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ROTARY TWIN GEAR PUMPS

Series : FTRN/FTRB/FTRX



Rotary Gear Pumps
SINCE : 1993

Perfect Solution

for Transfer of Oil, Viscous Liquid
& Petroleum Product



Fluid Tech Systems

Ahmedabad - 382 430. (Guj.) INDIA

*“Let Our
Quality Speak
For Itself”*

ADVANCE TECHNOLOGY FOR PUMPING VISCOUS LIQUID

Reliability in performance & efficiency are main factor while evaluating your choice of pumps. When handling the viscous and semi viscous liquids "ROTOFLUID" is the brand leader in rotary gear pump delivering quality performance which speaks for itself.

Fluid Tech systems offer "ROTOFLUID" brand gear pump Model "FTRN/FTRB/ FTRX" which is heavy duty foot mounting type positive displacement rotary twin gear pump. Model "FTRN/FTRB/FTRX" having three piece construction it can be easily cleaned and maintained.

The Pump consists of a double helical refined gear along with a hardened grind finished shaft, and double helical gear prevents axial load & side thrust which helps in increasing life and performance of the pump.

These pumps are having flange at the end of suction and delivery which are available in 1/2" to 6" size. These pumps can be operated up to pressure of 10kg/cm² with 8.30 LPM flow to 2083.00 LPM flow capacity. These pumps are suitable for liquid up to viscosity of 1,00,000 SSU and maximum temperature up to 200° C.

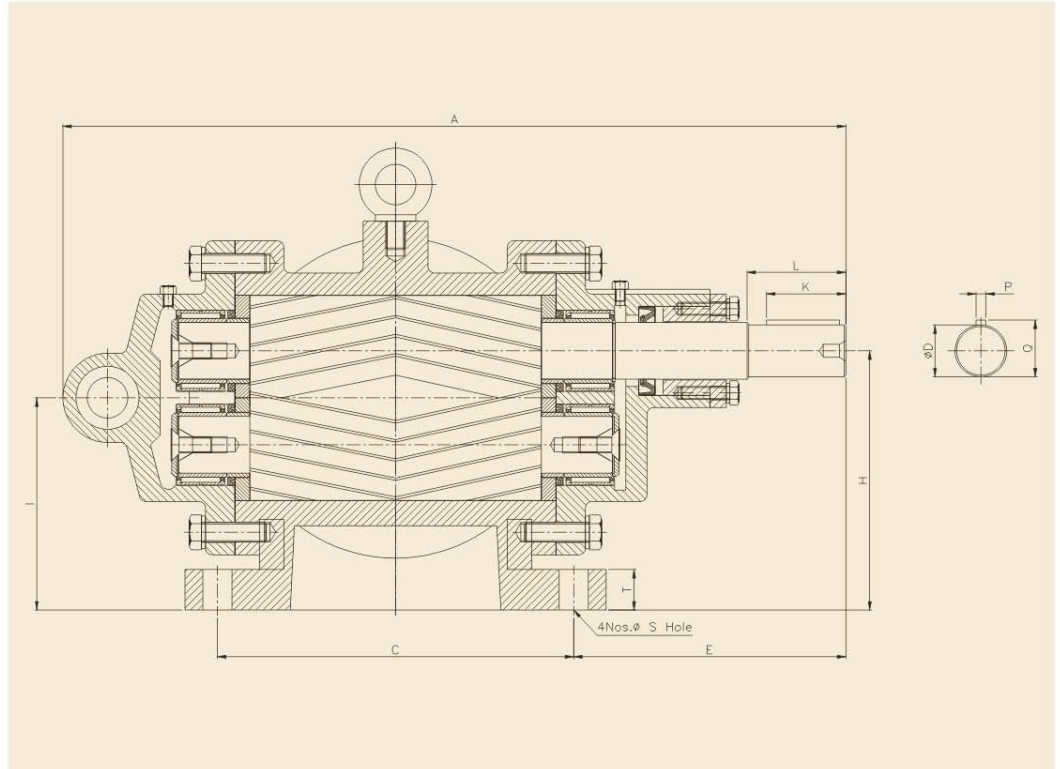
FLUID TECH SYSTEMS is the market leader in Rotary Gear Pumps since its commence in the year 1993. And aim to be the world leader in Customer satisfaction through quality products and services.

Because of our uncompromising stringent parameters for delivering quality products along with excellent customer services we have been well accepted in the domestic & overseas market.

The main objective of the company is to cooperate with the user community of Pumps in delivering quality innovative products and services which matches their needs in totality.

