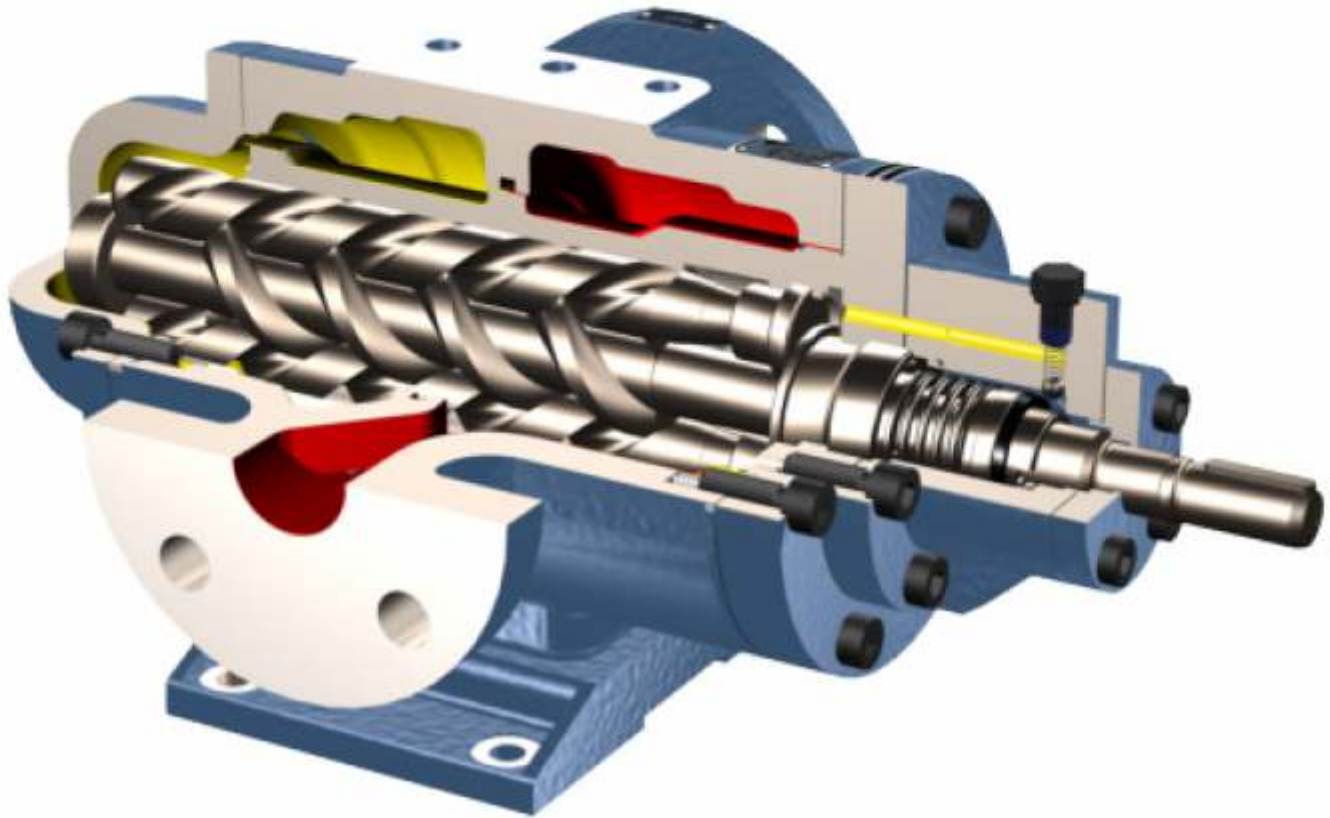




ALEKTON



SERIES-A TRIPLE-SCREW PUMPS

Alekton triple-screw pumps are positive-displacement, self-priming rotary pumps of advanced design and manufacture, for use in a variety of industrial and marine applications. Typical liquids handled include lubricating oils, fuel oils, hydraulic oils, viscose, molasses, paints and creams.

Triple-screw pumps combine the advantages of centrifugal and positive-displacement pumps. They can operate at high speeds, and can handle liquids having wide ranges of viscosity, even with entrained gases. The pumps can develop high pressures and have very good suction capability and operating efficiency. Their discharge is virtually constant and pulsation-free with variations in pressures and liquid viscosities.

