjected to extreme concentrated loads, resulting in high wear rates
- The Cardan type of UJ joint employs two sets of perpendicular pins, each providing freedom of angular movement, which facilitates smoother transmission of angular loads
- The Cardan type UJ joint is also designed to withstand high axial forces which are dominant in Progressive Cavity Pumps



Roto at work In sewage industry



RM681 Pump in Waste Water Treatment Plant at Auckland (New Zealand)



RD531 Pumps in Polymer Dosing application at Tasmania (Australia)



RM702 for Bio-mass sludge at Sydney (Australia)



Battery of RL Series Pumps for Tannery Effluent at Unnao Banthar (India)



Battery of RD512 Pumps for Oil Water Separator application at Australia



RD551 Pumps for Degremont Plant at Delhi (India)



KM584 Pump with Bridge breaker feeding incinerator at Reliance, Hazira (India)



RM621 Pump in Waste Water Treatment Plant at Malaysia

Roto Pumps pumping solutions for waste water treatment industry



Size	D41	D43	D45	D47	D49	D51	D53	D55
Capacity								
m3/hr	0.11	0.3	0.6	1.6	3.5	6.5	9.5	16.5
GPM	0.4	1.3	2.6	7	15.4	28.6	42	73
Pressure								
Bar	24	48	24	24	24	12	12	6
PSI	341	682	341	341	341	171	171	85

Small Capacity 'RD' Series Pumps

Viscosities: Upto 30,000 cst
Temp.: Upto 150° C / 302° F
Solid Handling Capability: Upto 7%

These small capacity Heavy duty pumps are designed for continuous or intermittent dosing or transfer duties. These pumps are available in Close-Coupled & Bare shaft Configuration. 6 & 8 stage pumps are also available in select sizes.



Size	M50	M52	M54	M56	M58	M60	M62	M64	M66	M68	M70	M72
Capacity												
m3/hr	4	8	12	20	27	38	58	78	95	120	150	200
GPM	17.6	35.2	53	88	120	168	256	344	420	530	660	880
Pressure												
Bar	48	48	36	24	24	24	24	18	12	6	12	6
PSI	682	682	511	341	341	341	341	256	171	85	171	85

Medium to Large Capacity 'RM' Series Pumps

Viscosities: Upto 30,000 cst
Temp.: Upto 150° C / 302° F
Solid Handling Capability: Upto 7%

These Heavy Duty pumps are designed for continuous duties and are suitable to perform efficiently even for the most difficult fluid handling applications. These Pumps are available in Close Coupled & Bareshaft Configuration.

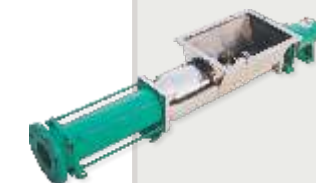


Size	L54	L57	L59	L61	L63	L67	L71	L75
Capacity								
m3/hr	14.2	23	42	54	67	116	195	345
GPM	63	102	185	238	295	511	860	1520
Pressure								
Bar	6	6	6	6	6	6	6	6
PSI	85	85	85	85	85	85	85	85

Extra Large Capacity 'RL' Series Pumps

Viscosities: Upto 15,000 cst
Temp.: Upto 150° C / 302° F
Solid Handling Capability: Upto 7%

These Heavy Duty cost effective pumps use the extended Rotor Stator Geometry and are ideal for the Sewage & Effluent treatment applications. These Pumps are available in Close Coupled & Bareshaft Configuration.



Size	W54	W56	W58	W60	W62	W64	W66	W68	W70
Capacity									
m3/hr	5	8	11	19	33	42	48	72	85
GPM	22	34	48.8	83.7	144.5	183.5	211.2	315.5	373.6
Pressure									
Bar	36	24	24	24	24	18	12	6	12
PSI	511	341	341	341	341	256	171	85	171

Widethroat 'WM' Series Pumps

Viscosities: Upto 125,000 cst
Temp.: Upto 150° C / 302° F
Solid Handling Capability: Upto 12%

Widethroat type inlet allows gravity flow of highly viscous (Plastico-viscous) material on to Augur-on-Coupling Rod which pushes the substance to the pumping element. Available in Close Coupled & Bareshaft Configuration.