APPLICATION

- Power Plant.
- Steel Plant.
- Cement Plant.
- Bitumen Plant.
- Petroleum Industries.
- Refineries.
- Pumping Station.
- All kind of liquid loading and unloading.



FEATURES

- Heavy duty gear pump design for continuous application.
- Herringbone rotor design eliminate side thrust.
- Modified tooth profile enhance tooth life.
- Floating gear design ensures uniform load distribution.
- Optionally steam jacket available.
- Double helical gear design prevent axial load.
- Low leakage path by design improve volumetric efficiency.
- Shorter bearing span reduces bending effect.

AVAILABLE MODEL SIZE & CAPACITY

SIZE & MODEL	1440 RPM CAPACITY			PUMP GD 2 IN KGM2	ELE MOTER H.P	FR. SIZE
	LPM	US GPM	M3/HR			
1/2"	08.30	02.20	0.50	0.0008	0.50	71M
50	16.60	04.40	1.00	0.0009	0.75	80M
S-M-L	25.00	06.60	1.50	0.0010	1.00	80M
1"	33.30	08.80	2.00	0.0007	0.75	80M
100	50.00	13.20	3.00	0.0008	1.00	80M
S-M-L	60.00	15.84	3.60	0.0009	2.00	90L
1.1/2"	83.30	22.00	5.00	0.0008	2.00	90L
150	100.00	26.40	6.00	0.0009	3.00	100L
S-M-L	125.00	33.30	7.50	0.0032	5.00	112M
2"	150.00	39.00	9.00	0.0068	3.00	100L
200	166.00	44.00	10.00	0.0074	5.00	112M
S-M-L	200.00	52.80	12.00	0.008	7.50	132S
2.1/2"	250.00	66.00	15.00	0.01	5.00	112M
250	299.88	79.20	18.00	0.013	7.50	132S
S-M-L	333.30	88.00	20.00	0.015	10.00	132M
3"	415.00	105.00	25.00	0.02	10.00	132M
300	449.82	118.00	27.00	0.024	12.50	160M
S-M-L	500.00	132.00	30.00	0.027	15.00	160M
4"	599.76	158.40	36.00	0.056	15.00	160M
400	666.66	176.00	40.00	0.062	20.00	160L
S-M-L	833.30	220.00	50.00	0.072	25.00	180M
5"	1000.00	264.00	60.00	0.098	20.00	160L
500	1250.00	330.00	75.00	0.112	30.00	180L
S-M-L	1499.00	396.00	90.00	0.177	40.00	200L
6"	1660.00	440.00	100.00	0.27	30.00	180L
600	1832.00	484.00	110.00	0.31	50.00	225S
S-M-L	2083.00	550.00	125.00	0.335	60.00	225M

