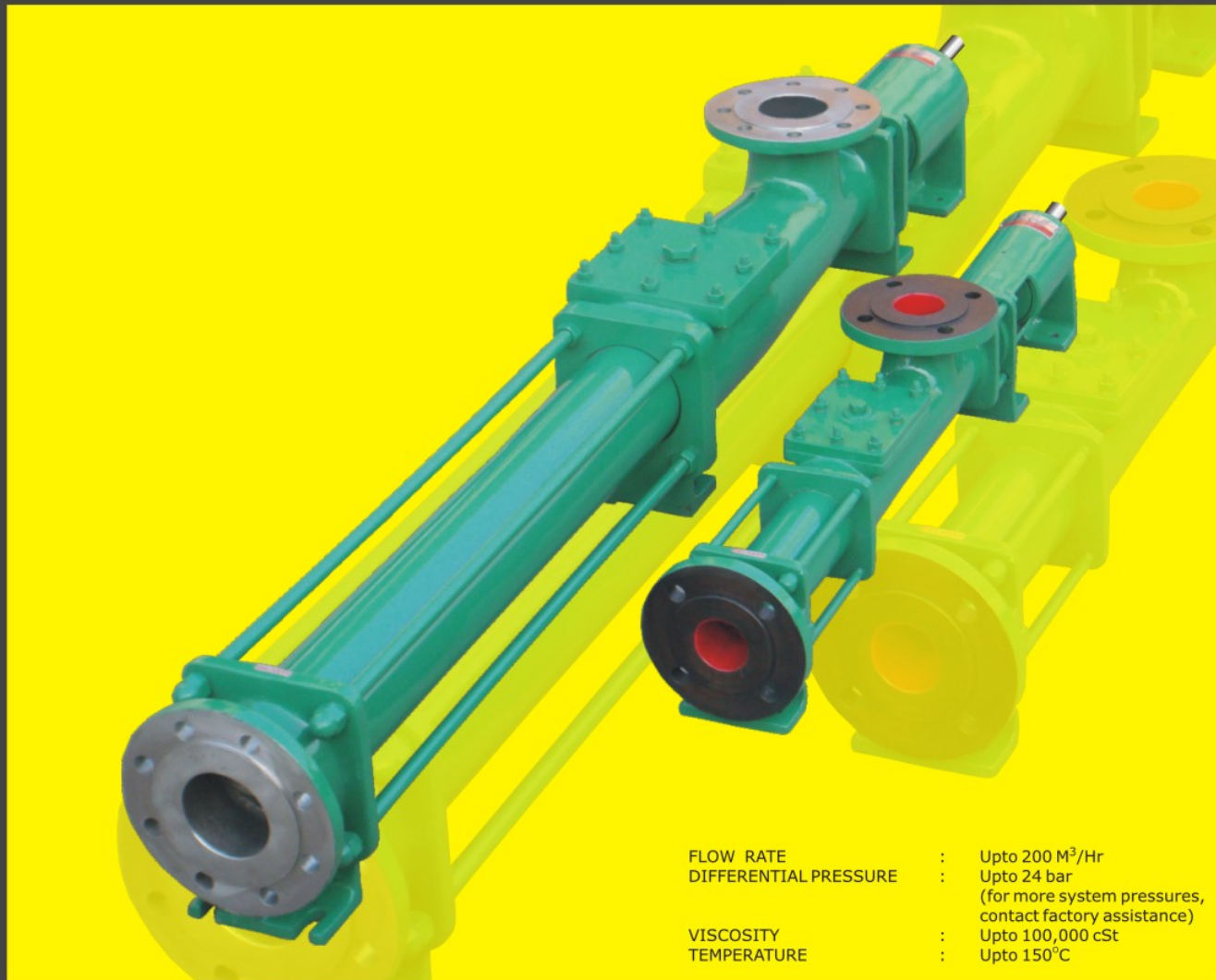




## PROGRESSIVE CAVITY PUMPS

'SAC' INDUSTRIAL & CHEMICAL SERIES



FLOW RATE	:	Upto 200 M <sup>3</sup> /Hr
DIFFERENTIAL PRESSURE	:	Upto 24 bar (for more system pressures, contact factory assistance)
VISCOSITY	:	Upto 100,000 cSt
TEMPERATURE	:	Upto 150°C