Size	K54	K56	K58	K60	K62	K64	K66	K68	K70
Capacity									
m3/hr	2.5	3	5	6	10	13	16	20	25
GPM	11	13	22	26	43	56	69	88	108
Pressure									
Bar	36	24	24	24	24	18	12	48	12
PSI	511	341	341	341	341	256	171	696	171

Widethroat with Bridgebreaker 'KM' Series Pumps

Viscosities: Upto 3,000,000 cst
Temp.: Upto 150° C / 302° F
Solid Handling Capability: Upto 40%

Widethroat pumps with side paddle (bridgebreaker) arrangement are designed for handling extremely difficult media with very high solid content and non-flowing properties.

Submerged Vertical VM series

Capacities upto 345 M³/hr (1520 GPM)
Pressures upto 12 Bar (171 Psi)

These vertical pumps are designed to operate with the pumping elements immersed in the product. These pumps are compact and space saving. They are custom designed and manufactured for varying column lengths to suite the sump depth.





NO BREAKDOWN DURING SEASON



NO LEAKAGES



LESS POWER CONSUMPTION



LOWER INVENTORY



COMPLETE SERVICE SUPPORT



AND MUCH MORE...



**ROTO PUMPS WITH PATH BREAKING
FEATURES AND BENEFITS**

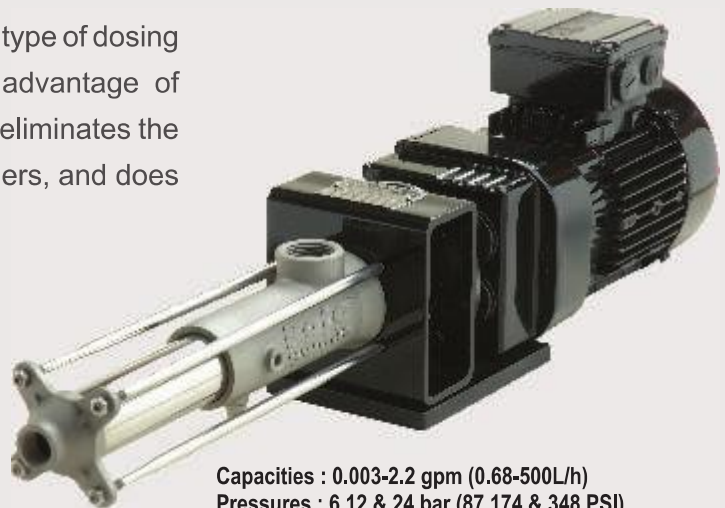
Roto Pumps in Sugar Industry

Roto Pumps has a vintage of over 40 years in providing fluid handling solution to a spectrum of Industries. These pumps can handle wide variety of fluids ranging from clean and clear liquids to abrasive, corrosive, viscous and solid laden media. In sugar industry these pumps are used to handle liquid at various stages including dosing chemicals, Syrup, Magma, Masecuite and various grades of Molasses. Some of the few design features include:

- Flow proportionate to Speed - Can be used for dosing and metering applications
- Self Priming - Excellent suction lift capability and can operate under vacuum
- Non- Clogging - Can handle solids in suspension
- Low Internal Velocity - Can handle shear sensitive media
- Positive Displacement - Flow independent of head
- Will not Vapor Lock – Can handle air, liquid and combination together

As compared to conventional reciprocating type of dosing pumps, Roto RJ Series Offer a unique advantage of smooth, laminar & pulsating free flow. This eliminates the need of accessories like pulsation dampeners, and does not affect the property of media.

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Capacities : 0.003-2.2 gpm (0.68-500L/h)
 Pressures : 6.12 & 24 bar (87,174 & 348 PSI)

