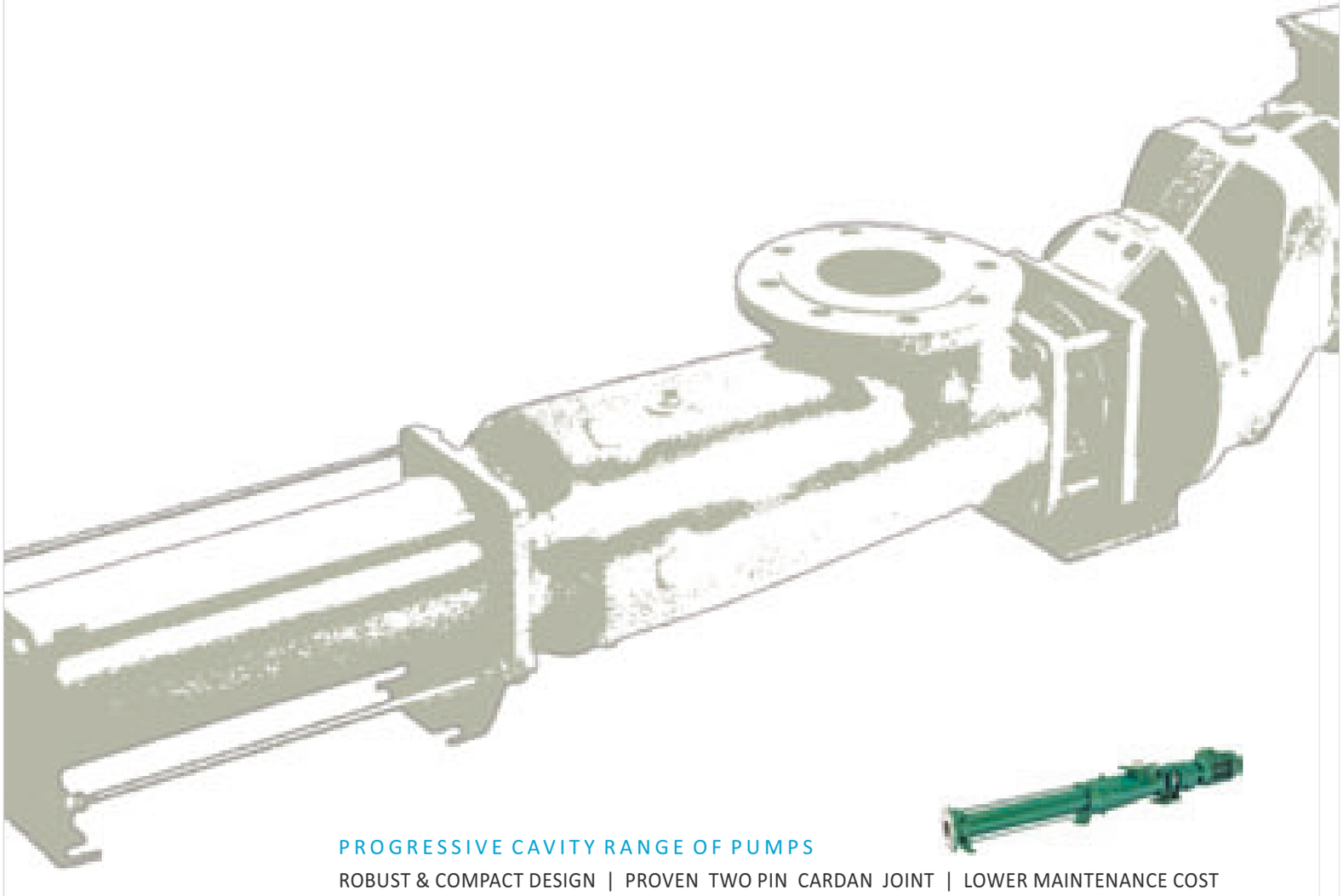
Roto pumps



PROGRESSIVE CAVITY RANGE OF PUMPS

ROBUST & COMPACT DESIGN | PROVEN TWO PIN CARDAN JOINT | LOWER MAINTENANCE COST

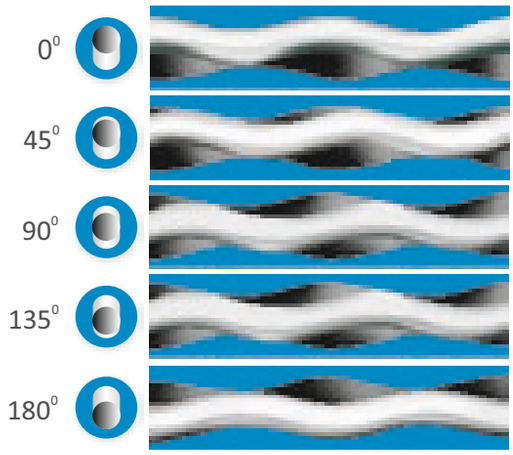
45+ years of

...moving fluids positively

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 the special profile of the rotor and stator set, a sealing line is formed along the axis of the rotor which is maintained at both static and dynamic conditions.

