

ROTARY TWIN GEAR PUMPS

Series : FTRN

Perfect Solution

for Transfer of Oils, Viscous Liquids & Petroleum Products.



*“Let Our
Quality Speak
For Itself”*

ADVANCED TECHNOLOGY FOR PUMPING VISCOUS LIQUIDS

PUMP CHARACTERISTIC

Gear pump is a rotary positive displacement pump with positive pressure characteristic. The capacity of the pump varies directly with speed but remain constant against pressure, however due to running clearance between the casing & impeller some liquid always bypasses to suction causing slip, which depends upon the differential pressure, viscosity of the liquid & of course the workman-ship. The pumps are capable of handling any viscosity, the slip reduced with viscosity but the viscosity power increases. The pump has a self-priming capability however some net positive to avoid cavitations depending upon the viscosity of the liquid to be pumped & the pump speed.

INTERNAL POWER LOSSES

The internal power losses in rotary pumps are of two types. The mechanical losses is the power necessary to overcome frictional drag of all the moving part within the pump. While viscous losses is power required to overcome fluid viscous drag & shearing action of the fluid, this can be computed from the graph on the opposite side.

H.P. CALCULATION

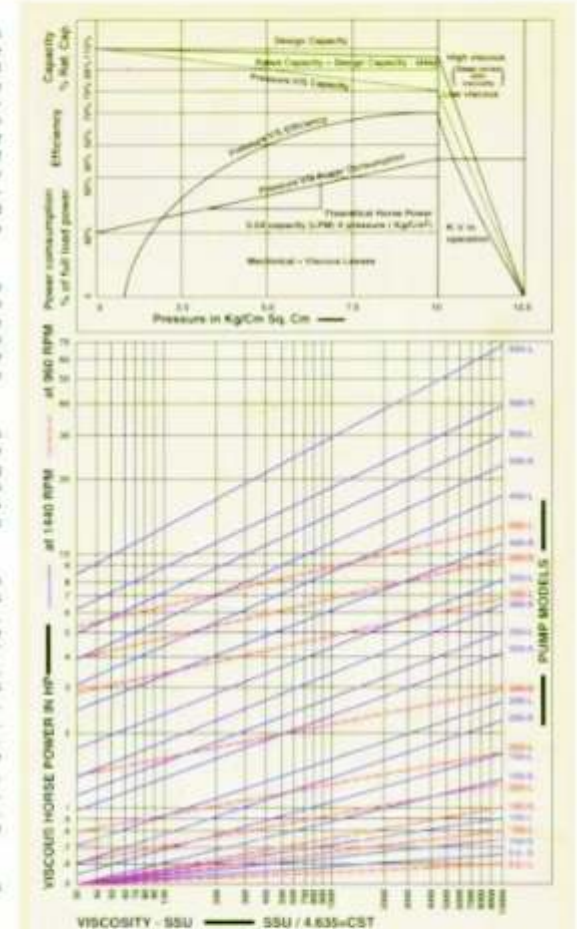
The break horse power required to drive a rotary pump is sum of the theoretical HP & internal losses. The theoretical horse power is the actual work done in moving the fluid from inlet port to out let pressure condition & is product of constant $c=0.037$, Capacity in cu. M./hr. & Pressure Kg/Sq. Cm Or Constant $C=2.39$. Capacity in cu. G.P.M. & Pressure in PSI.

PUMP SELECTION & USES

The bush bearing type of pump can be used for clean viscous liquid having sufficient lubricating value such as clean lube oil, Vegetable oil, Fish & Animal oil, Gear oil, Glycerine, Hydraulic oil for intermittent duty. However for continuous duty pump with needle roller bearing in FTRN series should be selected. For liquid having low viscosity, poor lubricating values or containing dirt or impurities such as Crude oil, Dirty lube oil, HSD, Kerosene, LDO, Paints, Sugar solution, Turpentine, Varnish, Wood Pulp, Pump with independently lubricated should be selected. For liquid which tends to solidify at room temperature such as Asphalt, Bitumen, Furnace oil, Tar, Cellulose, Starch, LSHS, HPS, Molasses, Naptha, Phenol resin, RFO, Silica, Soap solution, Viscous Wax etc. Jacketing construction should be selected to facilitate the heating or pump by steam or thermic fluid.

