ROTOMAC ™

PROGRESSIVE CAVITY PUMPS

'SAP' INDUSTRIAL & CHEMICAL SERIES

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

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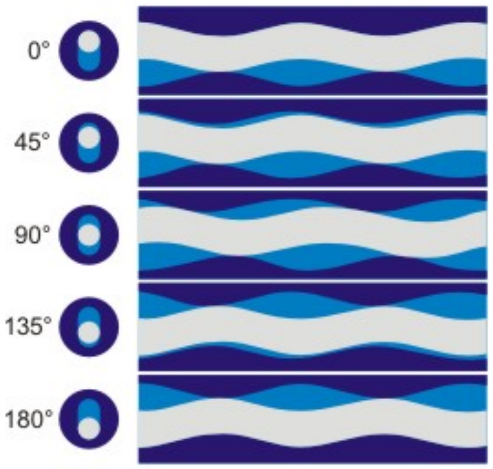
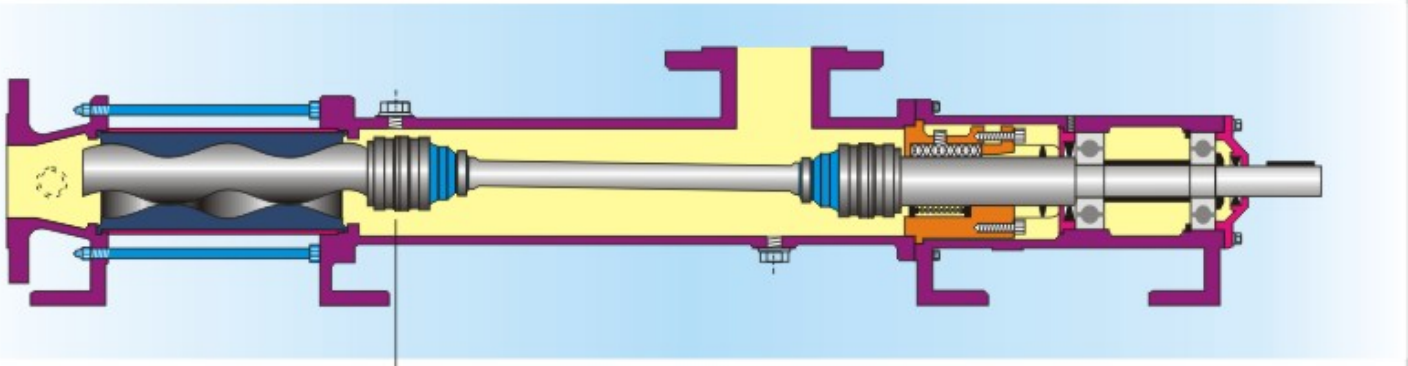
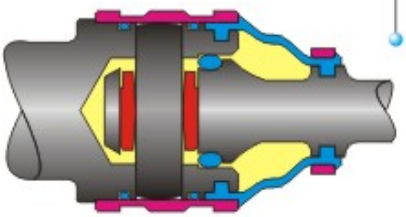
PRINCIPLE

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 (cspl) is maintained. Whilst the rotor rotates inside the stator, the cavities formed between them progresses from suction to discharge end, gently carrying the media.



Cavity Movement at Different Rotor Settings





UNIVERSAL JOINT

User friendly, completely sealed pin & bush joints for a longer service life.

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.

MATERIAL OPTIONS

HOUSING PARTS	Cast Iron, Cast Steel, CF8, CF8M, CF8ML, Alloy20, Hastelloy etc.
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 vide variety of gland packed & mechanical seal options with API plan.