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



Cavity movement through 180° of Rotor rotation

Distinctive design features & benefits

POSITIVE DISPLACEMENT	:	Because of the single rotating element, progressing cavities are generated which deliver a uniform, metered & non-pulsating flow. The head developed is independent of the rotational speed, whereas the capacity is proportionate to the speed.
SELF-PRIMING	:	Inherently self-priming, the pumps can work on snore & do not require a foot valve.
NON-CLOGGING	:	Can handle solids in suspension or medias containing a high percentage of solids.
LOW NPSH REQUIREMENT	:	Suction lift capabilities of up to 9.5 mwc & effective even in high vacuum conditions.
LOW INTERNAL VELOCITY	:	Minimum degradation of shear-sensitive media, and can also handle highly viscous materials having pseudo- plastic characteristics.
REVERSIBLE	:	Due to the reversible rotation capabilities, progressive cavity pumps can perform with equal efficiency in either direction.
SILENT RUNNING	:	Rotors turn inside a resilient stator & thus generate little noise.
SEPARATE BEARING HOUSING	:	Fluids can be pumped with no contamination.

International Quality

CERTIFICATE NO. 20002501QM08 ISO 9001-2008

Continuous investment in precision measuring instruments, state-of-the-art testing facilities, and a dedicated team of engineers are testimony to Roto's commitment to maintain and constantly upgrade the quality of its products. The manufacturing units are certified for conformance to the ISO 9001-2008 quality surveillance systems.

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

Zero Leakage @ low torque

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

Applications

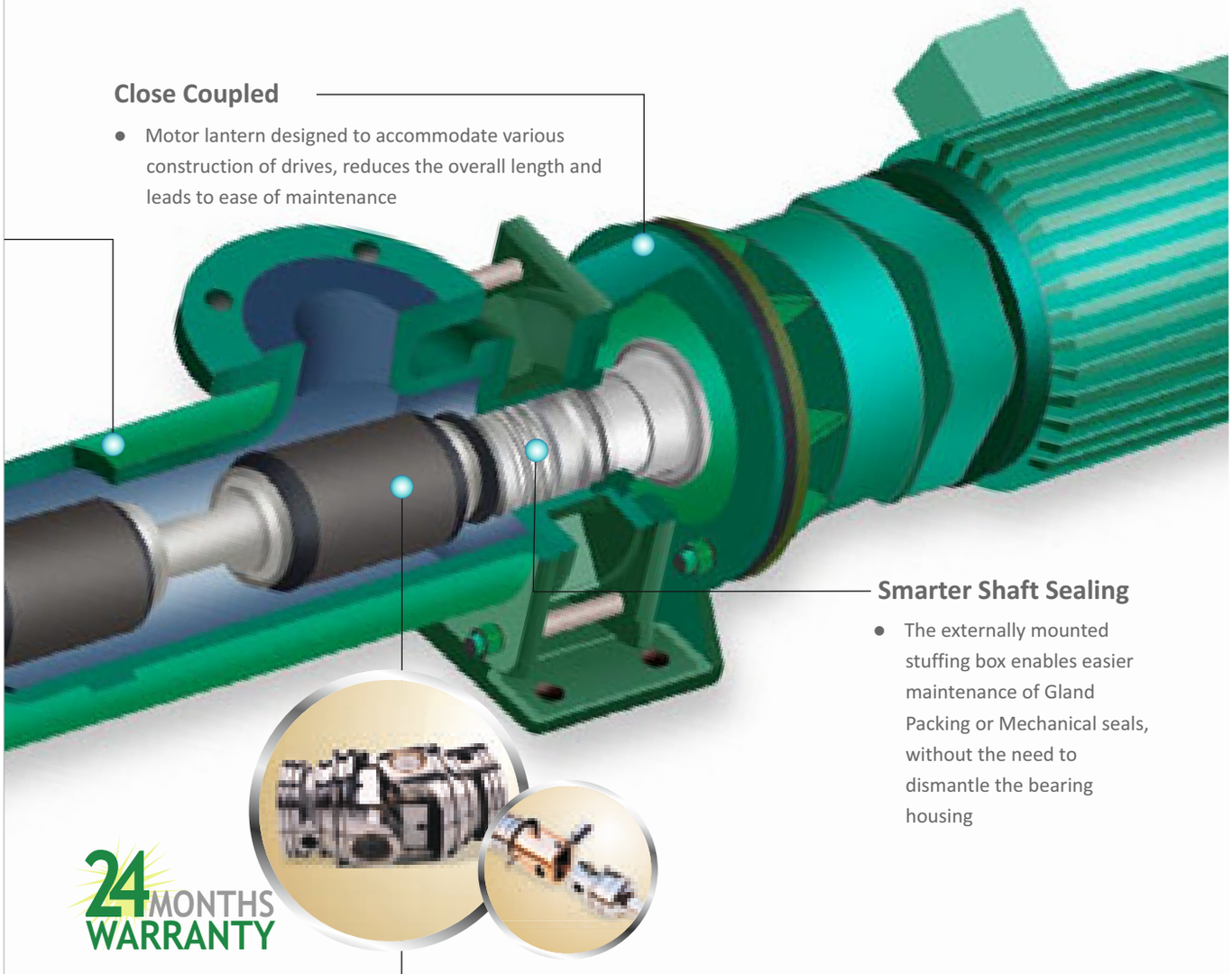
Sewage • Effluent & Water Treatment • Sugar • Paper • Pulp & Cellulose • Ceramics & Refractories • Explosives • Chemicals & Fertilizers • Soap & Detergents • Cosmetics & Toiletries • Paint & Varnish • Petrochemicals & Refineries • Vegetable Oils • Fertilizers • Mining • Steel • Rubber • Starch • Construction • Man Made Fibres • Fisheries • Oil Exploration and Production • Pharmaceuticals • Cattle Feed • Electronics • Brewery and Distillery • Agriculture • Distribution Depots • Power • Dairies • Winery • Food And Beverages • Abattoir and Meat Processing • Plantations • Fruit Processing • Dye Stuff • Textiles