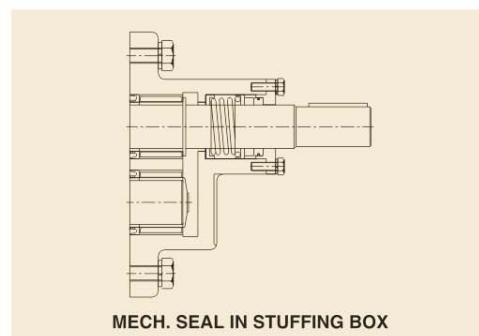
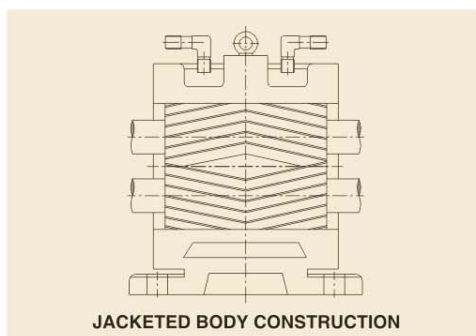
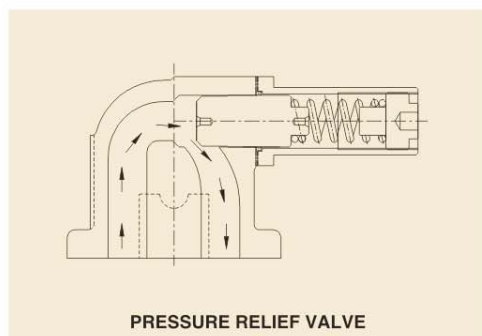
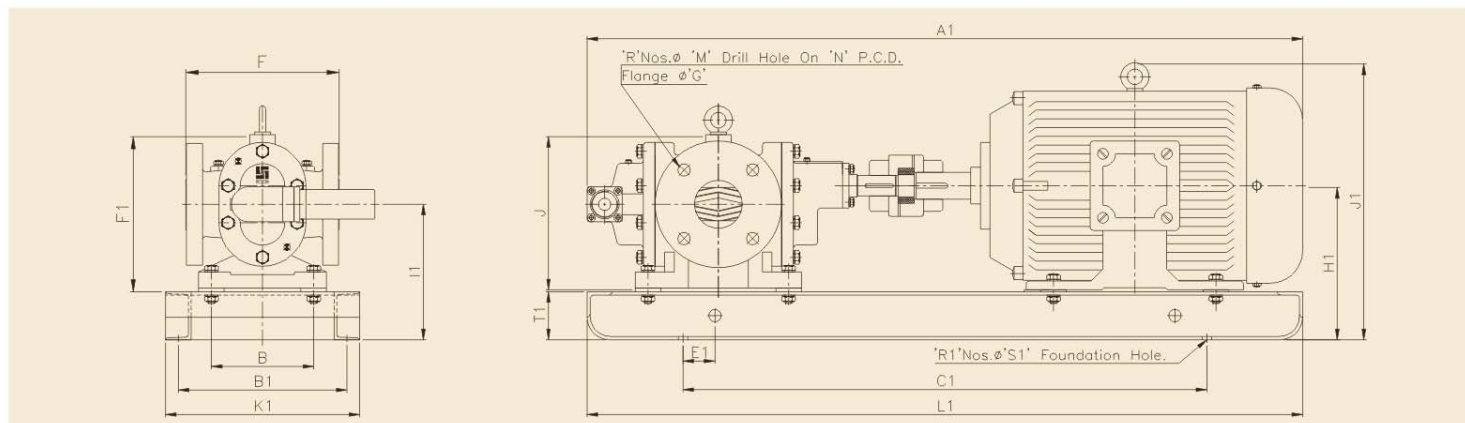
MATERIAL OF CONSTRUCTION

Part	Material For FTRN/FTRX	Material For FTRB
Pump Body	CI/CS	CI/CS
Front Cover	CI/CS	CI/CS
Back Cover	CI/CS	CI/CS
Gland Cover	CI/CS	CI/CS
Rotor & Stator Shaft	EN-19	EN-19
Gear	EN-24	EN-24
Bush/Needle Bearing	INA/IKO [Japan]	Non-Ferrous
Wear Plate	Bronze	Bronze
Lifting Hook	Mild Steel	Mild Steel
R.V. Housing	Mild Steel	Mild Steel
R.V. Piston	EN-8	EN-8
R.V. Spring	Mild Steel	Mild Steel
R.V. AD. Screw	EN-8	EN-8
Sealing	Neoprene Oil Seal	"GFO" Teflone
Key	EN-8	EN-8
Dowel Pin	EN-31	EN-31
Hex - Bolt	EN-8	EN-8