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APPLICATIONS

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

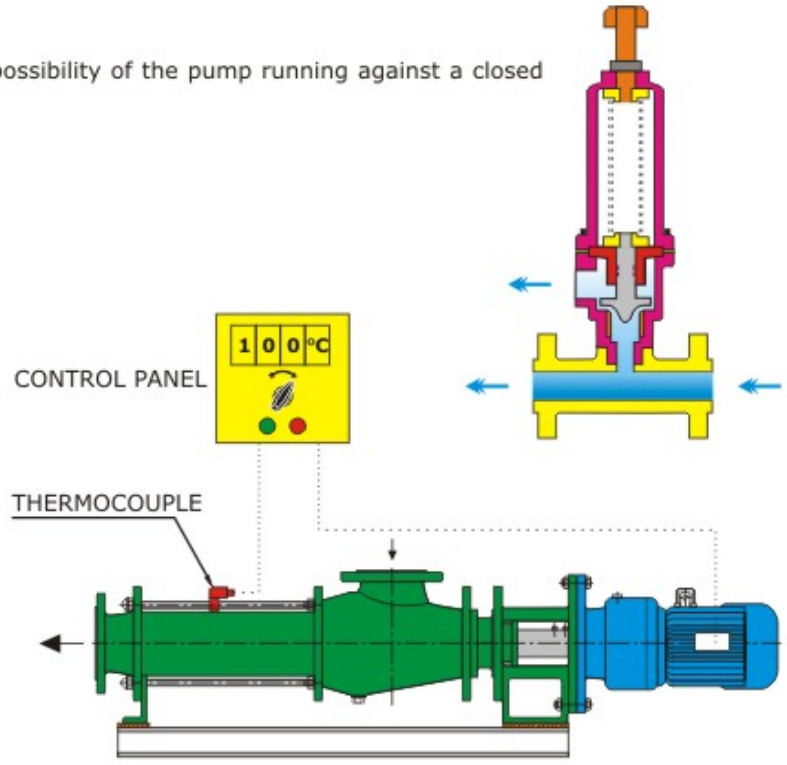
Digested Sewage Sludge • De-Watered Effluent Sludge • Industrial Effluents • Fuel Oil Sludge • Poly Electrolytes • Flocculants • Molasses • Magma • Massecuite • Spent Wash • Sulphited Sugar Syrup • Paper Pulp upto 20% consistency • Alum • Latex • Coating Slurry • Ferrite Slurry • Glue • Sodium Silicate • 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

ADVANTAGES

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.
SILENT RUNNING	The rotor rotates inside a resilient stator, thus generating minimal noise.

INTEGRAL SAFETY RELIEF VALVE

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



DRY RUNNING PROTECTION

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.

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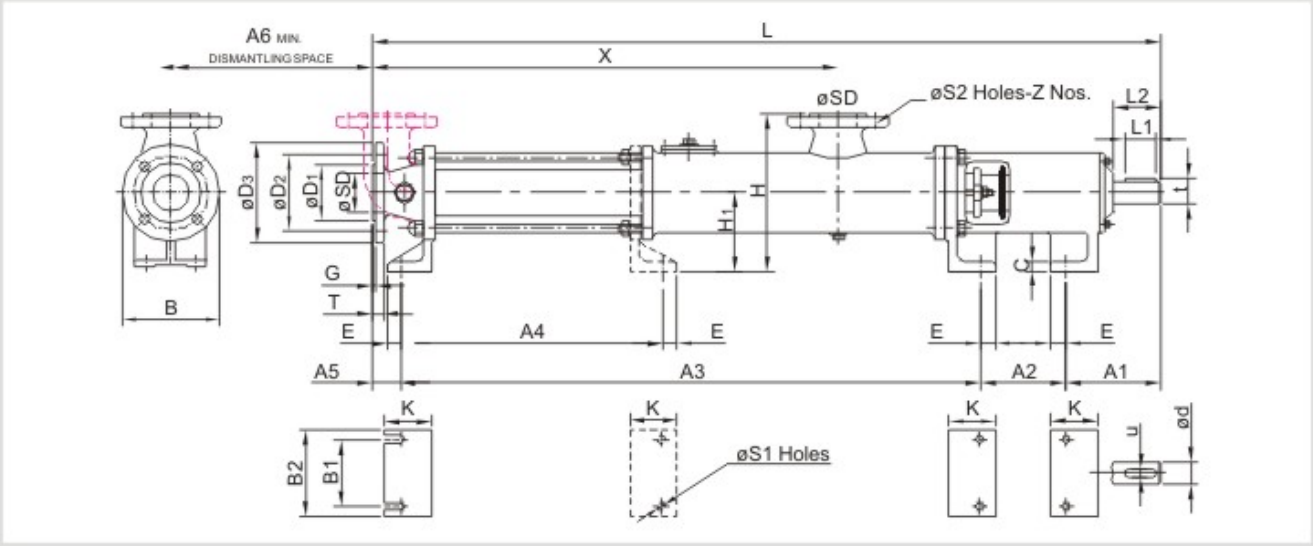
BARESHAFT PUMP DIMENSIONS