Fluids handled

Digested Sewage Sludge • De-Watered Effluent Sludge • Industrial Effluents • Poly Electrolytes • Flocculants • Sulphited Sugar Juice • Massecuite • Magma • Molasses • Spent Wash • Paper pulp having 12-21% consistency Sodium Silicate • Alum • Latex • Coating Slurry • Glue • Black Liquor • Ceramic Slurry • Casein Slurry • Oils • Maize Slurry • Viscose • Paints • Varnish • Vegetable Oil • Ammonium Nitrate Solution • Resins • Acidic And Alkaline Slurry • Soap Stock • Gum Sludges • Bentonite Slurry • Cake Mix • Grease • Waste Asbestos Slurry • Explosive Slurry • Emulsion Matrix • Battery Paste • Printers Ink Paste • Petroleum Jelly • Grout Mix • Lumpy sticky substances such as Dirty Grease • China Clay • Filter Cakes • Soya Cake • Wine • Fruit Pulp • Fruit Juice • Condensed Milk • Butter Oil • Glucose • Cream • Curd • Yeast • Syrup • Malt Extract • Mine Water • Domestic Water Supply • Water for Cattle Feed • Animal Effluent • Liquid Manure • Sandy & Silty Water.

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

24 MONTHS WARRANTY

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

Material Options

HOUSING COMPONENTS : Cast Iron, Cast Steel, Cast Stainless Steel, Fabricated Steel and Stainless Steel

STATOR : Natural, Nitrile, High Nitrile, EPDM, Chloro- Sulphonated Rubber, Fluoroelastomer

ROTOR : Case Hardened Steel, Alloy Steel HCP, Stainless Steel UP/HCP

COUPLING ROD : Alloy Steel, Stainless Steel

SHAFT : Alloy Steel HCP, Stainless Steel UP/HCP. Shaft Sleeve Optional

SPECIAL MATERIAL : Other Exotic options including

Alloy 20, Haste alloy also available

Legend

HCP: Hard Chrome Plated UP: Unplated

Sealing Options

SOFT GLAND PACKINGS : Aramid packing -impregnated with PTFE High Temperature Resisting Lubricants • Lubricated PTFE Yarn Packing • Graphited Impregnated Glass Yarn Packing Lubricated with Mineral Oil • Lantern ring optional.