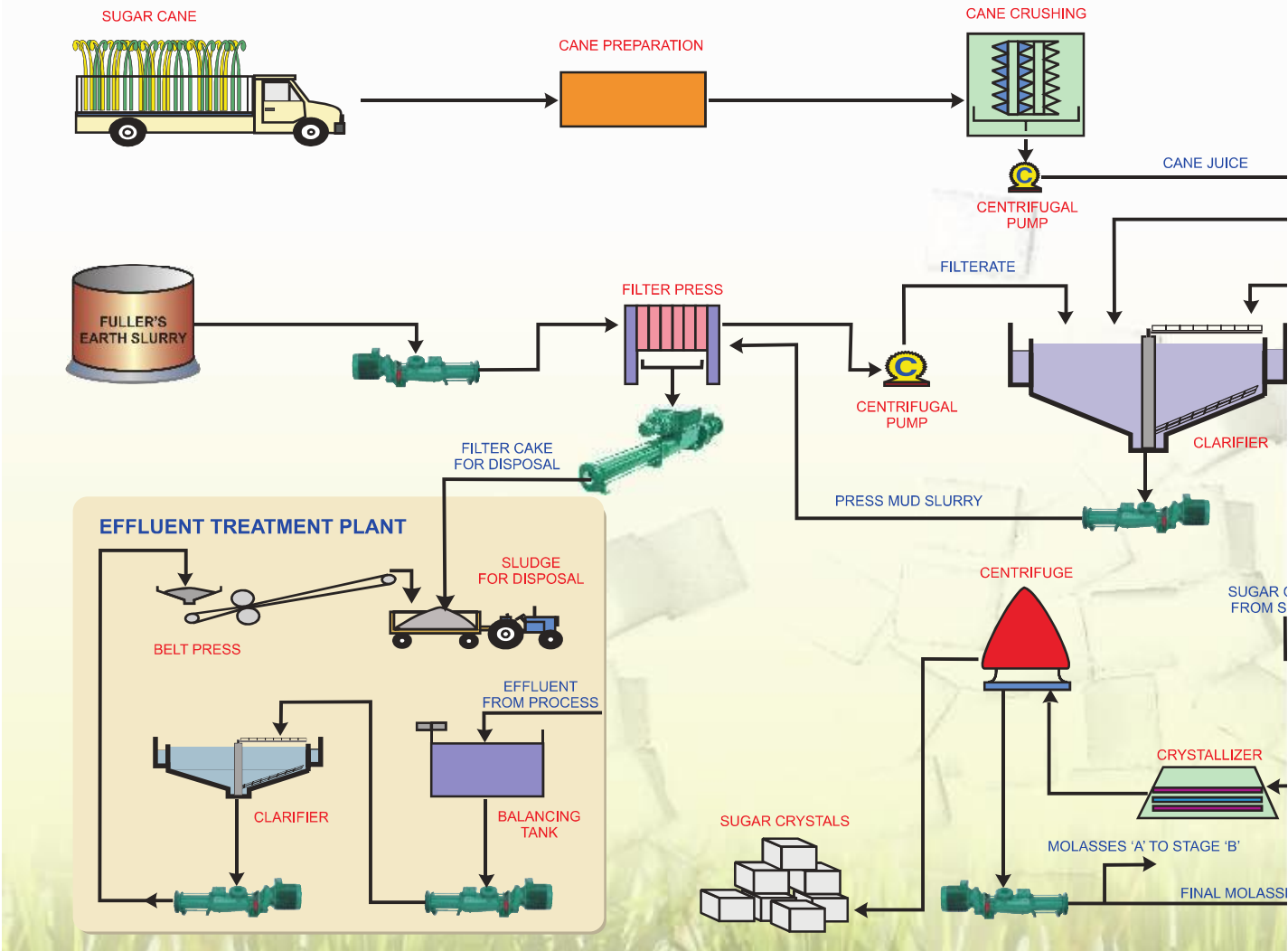
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Flow diagram of a