### INDUSTRIES

Sewage • Effluent & Water  
Sugar, Distillery & Brewery  
Paper, Pulp & Cellulose  
Ceramics & Refractories  
Bulk Explosives & Emulsions  
Chemicals • Construction  
Canning • Cosmetic & Toiletries  
Edible Oil • Engineering  
Fertilizer • Marine  
Mining  
Man made Fibre  
Oil & Gas  
Paint & Varnish • Printing Ink  
Palm Oil • Soap & Detergent  
Ship Building Industries  
Starch Factories  
Cattle Feed  
Abattoir & Meat Processing  
Dye Stuff & Intermediates

### FLUIDS HANDLED

Digested Sewage Sludge  
De-Watered Effluent Sludge  
Industrial Effluents • Fuel Oil Sludge  
Poly Electrolytes • Flocculants  
Molasses • Magma • Masecuite  
Spent Wash • Sulphited Sugar Syrup  
Paper Pulp upto 20% consistency  
Alum • Latex • Coating Slurry • Ferrite Slurry  
Glue • Sodium Silicate • Black Liquor  
Ceramic & Clay Slurry • Casein Slurry  
Maize Slurry • Soap Stock • Lime Slurry  
Ammonium Nitrate Solution • Resins  
Edible Oil • Gum Sludge • Cake Mix  
Acrylic Emulsion • Aluminium Hydroxide Gel  
Bentonite Slurry • Chemical Slurry  
Detergent Slurry • Epoxy Mix • Grout Mix  
Electroplating Solutions • Yeast • Instant Tea  
Lube Oil • Petroleum Jelly • Rice Bran Oil  
Tribasic Lead Sulphate • Varnish • Viscose

### MATERIAL OPTIONS

#### HOUSING PARTS

Cast Iron, Cast Steel, CF8, CF8M, CF8ML,  
Alloy20, Hastelloy.

#### ROTOR & SHAFT

Ni-Cr, Nitrided Steel, Tool Steel, AISI410,  
AISI304, AISI316, Hardened & Hard  
Chrome Plated.

#### STATOR

NR, IIR, NBR, HNBR, EPDM, CR, CSM, Q,  
CFM, FKM in black, white, food grade,  
abrasion resistant & high temperature  
resistant variants.

### SHAFT SEALING

A wide variety of gland packed &  
mechanical seal options with API plan.

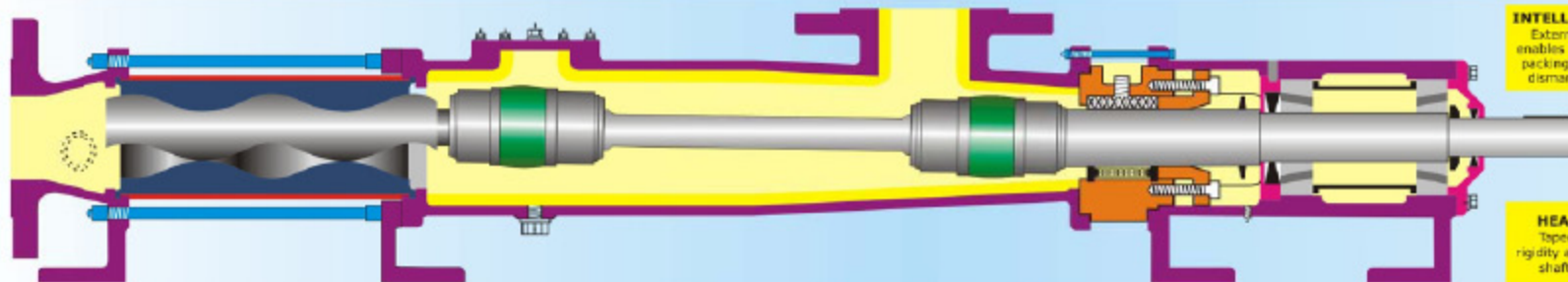
## PRINCIPLE

The main components which characterise the pump are a metallic single helical rotary part ROTOR and fixed double helical resilient polymer part STATOR in which the rotor turns and thereby a complex progressive sealing line (csp) is maintained. Whilst the rotor rotates inside the stator, the cavities formed between them progresses from suction to discharge end, gently carrying the media.

## APPLICATIONS

Transfer, Filter & Meter of fixed or variable flow rates.

## DISPLACEMENT OF CONVEYING SPACES at different rotor settings



## INTELLIGENT SHAFT SEALING

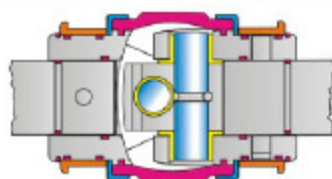
Externally mounted stuffing box enables easier maintenance of gland packing or mechanical seal without dismantling the bearing housing.

