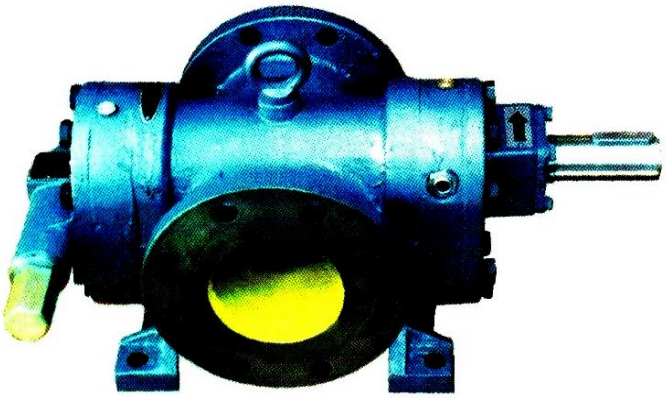
For Pumping and Transfer of All Kind of Viscous Liquids and Petroleum Products.

DRAKOS

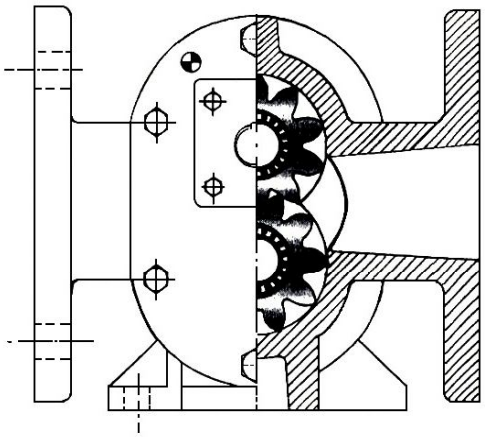
ROTARY GEAR PUMPS

SERIES

AENX



- Flanged Connection
- Double helical herring bone gears
- Inbuilt Pressure relief valve
- Self Priming pump with 5 meters suction lift
- Optional Mechanical seal
- Self or independent lubrication
- Optional high temperature version
- Max. Capacity 125 M^3/hr
- Max. temperature 120° C
- Max. Pressure 12 Kg / Cm^2
- Max. Viscosity 5000 CST



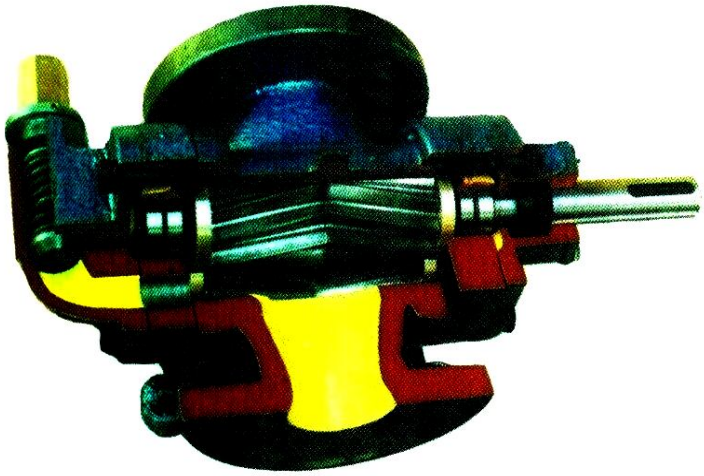
Adds new dimensions to the pump industry

ISO 9001

MEMBER OF Europump

DRAKOS - POLEMIS S.A.
PUMP MANUFACTURERS
Kryoneri - Athens - Greece

CROSS - SECTION (PUMP)