ROTARY TWIN - GEAR PUMP TYPE FTRN/FTRB/FTRX



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DIEMENSIONS

OVERALL																MOUNTING					SHAFT			FLANGE		WEIGHT BP-COU PUMP BP-COU IN KG.
A1	J A	J1	L1	K1	F1	B C	S S1	E F	H I	H1	T T	E1	C1	B1	I1	D R1	K L	P Q	M N	G R						
505	122	262	500	145	125	80	8	91	80	158	75	37	340	112	147	11.5	22	4	16	89	11.5					
540	-	283	525	170	130	-	-	-	-	163	-	36	365	125	152	-	-	-	-	-	8.0					
540	240	283	525	170	130	100	15	150	69	163	10	36	365	125	152	4	30	13	60	4	12.0					
570	136	288	600	145	140	90	10	100	90	168	75	26	360	120	152	15	25	5	16	108	12.2					
570	-	288	600	145	140	-	-	-	-	168	-	26	360	120	152	-	-	-	-	-	14.0					
620	272	315	650	180	146	110	15	160	74	175	10	26	410	140	159	4	30	17	79	4	13.1					
668	160	320	625	165	165	105	10	119	100	180	75	30	375	130	160	21	25	6	16	127	14.0					
698	-	328	750	205	165	-	-	-	-	178	-	30	500	170	158	-	-	-	-	-	22.5					
742	318	353	750	230	175	130	15	180	80	190	12	26	500	190	170	4	40	23.5	98	4	18.0					
740	174	340	775	210	177	110	12	133	112	190	75	50	525	170	168	24	39	8	19	152	17.5					
785	-	353	800	230	177	-	-	-	-	190	-	65	550	190	168	-	-	-	-	-	28.0					
855	360	398	850	256	197	150	15	200	90	210	14	50	600	216	188	4	50	27	121	4	20.8					
842	200	377	800	240	203	130	15	163	132	214	75	35	550	205	184	27	40	8	19	178	18.5					
915	-	398	900	255	203	-	-	-	-	210	-	50	650	216	184	-	-	-	-	-	43.0					
954	420	398	950	255	203	160	15	220	106	210	15	50	700	216	184	4	55	30	140	4	22.5					
1015	240	451	1050	287	243	160	18	168	160	263	100	84	750	240	234	32	49	10	19	190	22.0					
1115	-	528	1100	304	243	-	-	-	-	263	-	75	800	254	234	-	-	-	-	-	59.0					
1115	482	528	1100	304	243	220	19	240	131	263	22	75	800	254	234	4	60	35	152	4	33.0					
1186	274	548	1200	315	277	180	18	189	180	283	100	58	800	265	248	37	54	10	19	229	40.0					
1232	-	548	1250	310	277	-	-	-	-	283	-	58	900	254	248	-	-	-	-	-	82.0					
1296	554	568	1300	330	277	270	19	280	145	283	25	90	900	279	248	4	65	40	190	8	47.2					
1292	294	603	1350	300	306	200	19	215	200	338	125	55	950	254	298	47	60	14	22	254	58.0					
1358	-	313	1400	365	296	-	-	-	-	328	-	125	1000	300	288	-	-	-	-	-	150.0					
1448	615	673	1400	380	296	280	22	300	160	328	25	116	1000	318	288	4	85	50.5	216	8	50.5					
1432	344	643	1500	305	351	220	20	215	225	358	150	183	1100	245	311	52	80	16	22	279	50.5					
1608	-	728	1650	420	346	-	-	-	-	353	-	137	1150	356	306	-	-	-	-	-	175.0					
1608	690	728	1650	420	346	350	22	340	178	353	25	137	1150	356	306	4	95	56	241	8	76.0					

ADVANCED TECHNOLOGY FOR PUMPING VISCOUS LIQUID



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PUMP CHARACTERISTIC

Gear pump is self priming positive displacement pump with positive pressure characteristic. The capacity of the pump is directly proportional to the speed but remain constant against pressure the difference between theoretical and delivery capacity is the slip of the pump which depends on speed, Viscosity of liquid working clearance, Differential pressure & workman ship. The pumps are capable of handling any kind of viscosity, the slip reduce with viscosity but the viscous power increase due to the resistance of the fluid to shear. The pump has a self priming capability however some net inlet pressure available must always equal or positive suction head NPSH is always required to avoid cavitations depending upon the viscosity of the liquid to be pumped & the pump speed.

HORSE POWER CALCULATION

The brake horse power required to drive a rotary gear pump is the sum of the theoretical HP & internal power losses. The theoretical horse power is the actual work done in moving the liquid from suction pressure to delivery pressure condition and is product of constant $C=0.037$ (capacity-LPM, Pressure kg/cm^2) or $C=2.3$ (capacity-GPM, pressure PSI)

POWER LOSSES

The mechanical & Viscous both are internal power losses in rotary gear pump. Mechanical losses have power required to overcome friction drag of rotating part of pump & viscous losses is power required to overcome liquid viscous drag & shearing action of liquids it self. This can be computed from the Graph on this page.

PUMP SPEED

Model "FTRN/FTRB/FTRX" are recommended to run at rated speed up to 500 CST viscosity for viscosity between 500 to 1250 CST pump speed should be reduce up to 60 % of rated speed, for viscosity between 1250 to 2500 CST speed should be reduce up to 30 % of rated speed.

PUMP SELECTION

Model FTRN/FTRB : The self lubricated needle roller bearing type Model FTRN used for clean viscous liquid having sufficient lubricating property such as clean lube oil, Gear oil, Animal oil, Fish oil, Hydraulic oil, Honey, Vegetable oil, SAE lubricating oil for continues duty, However for Intermittent duty Bush Bearing type pump Model FTRB used.

Model FTRX : This Model independent lubricated needle roller bearing type pump is suitable for handling of Crude oil, Dirty lube oil, HSD, Kerosene, LDO, Paints, Varnish, Wood Pulp, Liquid which have poor lubricant value.

Model FTRBJ : This Model should be selected for liquid which tends to solidify at room temperature such as Bitumen, Furnace oil, Asphalt, Tar, Starch, Molasses, Naptha, RFO, Silicate, Wax, Shop solution. Because This model have jacketing construction facilitate the heating the pump by steam or thermic fluid.