## HEAVY DUTY BEARINGS

Taper Roller Bearings for high rigidity and concentricity of the main shaft for a longer service life.

## UNIVERSAL JOINT

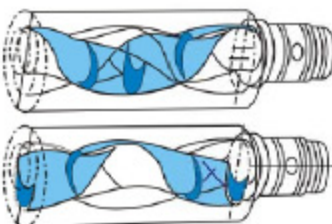
Cardan Joint employs two sets of perpendicular pins, each providing greater freedom of angular movement which facilitates smoother transmission of angular loads. This joint is acknowledged to be far superior than other conventional joints.



## COMPLEX SEALING PROGRESSIVE LINE

The Stator forms the heart of the pump and its function depends on the complex progressive sealing line. The stators are manufactured in our state of art most modern polymer shop.

The stator cores are manufactured precisely on CNC machine centers which is achieved with the empirical and theoretical understanding of the fluid dynamics, an expertise which has been mastered over 3 decades.



## DISTINCTIVE DESIGN FEATURES

### POSITIVE DISPLACEMENT

Progressing cavities deliver a uniform, metered and non-pulsating flow. The head developed is independent, and flow rate proportionate to the rotational speed.

### SELF PRIMING

Can work on snore i.e., handles high percentage of air with liquid and do not require foot valves.

### NON CLOGGING

Can handle solids in suspension or media containing high percentage of solids.

### LOW INTERNAL VELOCITY

Minimum degradation of shear-sensitive media and can handle highly viscous pseudo-plastic materials.

### LOW NPSH REQUIREMENT

Suction lift capability up to 9.5 MWC and effective even in high vacuum conditions.

### REVERSIBLE

Suction and Delivery ends can be interchanged by merely changing the direction of rotation of the pump.

## DRIVE ARRANGEMENTS

### DIRECT DRIVE

Electric Motor, Geared Motor, Gear Box, Mechanical Speed Variator, Eddy Current DC Drive, Hydraulic, Pneumatic, Petrol & Diesel Engines.

### PULLEY & V-BELT DRIVE

Overhead & 'L' Type

For accurate and variable flow rates, AC Variable Frequency Drives can be used.

## OPTIONAL PROTECTION DEVICES

### INTEGRAL SAFETY RELIEF VALVE

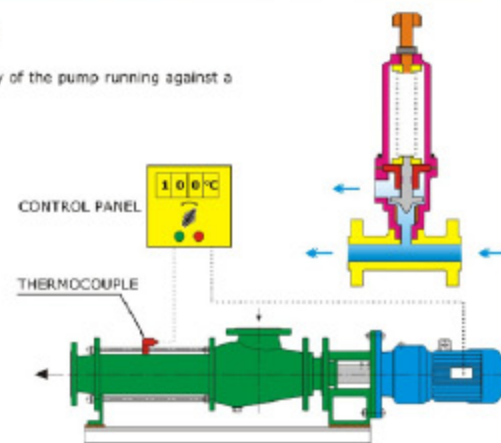
Used for plant safety wherever the possibility of the pump running against a closed valve or in-line blockade exists.

### DRY RUNNING PROTECTION

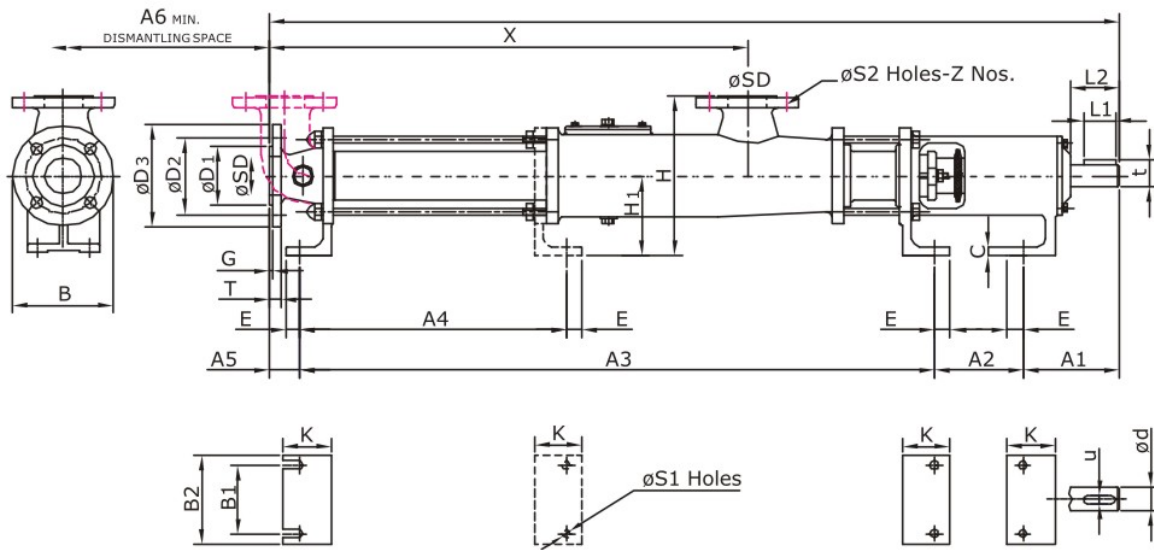
Inexpensive options for dry run protection can be snore by pass, level switch or pressure switch but more reliable option is the TSE unit.