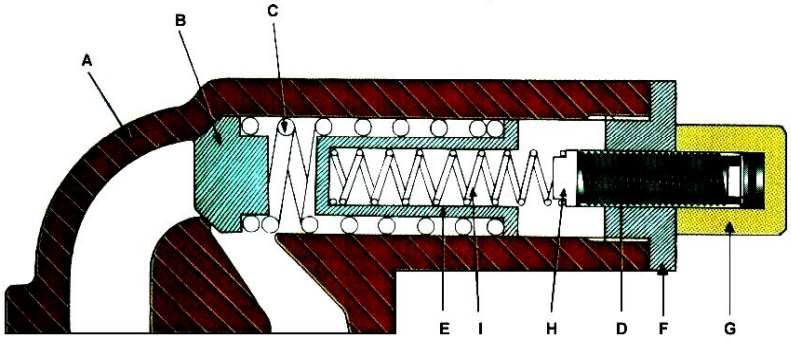


	PARTS	MATERIAL
1)	Pump Body	C.I. GR. - 20
2)	Bearing Cover	C.I. GR. - 20
3)	Back cover	C.I. GR. - 20
4)	Relief Valve	C.I. GR. - 20
5)	Front Cover	C.I. GR. - 20
6)	Rotor Assembly	Gear EN-24 Nitritded Shaft-SAE-8620 H & G
7)	Wearing plates	Bronze
8)	Needle Bearings	INA/NRB/IKO
9)	Oil Chamber	–
10)	R. V. Pistion	EN-8
11)	R. V. Spring	Spring Steel
12)	Stuffing Box	Double Oil Seal
13)	R.V. Adjusting Screw	EN-8
14)	Companion Flange	MS-SLIP-ON-TYPE
15)	'V' Seal	Viton

MODEL	SIZE	SPEED	CAPACITY			POWER REQUIREMENT IN BHP AT 'X' kg/cm2 DIFFERENTIAL PRESSURE									Wt.
			LPM	US GPM	M3/hr	'X' 1	2	3	4	5	7	8	10	12	
050-S			8.3	2.2	0.5	0.20	0.23	0.27	0.30	0.32	0.36	0.38	0.43	0.47	
050-M	1/2" x 1/2"		16.6	4.4	1.0	0.24	0.28	0.32	0.36	0.40	0.48	0.52	0.60	0.68	10
050-L			25.0	6.6	1.5	0.30	0.36	0.41	0.47	0.52	0.63	0.70	0.81	0.93	
100-S			33.3	8.8	2.0	0.37	0.45	0.54	0.62	0.69	0.85	0.92	1.09	1.25	
100-M	1" x 1"		41.5	11.0	2.5	0.38	0.48	0.57	0.65	0.76	0.95	1.08	1.23	1.41	15
100-L			50.0	13.2	3.0	0.40	0.50	0.60	0.75	0.89	1.17	1.30	1.59	1.85	
150-S			83.3	22.0	5.0	0.70	1.00	1.20	1.40	1.50	1.95	2.15	2.55	2.95	
150-M	1 1/2" X 1 1/2"		100.0	27.6	6.0	0.85	1.10	1.35	1.55	1.77	2.22	2.45	2.90	3.45	25
150-L			125.0	33.3	7.5	1.05	1.45	1.95	2.10	2.40	2.95	3.25	4.00	4.90	
200-S	2" x 2"	1440 RPM	150.0	39.0	9.0	1.35	1.80	2.45	3.00	3.50	4.50	5.25	6.35	7.60	32
200-L			200.0	52.8	12.0	1.80	2.40	2.95	3.50	4.05	5.15	5.70	6.90	8.10	
250-S	2 1/2" X 2 1/2"		250.0	66.0	15.0	2.00	2.50	3.20	3.75	4.30	5.60	6.20	7.70	9.50	45
250-L			333.0	88.0	20.0	3.80	4.65	5.50	6.35	7.25	9.05	10.50	12.20	14.35	
300-S	3"X3"		415.0	105.0	25.0	5.00	6.00	7.00	8.00	9.00	11.00	12.00	14.25	16.50	75
300-L			500.0	132.0	30.0	6.00	7.35	8.65	10.15	11.45	14.05	15.40	17.90	21.00	
400-S	4" X 4"		666.6	176.0	40.0	8.85	10.50	12.00	13.65	16.25	18.25	20.00	22.00	25.50	120
400-L			833.3	220.0	50.0	9.50	11.50	14.00	16.00	18.00	22.50	25.00	30.00	35.50	
500-S	5" X 5"		1000.0	264.0	60.0	14.50	17.20	19.00	22.00	24.80	30.00	32.40	37.20	42.50	150
500-L			1250.0	330.0	75.0	17.50	20.50	23.50	27.00	30.50	36.50	40.00	46.00	53.00	
600-S	6" X 6"		1660.0	440.0	100.0	21.50	25.55	30.00	34.55	40.00	48.85	52.90	62.00	72.00	180
600-L			2083.0	550.0	125.0	25.50	31.00	36.00	41.50	46.50	57.00	63.00	72.00	81.00	