Alekton triple-screw pumps are very versatile and can handle liquids with as varied characteristics

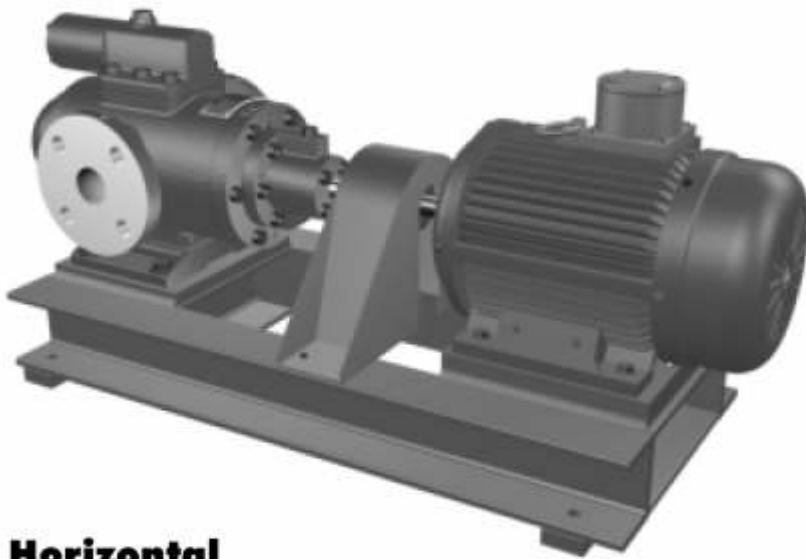
as benzene and bitumen. As the pumping action of their screws is continuous, the noise and vibration levels are extremely low. They are engineered to give long trouble-free service with minimum maintenance.

Alekton triple-screw pumps are manufactured using premium quality materials matched to service requirements. Computerised design and production-control systems, and manufacture on precision CNC machinery assure consistently high quality and performance.

The pumps are of modular construction, with their internal pumping elements capable of being inspected or replaced as a cartridge without disconnecting the pipe-lines.

Upon request, pumps can be manufactured to meet the specific requirements of international inspection agencies.

Standard Mounting Arrangements



Horizontal



Close Coupled



Vertical



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Series-A Triple Screw Pumps

Specifications

Application

For handling clear viscous liquids. The liquids to be pumped must neither contain abrasive substances nor chemically attack the pump materials.

Design

The pumping elements comprise of a power-screw and two idler screws, running in a close fitting insert. Mathematically calculated profiles of the screws ensure the formation of a series of chambers of constant volume. When the screws rotate, they move at uniform velocity axially and transfer the entrapped liquid without crushing, turbulence or pulsation.

The idler screws serve to maintain the closed chambers which pump the liquid. Because they are suitably proportioned, they are driven hydraulically by the pumped liquid, eliminating the need for timing gears. Axial hydraulic thrust is balanced by balancing drums on each screw thus relieving the bearing of thrust loads. The balancing drums of the idler screws as well as the power screw run in replaceable bushes.

The shaft seal chamber is connected internally to the inlet and the seal is therefore always subjected to inlet pressure only. With high suction lifts, a pressure control valve is provided so that the pressure in the seal chamber is maintained above atmospheric to prevent ingress of air and dry-running of the seal.

Shaft Bearing

Normally, pumps are fitted with internal anti-friction bearings, lubricated by the pumped liquid. External bearings can be provided if the pumped liquid is non-lubricating.

Shaft Seal

Shaft sealing can be accomplished by a mechanical seal or compression packing.

Pressure Relief Valves

All pumps can be supplied with built-on pressure relief valves.

The valves are designed for full-flow bypass and can be furnished with connections for the by-passed liquid to be returned by a separate line to the inlet-tank.

Materials of Construction

Screws	: Nitrided chrome-alloy steel
Insert and bushes	: Bearing-grade cast iron
Casing	: Cast iron
Other wetted metallic parts	: Steel / Cast iron
Wetted non-metallic parts	: Rubber / Fibre
Non-wetted parts	: Steel / Cast iron

General Construction

The insert, screws and balancing bushes, together with bearing and seals form a cartridge that is located inside a casing. The cartridge includes all the wearing parts and can be removed for inspection or replacement as a unit. The casing is provided with in-line flanged inlet and outlet connections.

