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TUSHACO[®]
SERIES TD



TWIN SCREW PUMPS

RELIABLE PUMPING PARTNERS SINCE 1960'S

motralec

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Working Principle

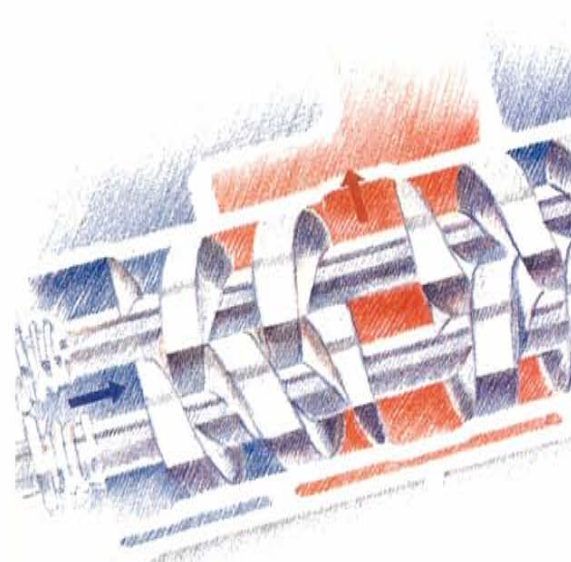
A pair of specially profiled screws, machined integral from solid stock and well supported on antifriction bearings run in precision bored interchangeable casing liners. Each screw set has one RH and one LH screw engaging with a similar but opposite hand screw pair. A pair of hardened & profile ground timing gears synchronize the screws to maintain a small but positive clearance between the flanks thus ensuring no metal to metal contact. The pumps can therefore run dry for sometime without any damage. This unique feature enables to run the pump even dry and handle fluids that

TUSHACO Twin screw pumps employ a unique pumping principle that makes it the only choice for certain applications. No other designs of Positive Displacement Rotary Pumps offer so much versatility in the operating parameters with guaranteed total reliability and maintenance-free service

do not have enough lubricating value and also very low or high viscous products. Consequently, since there is no metal to metal contact; wear and tear is reduced to the minimum, ensuring extremely long service life. With two pairs of screws running in the same casing, the internal velocities are very small - consequently the NPSHR is practically the lowest even when the pumps run at motor speeds and while handling viscous products. Opposed screw pitches totally eliminate axial thrusts. Relatively small diameters of screws

enables the pump to operate at high speeds directly coupled to prime movers - without the need for speed reducers even while handling high viscosities. The flow patterns of fluid through the pump keeps the (shaft) sealings always under suction pressure, thus making use of simple, inexpensive seals. The axial flow without turbulence, rotation, churning, chewing guarantees gentle handling of products. Noises and vibration or levels are about the lowest. Positive clearance between running parts makes it easier to construct the pump in different materials safely, especially in stainless steel, without the fear of seizing. Thus a variety of fluids can easily be handled by selecting the right materials of construction.

TUSHACO PUMPS have earned a reputation of being the most reliable Positive Displacement Pumps for practically any given application since 1968 due to the widest choice of designs available and excellent knowledge of application engineering. Continuous Research and Development together with modernization with CNC machines and testing facilities has enabled us to accept challenging jobs. Thousands of TUSHACO pumps in operation to the total satisfaction of users in core industries throughout the country and abroad are a silent testimony.



Temperature : -30 to +350°C

Viscosity : 1 cst to 50,000 cst or more

Pressure : Normal 16 bar / 24 bar, with special design upto 50 bar

Specialities : Partial heating / complete heating / cooling arrangements

Sealing : Stuffing box / mechanical seal with or without quenching / heating / cooling.

Mounting : Horizontal foot mount / vertical pedestal

Accessories : Relief valves, base frame, coupling, coupling guard, companion flanges, pressure gauges, electric motors / diesel engines, variable speed drives and as per customer requirements.

Typical Flow (*) (capacity range) @ 1450 rpm - M³/Hr.

Pump Size	M ³ /Hr
088	20 to 35
105	40 to 60
118	65 to 95
135	100 to 155
150	165 to 210
165	220 to 280
180	275 to 370
195	330 to 400
210	380 to 475
235	375 to 550
244	580 to 675
265	690 to 975
275	780 to 1000

(*) Values given Approximate. Individual performance chart can be furnished after receipt of a detailed duty parameter.