INSPECTION & TESTING:

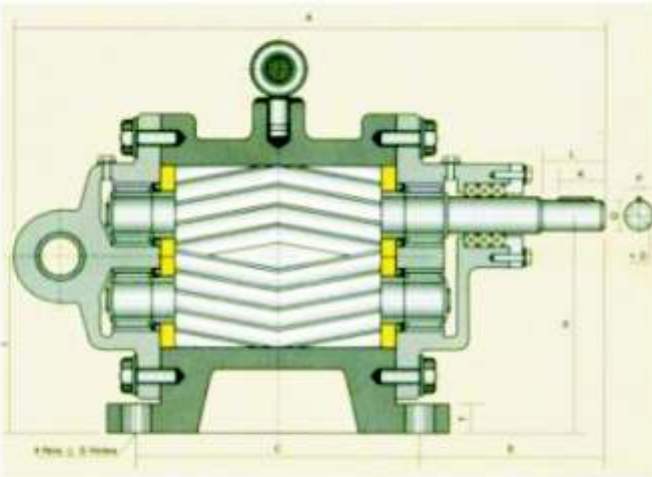
All pumps are individually tested for its performance as per IS 9-8512-1976.



ADVANCE TECHNOLOGY FOR PUMPING VISCOUS LIQUIDS

Proven Performance & operation economy are prime consideration while evaluating your pumping requirement. When it comes to handling viscous or semi viscous liquids, 'ROTOFLUID' rotary gear pump is an obvious choice for the very reasons.

'ROTOFLUID' rotary gear, twin gear & screw-gear pumps are well known, widely accepted **pd** pumps in all the industries for it's efficient performance, operational reliability, compact design & noiseless operation. These pumps have outclassed conventional gear pump & has also broken myth about screw pump offering better **overall performance** at considerable reduced cost. Many imported gear & screw pumps are replaced with 'ROTOFLUID' pumps in power station, steel plants, refineries, oil installation on navy vessels & cargo ships.



'FTRN' series twin gear pump now offers enlarged capacity range with option of self or independently lubricated jacketed or non-jacketed construction with all sizes designed to run at synchronous speed of 4-pole prime mover to further reduce the overall cost of the pump set. It will be a wise decision to go for 'ROTOFLUID' rotary twin gear pump even if it amounts to scrapping existing pump at your present installation.

ADVANTAGES

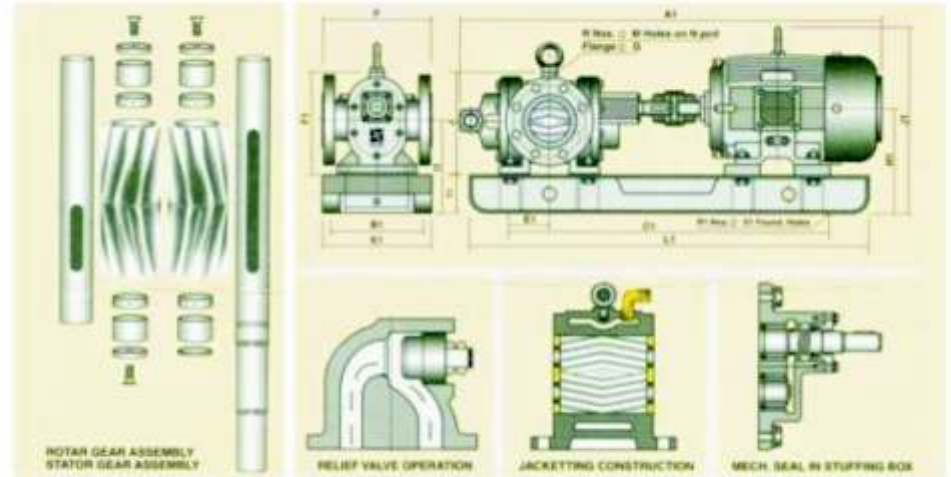
- Herringbone rotors design eliminates side thrust.
- Modified tooth profile enhances the tooth life.
- Floating gear - design ensures uniform load distribution.
- low - leakage path by design improve volumetric efficiency.
- Extra thick shaft reduces bending effectively.
- Sleeve on shaft make maintenance economical & easy.