Power Consumption is at 300 CST Viscocity. It will increase at 10% for every 300 CST increase in Viscocity.

CROSS - SECTION (RELIEF VALVE)



PARTS	MATERIAL
A) Body	C.I. GR. - 20
B) Piston	EN - 8
C) Spring (H/P)	Spring Steel
D) Adjusting Screw	EN - 8
E) Spring Seat	EN - 8
F) Plug	EN - 8
G) Hex Cap	Brass
H) Spring Button	EN - 8
I) Spring (L/P)	Spring Steel

AE Series pumps are provided with double spring relief valve, where the two different springs are given for Low Pressure and High Pressure relieving. It makes relief valve more effective than single spring design, thus relieves 100% of capacity at the set pressure which can be 10 to 50% higher than the normal operating pressure. The reliefvalve can be also effetively used for partly by-passing of liquid in-order to get lower capacity.

ROTARY GEAR PUMP CHARACTERISTICS:-

CAPACITY :-

All Positive displacement rotary gear pumps are self priming pumps in which the capacity of transfering the liquid is determined by the cavity between the gear teeth. The accuracy in capacity thus depends upon the accuracy of teeth cutting and its profile. The AE series of DRAKOS gear pump has modified profile teeth cutting to give accurate capacity within the pressure range. The double helical heringebone gear design delivers constant volume without any pulsation. It also reduces internal slipage and gives high volumetric efficiency.

PRESSURE :-

All DRAKOS gear pumps are self priming type pump with suction lift of 5 meters at mean viscocity and speed of 1440 RPM. The liquid flows into the pump due to a difference in pressure between pump inlet and the fluid source. This difference in pressure is called NPSH (Net Positive Suction Head), the accurate calculation of which is very much necessary for the selection of a pump. When the suction lift is more than 5 meters the pump has to be run at lower speed.

The discharge pressure shown by the pump is nothing but the over coming of pressure exerted by the resistance of the pipeline and the shearing force of the Liquid. Thus a gear pump does not develope pressure by its own but work against the system pressure exerted on it.

POWER CONSUMPTION :-

The power consumption of a rotary gear pump is mainly influenced by the differential pressure exerted on it. It is directly proportional to the pressure. However other factors influencing it are the liquid viscosity and the internal parameters of the pump. The brake horsepower required to drive a rotary pump is the sum of the theoritical liquid horse power and the internal power losses. However, the theoritical liquid horse power is independent of viscosity and is concerned only with the physical dimension of the pumping elements, the rotative speed and the differential pressure. The internal power losses are made up of two types; mechanical and viscous. The mechanical losses include all power necessary to overcome the mechanical friction drag of all the moving parts within the pump, including bearings, gear assembly, mechanical seal etc.

All DRAKOS gear pumps are designed and assembled with closed tolerances to reduce these internal losses, thus it consumes less power and operates at higher efficiencies.

TYPE AEN :-

Internal Lubricating

It is a self lubricated pump recommended for use where the liquid to be transferred has lubrication properties. Hence the bearings are lubricated by the pumped fluid and does not need any external lubrication.