Typical Materials of Construction

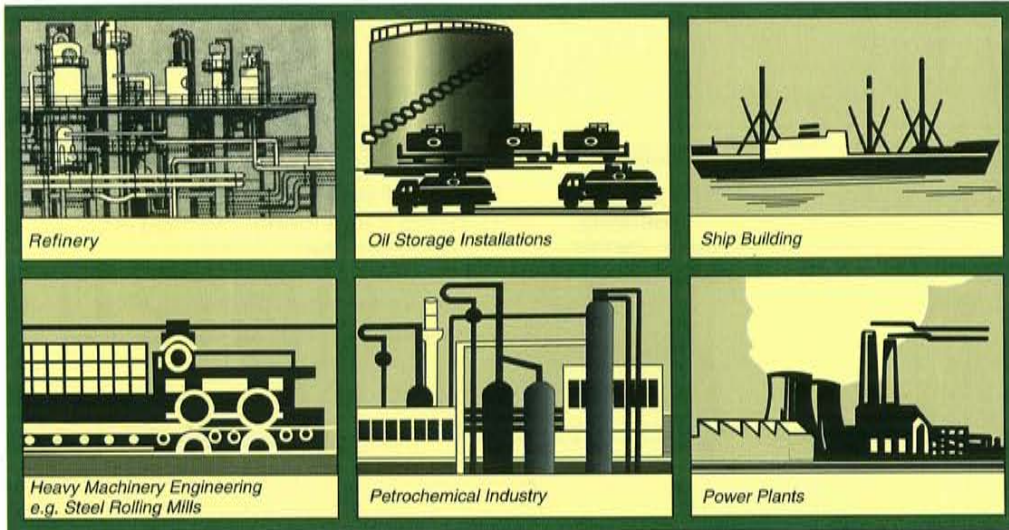
SPECIFICATIONS	IS	ASTM	DIN
CASING	210 FG 260 2002 1030 (23/45)	A 48 CL.40 285 Gr. C A216 Gr. WCB	GG 25 H II GS 45
LINER	210 FG 260 2749 Gr. NR	A 48 CL.40 A 436 type 2b	GG 25 GGI, NiCr.20 3
SCREWSHAFT	C. 40 15 Cr 16 Ni 2	A 107 Cr. 1045 A 276 type 431	Ck45 x 22CrNi17

Typical Applications

- Loading/unloading of fuel oil & other products from :
 - Railway Wagon Rakes
 - Truck tankers
 - Barges, ships & tankers
- Bulk cargo handling
- Lubrication, circulation & cooling
- Process pumping of high viscous products, bitumen, molasses, soap and similar products,
- Long distance pipeline pumping of viscous products

Salient Features

- Positive clearance between rotors
- No metal to metal contact between rotors
- Dry running capability
- Negligible wear over years
- Axial smooth steady flow
- High speed running
- Pulsation free output
- Negligible vibrations
- Insensitive to varying viscosities
- Long maintenance free service
- Lowest NPSHR
- Shaft sealing at suction pressures
- Axial thrusts completely eliminated
- Interchangeable liner
- Adaptability of various MOC



Typical Liquid List

- Additives
- Base Oils
- Bitumen
- Fuel Oils - all grades
- Lubricating Oils - all grades
- Lyes
- Molasses
- Paraffin
- Petroleum Products
- Polyester
- Residues
- Soap
- Vegetable Oils

Major Industries

Petroleum Refineries, Terminals, Depots, Oil Blending Stations, Thermal Power Plants, Steel Plants, Fertilizer Industries, Petrochemical Plants, Carbon Black, Sugar, Paper and Pulp, Marine.

OTHER TUSHACO ROTARY PUMP DESIGNS

Ask for special catalogues - External gear / Internal gear / Internal lobe / Trochoidal / Shuttleblock / Single screw / Three screw / Vane.

- Max. capacity 1000 m³/hr., ● Pressure 180 bar,
- Viscosity 100000 cSt.

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PERFORMANCE PROVEN POSITIVE PUMPING POWER!

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