PARTS LIST WITH Material of Construction

SR.	ITEM	QT.	MATERIAL	SR.	ITEM	QT.	MATERIAL
01	PUMP CASING	1	CI/CS/SS	12	R.V PISTON	1	EN-8/SS
02	FRONT COVER	1	CI/CS/SS	13	R.V SPRING	1	SPR.ST
03	BACK COVER	1	CI/CS/SS	14	R.V AD. SCREW	1	EN-8/SS
04	GLAND COVER	1	CI/CS/SS	15	BASE PLATE	1	MS
05	ROTARY SHAFT	1	EN19/SS	16	COUP. GUARD	1	ALUMN.
06	STATOR SHAFT	1	EN19/SS	17	COUPLING	1	FLEXIBLE
07	IMPELLER GEAR	1	EN-24/SS	18	COUP. KEY	1	EN-8/SS
08	NEEDLE BRG.	4	NA/RO	19	SEALING SYS.	2	OSMS/OP
09	WEAR PLATE	4	BROZEE	20	DOWEL PIN	4	SILV.ST
10	LIFTING HOOK	4	STEEL	21	COMP. FLANGE	2	MS/SS
11	R.V HOUSING	1	MAL-IRON	22	NUT HEX-BOLT	12	EN-8/SS

SIZE & MODEL	1440 RPM CAPACITY			PUMP GD 2 IN. MOTOR KGM2	ELE. H.P.	FR. SIZE
	LPM	US GPM	M3/HR			
1/2"	16.30	42.20	0.50	0.0008	0.50	71M
3/4"	15.60	44.40	1.00	0.0009	0.75	80M
S-M-L	25.00	66.60	1.50	0.0010	1.00	80M
1"	33.30	88.80	2.00	0.0007	0.75	80M
100	50.00	132.00	3.00	0.0008	1.00	80M
S-M-L	60.00	158.40	3.60	0.0009	2.00	90L
1.5"	83.30	220.00	5.00	0.0008	2.00	90L
150	100.00	264.00	6.00	0.0009	3.00	100L
S-M-L	125.00	333.00	7.50	0.0032	5.00	112M
2"	150.00	396.00	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	0.0068	7.50	125L
2.5"	250.00	66.00	15.00	0.01	5.00	112M
250	269.88	79.20	18.00	0.013	7.50	125L
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"	589.76	156.40	36.00	0.026	15.00	160M
400	646.66	176.00	40.00	0.042	20.00	160L
S-M-L	833.30	220.00	50.00	0.072	25.00	180M
5"	1000.00	264.00	60.00	0.088	20.00	160L
S-M-L	1250.00	330.00	75.00	0.172	30.00	180L
6"	1499.00	396.00	90.00	0.177	40.00	200L
600	1660.00	440.00	100.00	0.27	30.00	180L
6"	1832.00	484.00	110.00	0.31	50.00	225L
S-M-L	2083.00	550.00	125.00	0.320	80.00	225M
6"	2499.00	660.00	150.00	0.4561	50.00	225L
800	2915.50	770.00	175.00	0.542	75.00	250M
S-M-L	3332.00	880.00	200.00	0.601	100.00	285L

ROTARY TWIN - GEAR PUMP TYPE 'FTRN'