RECOMMENDED FOR LIQUIDS :-

Clean lube Oil, Castor Oil, Coconut Oil, Animal Oil, Furnace Oil, Glycerine, Ground nut Oil, Cotton seed Oil, Hydraulic Oil, SAE Lubricating Oil, Vegetable Oil etc.

TYPE AEX :-

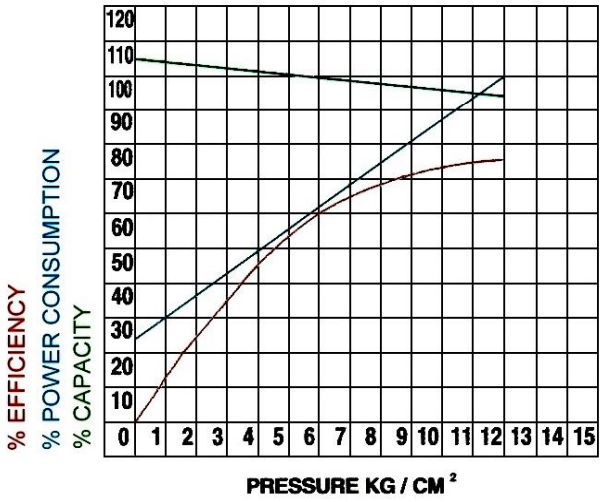
External Lubricating

It is an externaly lubricated pump recommended for use where the liquid to be transferred does not contain any lubricating properties. Here the bearings fitted in bearing covers are independently lubricated and separated from the pumping chamber by means of Viton 'V' seal.

RECOMMENDED FOR LIQUIDS :-

Cellulose, Starch Solution, Crude Oil, Dirty Lube Oil, Glycol, Glue, Heavy Petroleum Stock, High Speed Diesel, Kerosene Phenol Resin, Residual Fuel Oil, Sugar Solution, Transformer Oil, Turpentine, Varnish, Wax Slurry, Toluene etc.