PUMP TYPE	V	PUMP SIZE	BASIC DIMENSIONS																FLANGE DIMENSIONS							SHAFT EXTN.					Wt. Kg.
			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	
SA	P	01561	627					376											296												13
SA	P	01562	705					454											374												14
SA	P	01564	861					610											530												14
SA	P	02081	655					404											324												15
SA	P	02082	759	140	165	82	133	508		36	250	50	78	8	15	90	45	10	428	32	78	100	140	18	2	4-ø18	14	16	5	20	30	16
SA	M	01601	651					400											320												15
SA	M	01602	741					490											410												16
SA	M	02101	666					415											335												16
SA	M	02102	786					535											455												17
SA	P	02501	791					522											428												32
SA	P	02502	991	150	175	96	133	722	432	38	400	50	80	10	15	90	45	10	628	40	88	110	150	18	3	4-ø18	18	21	6	30	47	37
SA	P	03501	985					717	427										623												32
SA	P	02084	1200					875	436										783												47
SA	N	02304	1169					844	405										752												45
SA	P	03121	944					619											527												32
SA	P	03122	1100	165	200	108	177	775		40	550	70	110	10	20	100	50	12	683	50	102	125	165	20	3	4-ø18	22	25	6	40	54	41
SA	M	03801	1060					734											642												40
SA	N	03802	1300					974	569										882												45
SA	N	04301																													
SA	P	03124	1565					1221	707										1097												75
SA	M	05201	1992	185	234	127	177	948	434	42	650	78	118	12	20	112	60	12	824	65	122	145	185	20	3	4-ø18	28	31	8	40	63	58
SA	P	04161	1148					804											680												60
SA	P	04162	1356					1012	498										888												72
SA	P	04164	1977					1575	926										1406												110
SA	P	05201	1491	200	277	154	203	1089	440	45	875	92	134	14	25	132	70	15	920	80	138	160	200	22	3	8-ø18	32	35	10	60	78	94
SA	P	05202	1841					1439	790										1270												107
SA	M	06201	1503					1101	452										932												92
SA	P	05204	2731					2286	1501										2064												165
SA	P	06241	1651					1206	421										984												154
SA	P	06242	1963	220	325	168	228	1518	733	49	850	110	152	14	25	160	75	18	1296	100	158	180	220	24	3	8-ø18	38	40	10	60	83	174
SA	P	07281	1726					1281	496										1059												178
SA	P	07282	2136					1691	906										1469												205
SA	P	06244	2568					2046	1347										1903												225
SA	P	07284	2917					2395	1696										2252												235
SA	P	08321	1775					1253	554										1110												167
SA	P	08322	2117	250	345	187	270	1595	896	65	1650	130	175	16	25	160	75	18	1452	125	188	210	250	26	3	8-ø18	48	52	14	80	100	192
SA	P	09361	1925					1403	704										1260												180
SA	P	09362	2501					1979	1280										1836												218
SA	P	09881	2149					1627	928										1484												295
SA	P	09882	2929					2407	1708										2264												340
SA	P	10401	2220	290	390	247	352	1567	687	54	1575	150	210	24	30	200	100	20	1343	150	212	240	285	26	3	8-ø22	60	66	18	100	133	500
SA	P	10402	2740					2087	1207										1863												550
SA	P	13521	2471	340	400			1805	923	67									1594	200	268	295	340	30	3	12-ø22						620
SA	P	13522	3207					2541	1659										2330												690

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 I AND ISO R773.
3. FLANGES ARE IDENTICAL AND TO BS 4504:1969. (ISO/DIN/ANSI/IS FLANGES OPTIONAL)
4. W = WEIGHT IN KG.
5. V = DESIGN VARIATION.
6. INSPECTION COVER USED IN PUMP SIZE 05204 AND ABOVE SIZE.
7. FOR FULL CERTIFIED DRAWINGS REFER TO ROTOMAC, KANPUR (INDIA)

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