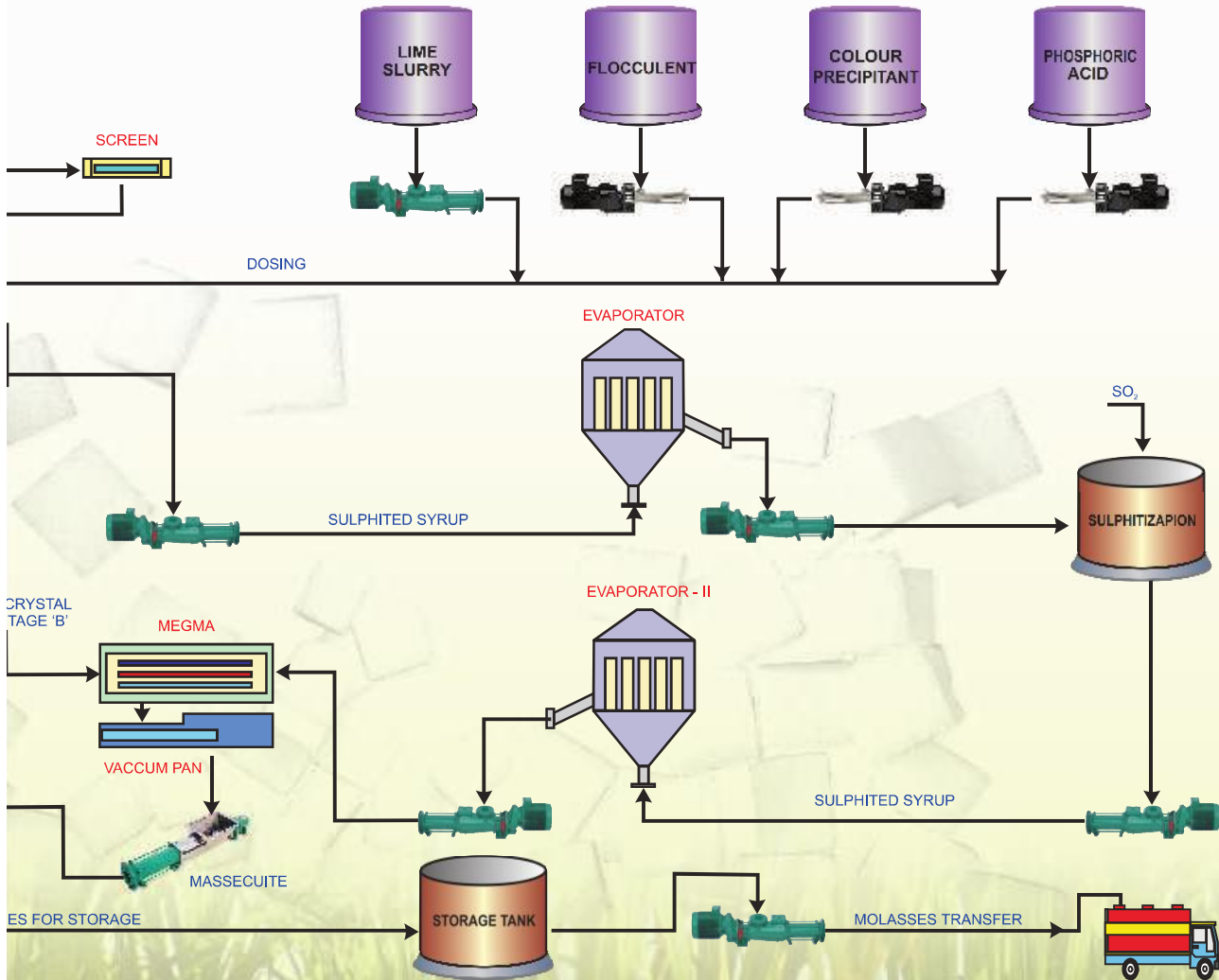


Key Application Areas

Roto Pumps	Lime Slurry	Flocculent	Colour Precipitant	Phosphoric Acid	Fuller's Earth Slurry	Press Mud Slurry
		✓	✓	✓		
	✓				✓	✓
						



typical sugar mill



	Sulphited Syrup	Magma	Massecuite	Melt	Molasses	Sludge
y						
	✓			✓	✓	✓
		✓	✓			✓

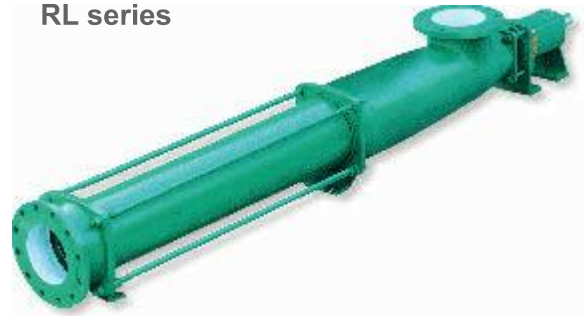


**Industrial
RD/ RM series**



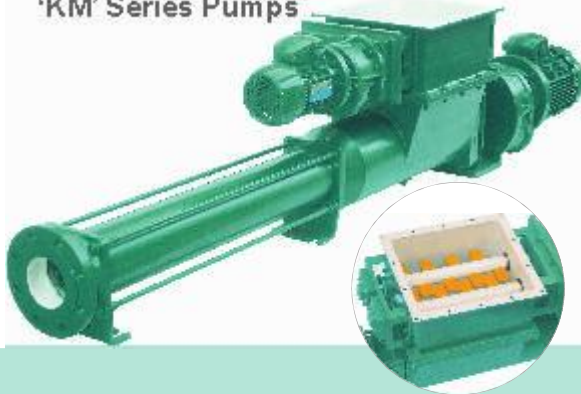
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Pressures upto 48 Bar (682 Psi)