The temperature between the rotor and the stator is permanently sensed thermoelectrically via a temperature sensor integrated in the stator and compared with the limit value set at the TSE control unit.

When the pump runs dry, the temperature will rise due to the increased friction between the rotor and the stator. When the set limit value has been reached, the TSE control unit switches off the pump drive and triggers a fault message to trip the motor.







PUMP SIZE	BASIC DIMENSIONS																		FLANGE DIMENSIONS							SHAFT EXTN.						Wt.
	L	B	H	A1	A2	A3	A4	A5	A6	B1	B2	C	E	H1	K	S1	X	SD	D1	D2	D3	T	G	Z-S2	d	t	u	L1	L2	Kg.		
01561	571					348											229													13		
01562	649					426											307													14		
02081	599	150	170	80	107	376		36	225	50	78	8	15	90	45	10	257	40	88	110	150	18	3	4-ø18	14	16	5	20	28	14		
02082	703					480											361													15		
01564	1154					830	372										685													38		
02084	1260					936	478										791													40		
03121	996	165	200	107	177	672		40	435	70	110	10	20	100	50	12	527	50	102	125	165	20	3	4-ø18	22	25	6	40	54	34		
03122	1152					828											683													44		
03124	1476					1169	699										1014													75		
04161	1065	185	244	115	150	758		42	625	78	118	12	20	112	60	12	603	65	122	145	185	20	3	4-ø18	28	31	8	40	52	58		
04162	1273					966	496										811													73		
04164	1951					1574	932										1412													111		
05201	1459	200	277	154	178	1082	440	45	825	92	134	12	25	132	70	16	920	80	138	160	200	22	3	8-ø18	32	35	10	60	77	95		
05202	1809					1432	790										1270													108		
05381	1775					1333	494										1159													160		
06241	1700					1258	419										1084													156		
06242	2012	220	320	165	228	1570	731	49	800	110	152	14	25	160	75	18	1396	100	158	180	220	24	3	8-ø18	38	40	10	60	80	177		
07281	1775					1333	494										1159													175		
07282	2185					1743	904										1569													208		
07284	2986					2464	1703										2256													240		
08321	1776					1254	493										1046													170		
08322	2182					1660	899										1452													195		
09361	1990	250	345	187	270	1468	707	65	1575	130	175	16	25	160	75	18	1260	125	188	210	250	26	3	8-ø18	48	52	14	80	100	182		
09362	2566					2044	1283										1836													222		
09881	2214					1692	931										1484													300		
09882	2994					2472	1711										2264													350		
10401	2290	290	390			1637	685	54									1343	150	212	240	285	26	3	8-ø22						505		
10402	2810					2157	1205										1863													560		
13521	2541			247	352	1875	923		1475	150	210	24	30	200	100	20	1594								60	66	18	100	133	625		
13522	3277	340	400			2611	1659	67									2330	200	268	295	340	30	3	12-ø22						700		

### NOTES:-

1. ALL DIMENSIONS ARE IN m.m. AND FOR GUIDANCE ONLY, EXCEPT WHERE OTHERWISE STATED.
2. SHAFT DIAMETERS ARE TO BS 4506:1970 AND KEYWAYS TO BS 4235:1982 PART 1 AND ISO R773.
3. FLANGES ARE IDENTICAL AND TO BS 4504:1969. (ISO/DIN/ANSI/IS FLANGES OPTIONAL)
4. FOR FULL CERTIFIED DRAWINGS REFER TO ROTOMAC, KANPUR (INDIA)