MECHANICAL SEAL : • Single coil Elastomer bellow Seals • Single coil Unbalanced Unidirectional/Bidirectional • Lug Driven • Balanced Seals • Double Seals • Flushing / quenching as per API Plan optional.

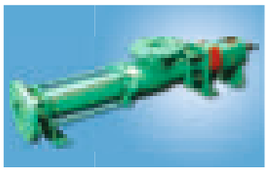
Drive Arrangements

DIRECT DRIVE : Electric Motor • Geared Motor • Gear Box • Mechanical Speed Variator • Petrol/Diesel Engine • Turbines • Hydraulic • Pneumatic

V' BELT DRIVE: Over Head and ' L ' Type

Roto extra value

Pump series to suit all applications

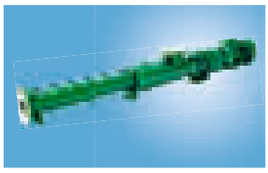


Small Capacity 'RD' Series Pumps

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	D41	D43	D45	D47	D49	D51	D53	D55
Capacity M^3/hr	0.11	0.3	0.6	1.6	3.5	6.5	9.5	17
Pressure Bar	24	48	24	24	24	12	12	6

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

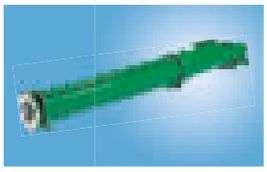


Medium to Large Capacity 'RM' Series Pumps

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	M50	M52	M54	M56	M58	M60	M62	M64	M66	M69	M72	M73
Capacity M^3/hr	4	8	14	18	26	31	55	78	95	150	200	250
Pressure Bar	48	48	36	36	36	48	24	18	12	12	12	12

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

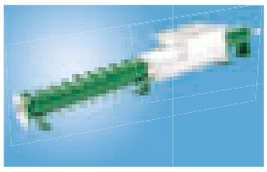


Extra Large Capacity 'RL' Series Pumps

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	L54	54M	L57	57M	L59	59M	61M	L63	63M	65M	L67	67M	L71	69M	71M	L75	73M	76M
Capacity M^3/hr	14	18	25	31	42	51	56	70	86	114	116	152	195	212	272	345	352	420
Pressure Bar	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6

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



Widethroat 'WM' Series Pumps

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	W54	W56	W58	W60	W62	W64	W66	W69	W72	W73
Capacity M^3/hr	7	12	16	28	35	47	57	90	120	150
Pressure Bar	36	36	36	48	24	18	12	12	12	12

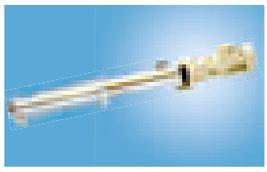
Viscosities: Upto 125,000 cst
Temp.: Upto 150° C
Solid Handling Capability: Upto 12%

Widethroat with Bridgebreaker 'KM' Series Pumps

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

Size	K54	K56	K58	K60	K62	K64	K66	K69	K72	K73
Capacity M^3/hr	5	7	10	17	21	28	34	54	72	100
Pressure Bar	36	36	36	48	24	18	12	12	12	12

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



Wine & Beverage 'DM' Series Pumps

These Heavy Duty pumps are specifically designed for Wine transfer applications and can also be used for other Food & Beverages applications. Standard connections include IDF, SMS & RJT.

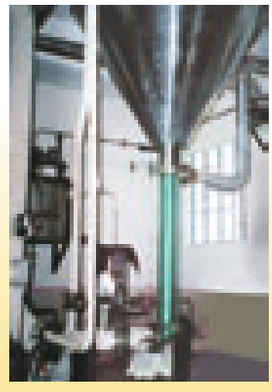
Size	DM51	DM53	54M	DM56	57M	DM58	59M	DM60	DM62	63M
Capacity M^3/hr	6.5	9.5	18	20	31	26	51	46	58	86
Pressure Bar	6	12	6	24	6	24	6	24	24	6

Viscosities: Upto 5,000 cst Temp.: Upto 150° C Solid Handling Capability: Upto 7%

Engineered fluid handling solutions

Backed by over 45 Years of experience and a strong Research & Development infrastructure in providing fluid engineering solutions to a wide spectrum of industries, Roto has the unique ability to offer high-end customised solutions. These include either custom designed pumps to suit a specific pumping application or complete systems.

Roto's 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 suit the sump depth.



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Manchester Office & Warehouse

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