**Extra Large Capacity
RL series**



Capacities upto 345 M³/hr (1520 GPM)
Pressures upto 6 Bar (85 Psi)

**Widethroat with Bridgebreaker
'KM' Series Pumps**



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Efficient pumping solutions
for paper industry

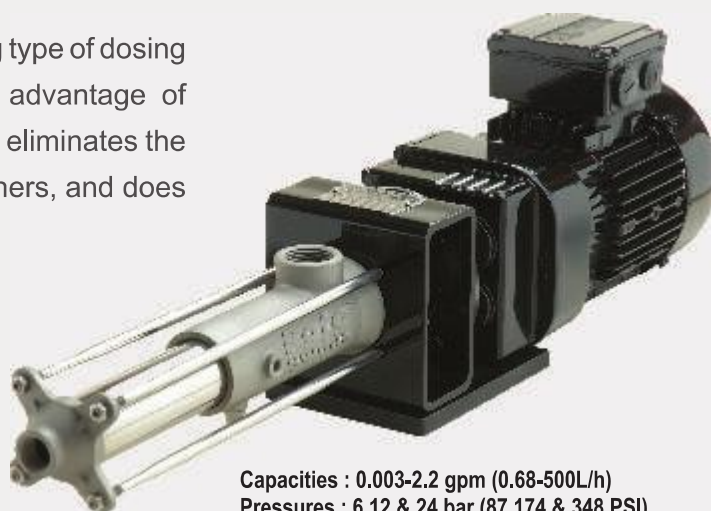
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- Flow proportionate to Speed - Can be used for Dosing and metering applications
- Self Priming - Excellent Suction Lift Capability and can operate under vacuum
- Non-Clogging - Can handle solids in suspension
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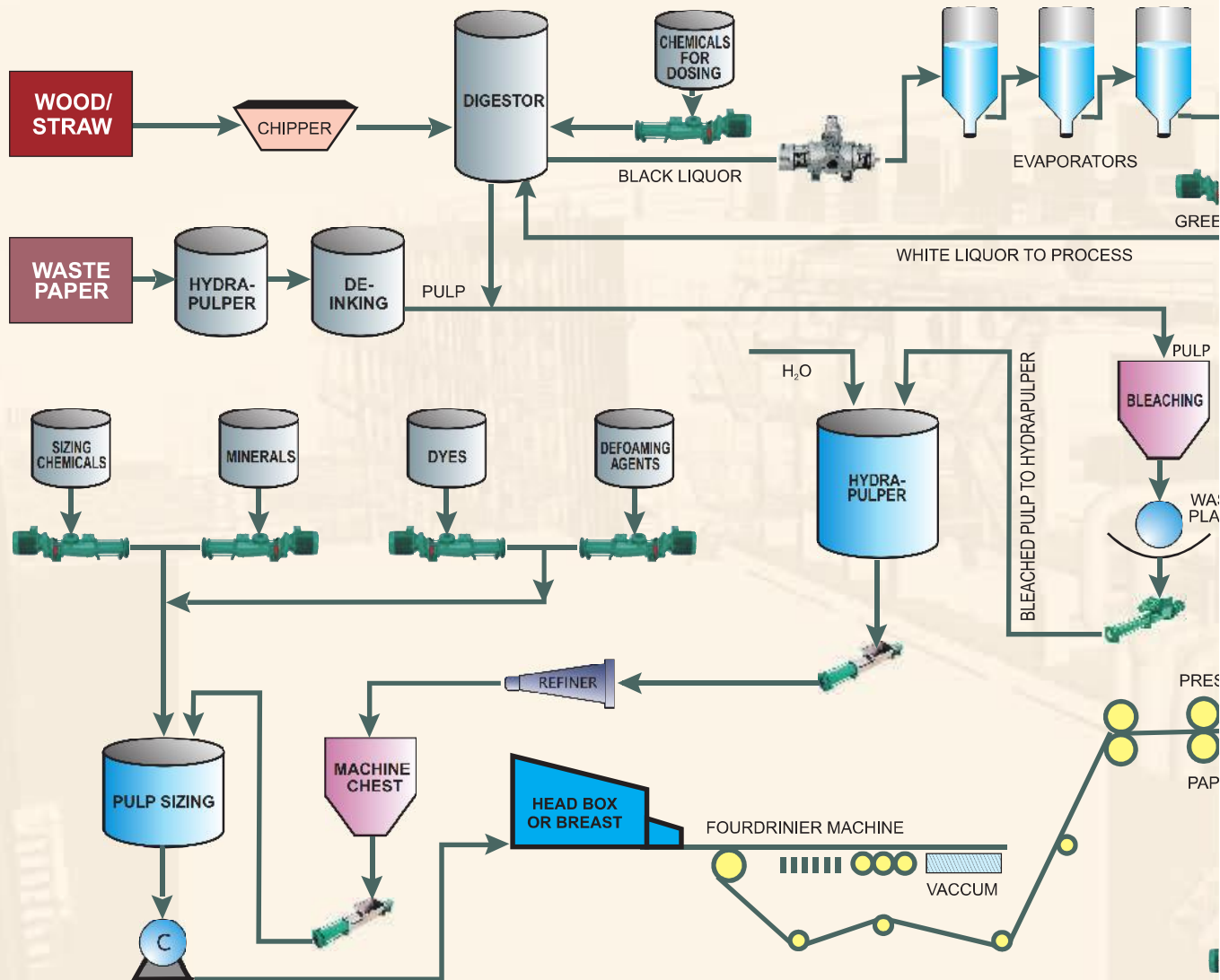
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FLOW DIAGRAM OF A TYPICAL