Pumps are available with the following mounting arrangements:

Type	Mounting arrangement
H	Horizontal, foot-mounted
V	Vertical, foot-mounted
F	Flange mounted
C	Close-coupled
S	Sump-mounted

Normal Operating Range

Viscosity	: 0.8 to 100000 cSt
Flow rate	: 5 to 10000 L/min
Outlet pressure	: 0 to 64 barg
Inlet pressure	: -1 to 6 barg
Liquid temperature	: -30 to 130 °C

Pump Selection

A computer program is used to make the optimum selection which takes into account the extreme site duty conditions and liquid characteristics.

Optional Equipment

The following accessories and optional equipment can be provided:

- Pressure relief valves
- Motor stools for flange mounted designs
- Motors, engines or other prime-movers
- Couplings
- Base-plates, coupling-guards and foundation-bolts for foot-mounted arrangements

Modifications

Various special modifications are possible, some of which are as follows:

- Inlet and outlet flange sizes and orientation
- Materials of construction
- Extended operating limits
- Alternative mounting arrangements
- Special shaft sealing arrangements

Other series of pumps are available for higher duty conditions—please refer to us with details.

Duty Range

Size	Displacement ml/rev	Inlet mm	Outlet mm
120-200	3.6	20	15
120-240	4.3	20	15
120-280	5.0	20	15
120-320	5.7	20	15
120-360	6.4	20	15
120-400	7.2	20	15
135-225	5.1	32	25
135-270	6.1	32	25
135-315	7.1	32	25
135-360	8.2	32	25
135-405	9.2	32	25
135-450	10.2	32	25
150-250	7.0	32	25
150-300	8.4	32	25
150-350	9.8	32	25
150-400	11.2	32	25
150-450	12.6	32	25
150-500	14.0	32	25
165-275	9.3	32	25
165-330	11.2	32	25
165-385	13.0	32	25
165-440	14.9	32	25
165-495	16.8	32	25
165-550	18.6	32	25
189-315	14.0	50	40
189-378	16.8	50	40
189-441	19.6	50	40
189-504	22.4	50	40
189-567	25.2	50	40
189-630	28.0	50	40
210-350	19.2	50	40
210-420	23.0	50	40
210-490	26.9	50	40
210-560	30.7	50	40
210-630	34.5	50	40
210-700	38.4	50	40
240-400	28.6	50	40
240-480	34.4	50	40

Size	Displacement ml/rev	Inlet mm	Outlet mm
240-560	40.1	50	40
240-640	45.8	50	40
240-720	51.6	50	40
240-800	57.3	50	40
270-450	40.8	80	65
270-540	48.9	80	65
270-630	57.1	80	65
270-720	65.2	80	65
270-810	73.4	80	65
270-900	81.6	80	65
300-500	55.9	80	65
300-600	67.1	80	65
300-700	78.3	80	65
300-800	89.5	80	65
300-900	101	80	65
300-1000	112	80	65
330-550	74.5	80	65
330-660	89.3	80	65
330-770	104	80	65
330-880	119	80	65
330-990	134	80	65
330-1100	149	80	65
375-625	109	125	100
375-750	131	125	100
375-875	153	125	100
375-1000	175	125	100
375-1125	197	125	100
375-1250	219	125	100
420-700	153	125	100
420-840	184	125	100
420-980	215	125	100
420-1120	246	125	100
420-1260	276	125	100
420-1400	307	125	100
480-800	229	125	100
480-960	275	125	100
480-1120	321	125	100
480-1280	367	125	100

Size	Displacement ml/rev	Inlet mm	Outlet mm
480-1440	412	125	100
480-1600	458	125	100
540-900	326	200	150
540-1080	391	200	150
540-1260	457	200	150
540-1440	522	200	150
540-1620	587	200	150
540-1800	652	200	150
600-1000	448	200	150
600-1200	537	200	150
600-1400	627	200	150
600-1600	716	200	150
600-1800	806	200	150
600-2000	895	200	150
660-1100	596	200	150
660-1320	715	200	150
660-1540	834	200	150
660-1760	953	200	150
660-1980	1072	200	150
660-2200	1191	200	150
750-1250	874	300	250
750-1500	1049	300	250
750-1750	1224	300	250
750-2000	1399	300	250
750-2250	1573	300	250
750-2500	1748	300	250
840-1400	1228	300	250
840-1680	1474	300	250
840-1960	1719	300	250
840-2240	1965	300	250
840-2520	2210	300	250
840-2800	2456	300	250
960-1600	1833	300	250
960-1920	2200	300	250
960-2240	2566	300	250
960-2560	2933	300	250
960-2880	3299	300	250
960-3200	3666	300	250



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