AT	DIENSIONS														WEIGHT BP-COU PUMP BP-COU IN KG.							
	OVERALL						MOUNTING				SHAFT			FLANGE								
	J A	JT	L1	K1	F1	F1	B C	S S1	E F	H I	T1	E1	C1	IT		D R1	L	P Q	M N	G R		
303	122	262	500	143	125	80	8	91	80	158	75	37	340	112	147	11.5	22	4	16	89	11.5	
538	-	283	525	170	130	-	-	-	163	-	36	365	125	152	-	-	-	-	-	-	-	12.00
538	239	283	525	170	130	100	15	150	89	163	50	36	365	125	152	4	30	13	60	4	12.00	
570	196	288	600	145	139	90	10	100	90	168	55	26	360	120	152	15	25	5	16	108	12.2	
570	-	288	600	145	139	-	-	-	168	-	26	360	120	152	-	-	-	-	-	-	-	12.5
620	271	315	650	180	148	110	15	160	74	175	10	28	415	140	159	4	30	17	79	4	13.1	
667	160	320	625	165	165	105	10	119	100	180	75	30	375	130	160	21	25	6	16	127	14.0	
667	-	328	750	205	163	-	-	-	178	-	30	500	170	158	-	-	-	-	-	-	-	23.5
742	378	353	750	230	175	130	15	180	80	190	12	26	500	180	170	4	40	23.5	96	4	18.0	
738	174	340	775	210	177	110	12	133	112	190	75	50	525	170	168	24	38	8	19	152	17.5	
763	-	353	800	230	177	-	-	-	190	-	65	550	180	168	-	-	-	-	-	-	-	23.00
853	359	398	850	256	197	150	15	200	90	210	14	50	600	216	188	4	50	27	121	4	23.8	
842	200	377	900	240	203	130	15	163	132	214	75	30	530	205	184	27	40	8	19	178	18.5	
913	-	398	900	255	203	-	-	-	210	-	50	650	216	184	-	-	-	-	-	-	-	23.00
953	419	399	950	255	203	160	15	220	106	270	15	50	700	276	184	4	55	30	140	4	23.5	
1015	240	451	1050	287	243	180	18	168	160	263	100	84	750	240	234	32	49	10	19	190	22.0	
1113	-	528	1100	304	243	-	-	-	263	-	75	800	254	234	-	-	-	-	-	-	-	28.00
1113	481	528	1100	304	243	220	18	240	131	263	22	75	800	254	234	4	60	25	152	4	33.0	
1180	274	548	1200	315	277	180	18	189	180	283	100	58	800	265	248	37	54	10	19	229	40.0	
1231	-	548	1200	310	277	-	-	-	283	-	58	800	254	248	-	-	-	-	-	-	-	40.00
1290	354	569	1300	330	277	270	19	280	140	293	25	90	900	279	248	4	85	40	190	8	47.2	
1290	293	603	1350	300	300	200	19	215	200	338	125	55	950	354	298	47	60	14	22	254	58.0	
1307	-	313	1400	365	296	-	-	-	328	-	125	1000	300	288	-	-	-	-	-	-	-	100.00
1447	515	873	1400	380	296	290	22	300	160	328	25	110	1000	318	288	4	85	30.5	276	8	90.5	
1432	343	843	1500	305	351	220	20	215	225	358	150	163	1100	245	311	52	80	16	22	279	90.5	
1608	-	729	1600	420	346	-	-	-	363	-	137	1150	336	306	-	-	-	-	-	-	-	135.0
1608	890	729	1600	420	346	350	22	340	178	358	25	137	1150	336	306	4	80	36	241	8	76.0	
1667	357	779	1650	430	360	280	22	230	250	403	150	136	1150	396	353	57	81	16	22	279	77.7	
1882	-	853	1800	480	436	-	-	-	433	-	126	1350	457	383	-	-	-	-	-	-	-	150.0
1882	749	853	1800	530	390	280	22	360	200	430	28	126	1350	457	383	4	100	59	241	8	87.00	