APPLICATIONS :

Pulp Making Process

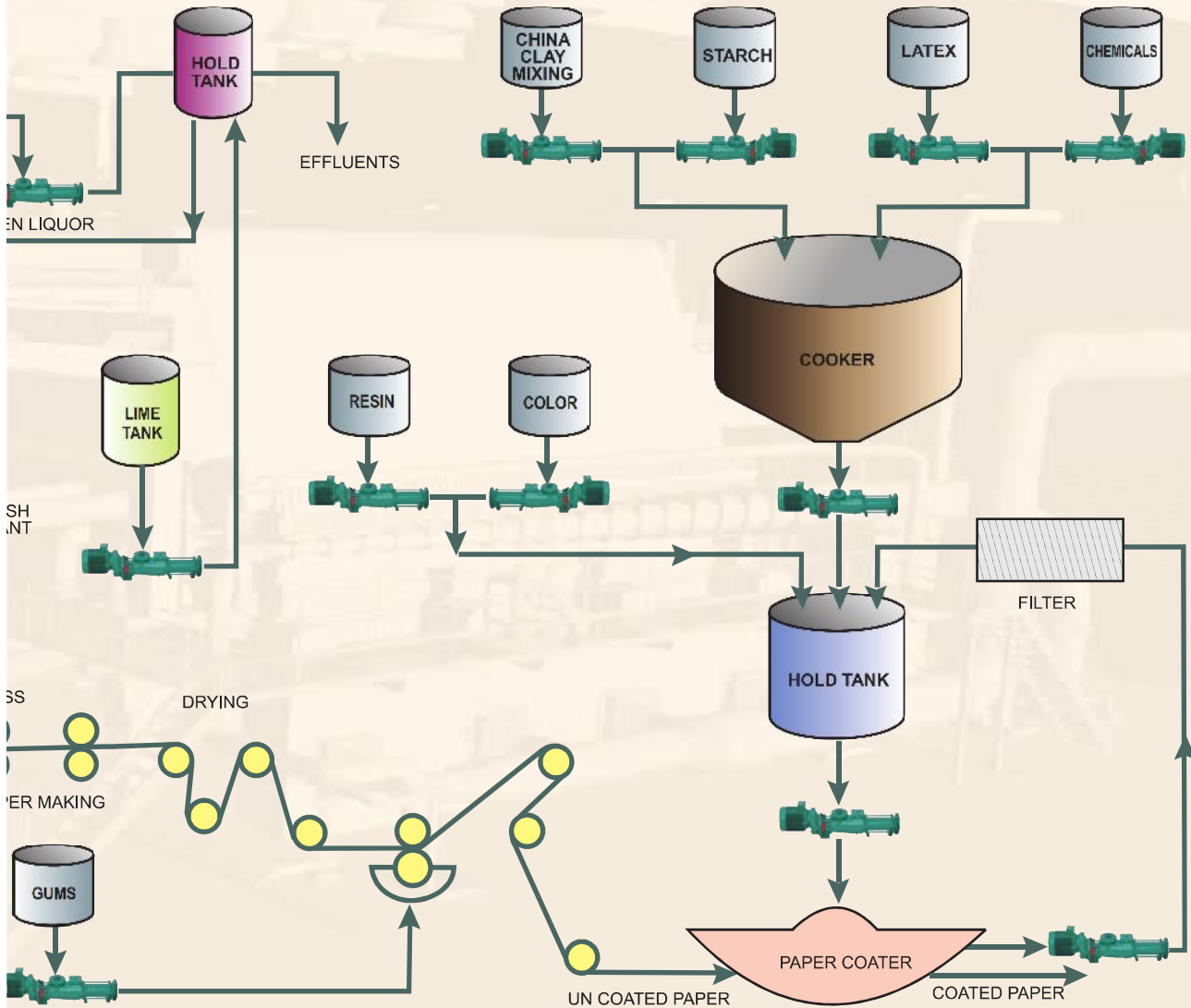
- Black Liquor
- Green Liquor
- Sodium Hydroxide
- Sodium Sulfide
- Sodium Carbonate
- Decolouring Agent
- High Density Pulp