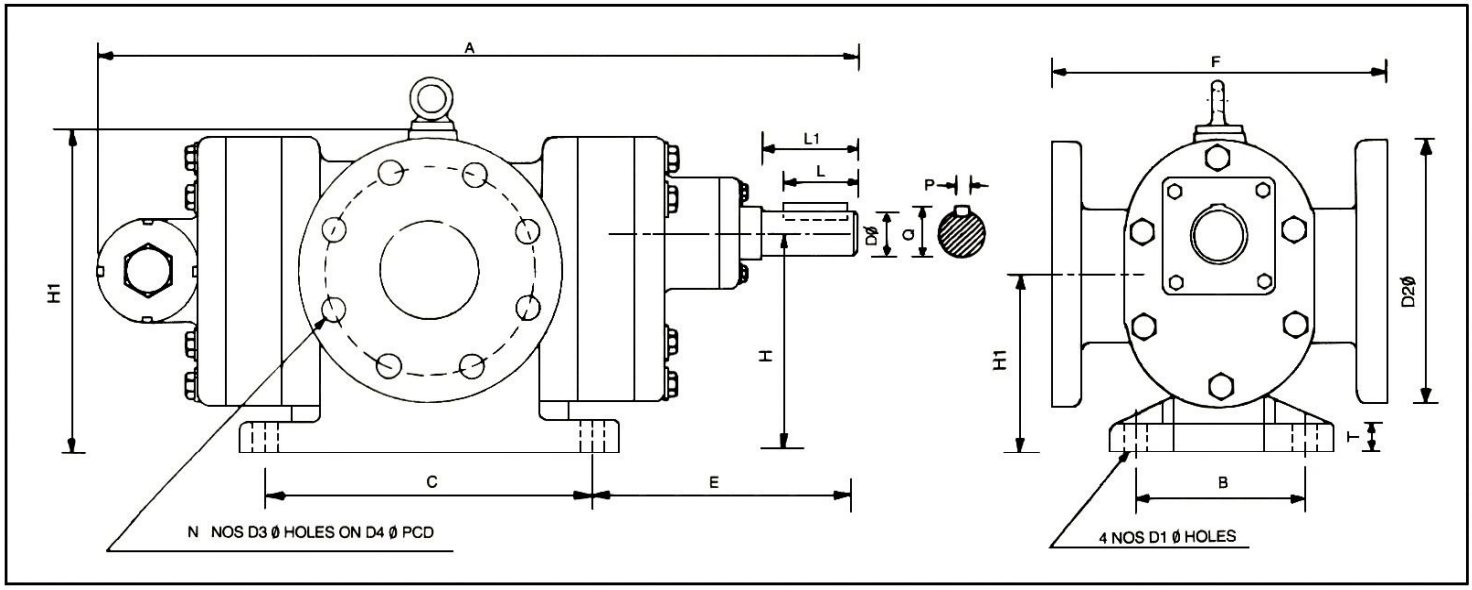
PERFORMANCE CURVES :-



Looking at the curves one finds that pressure is the most important parameter in performance of a pump. It has different effect on different pump characteristics.

The power consumption of these pump is directly proportional to the pressure. Hence it is maximum at full load. However the internal mechanical loss may or may not increase, since it is more effected by speed and viscosity. The capacity of pump reduces upto 10% at maximum pressure. AE series pumps can therefore be said to achieve volumetric efficiency of 90%. It is also a function of viscosity. It increases or reduces with increase or reduction in viscosity. AE series pumps also achieve overall efficiency of upto 75% and prove itself to be a truely energy efficient pump, beating other conventional gear pumps.

Dimension



MODEL	A	B	C	E	F	H	H1	H2	L	L1	N	Dø	D1ø	D2ø	D3ø	D4ø	T	P	Q
050 S-M-L	255	80	100	95	150	80	69	130	22	38	4	11	8	114	17.5	82.5	8	4	13.5
100 S-M-L	297	90	110	11	160	90	74	135	25	38	4	17	10	120	17.5	87.3	10	5	19
150 S-M-L	338	105	130	124	180	100	80	160	25	45	4	22	10	140	17.5	82.5	10	6	25
200 S-L	390	110	150	142	200	112	89.5	170	30	55	4	25	12	165	17.5	52.5	14	8	28
250 S-L	430	130	160	165	220	132	106	200	40	65	8	27	15	184	17.5	82.5	15	8	30
300 S-L	537	160	220	196	240	160	131	241	50	75	8	34	18	203	17.5	82.5	18	10	37
400 S-L	608	180	270	206	280	180	145	270	50	85	8	38	18	228	17.5	82.5	20	10	41
500 S-L	760	200	300	215	295	200	160	310	60	100	8	45	19	254	19	210	23	14	48.5
600 S-L	820	220	350	256	340	225	178	345	70	120	8	54	20	279	22	235	25	14	53.5

MATERIAL OF CONSTRUCTION FOR STANDARD AND OPTIONAL VERSION

Sr. No.	Item Particulars	AENX (Standard Design)	AEB (High Temperature)	AES (High Pressure)	AEM (High Viscous)
1.	Casing	Cast Iron	Cast Iron	Cast Steel	Cast Iron
2.	Covers	Cast Iron	Cast Iron	Cast Iron	Cast Iron
3.	Relief Valve Body	Cast Iron	N.A.	Cast Iron	N.A.
4.	Releif Valve Piston	EN-8	N.A.	EN-8	N.A.
5.	Gears	EN-24	EN-24	EN-24	SS 304/SS 316
6.	Shaft	SAE-8620	SAE-8620	SAE-8620	SS 410
7.	Wear Plates	Bronze	Cast Iron	Bronze	Bronze
8.	Bearings	Needle Roller	Bronze Bush	Needle Roller	Bronze Bush
9.	Shaft Seal	Oil Seal	Z Pack	Z Pack	Z Pack
10.	Body Packing	Prespane Paper	PTFE	Prespane Paper	Prespane Paper

AE Series pumps are also available with cast inlegral steam jacketting or with electrical tracing as per customer requirement.