Pulp Preparation Process

- Sizing Chemicals
- Rosin
- Neutral Sizing
- Calcium Carbonate
- Alkylketens Dimmer(AKD)
- Alkenylsuccinic Anhydride (ASA)
- Mineral Filler
- Talcum
- Kaolin
- Calcium Carbonate
- Carbon Dioxide
- Low Density Pulp
- Pigment
- Colour
- Optical
- Defoam
- Retain
- paper
- Fiber D



AL PULP AND PAPER INDUSTRY



Paper Making Process

- Starch
- Polyvinyl Alcohol
- Wax
- Latex

Paper Coating Process

- Starch
- China Clay
- Resin
- Latex
- Chemicals
- Colour
- Kitchen Coating Slurry

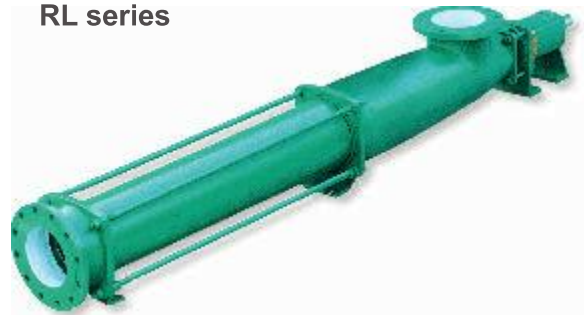


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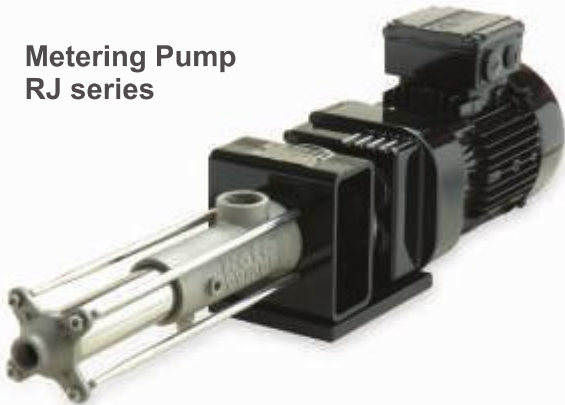
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Roto's manufacturing units are certified for conformance to the ISO 9001-2008 quality surveillance systems. More recently, we have been accredited with ATEX Certifications. We are also in the process upgrading to ISO 14001 and OHSAS 18001 (Occupation Health and Safety Environment)

Research and Development

Roto enjoys the legacy of being amongst the leading Progressive Cavity Pump manufacturers and processes deep & sound designing capabilities, which has been developed over the last 4 decades. R & D activity within Roto has lead to the launch of numerous new products with some of the most distinguished features, high degree of reliability & immaculate product performance.

Roto has a battery of licenses of 3D designing software such as solid works and also deploys advances software for flow analysis, mechanical strength and cost optimisation.