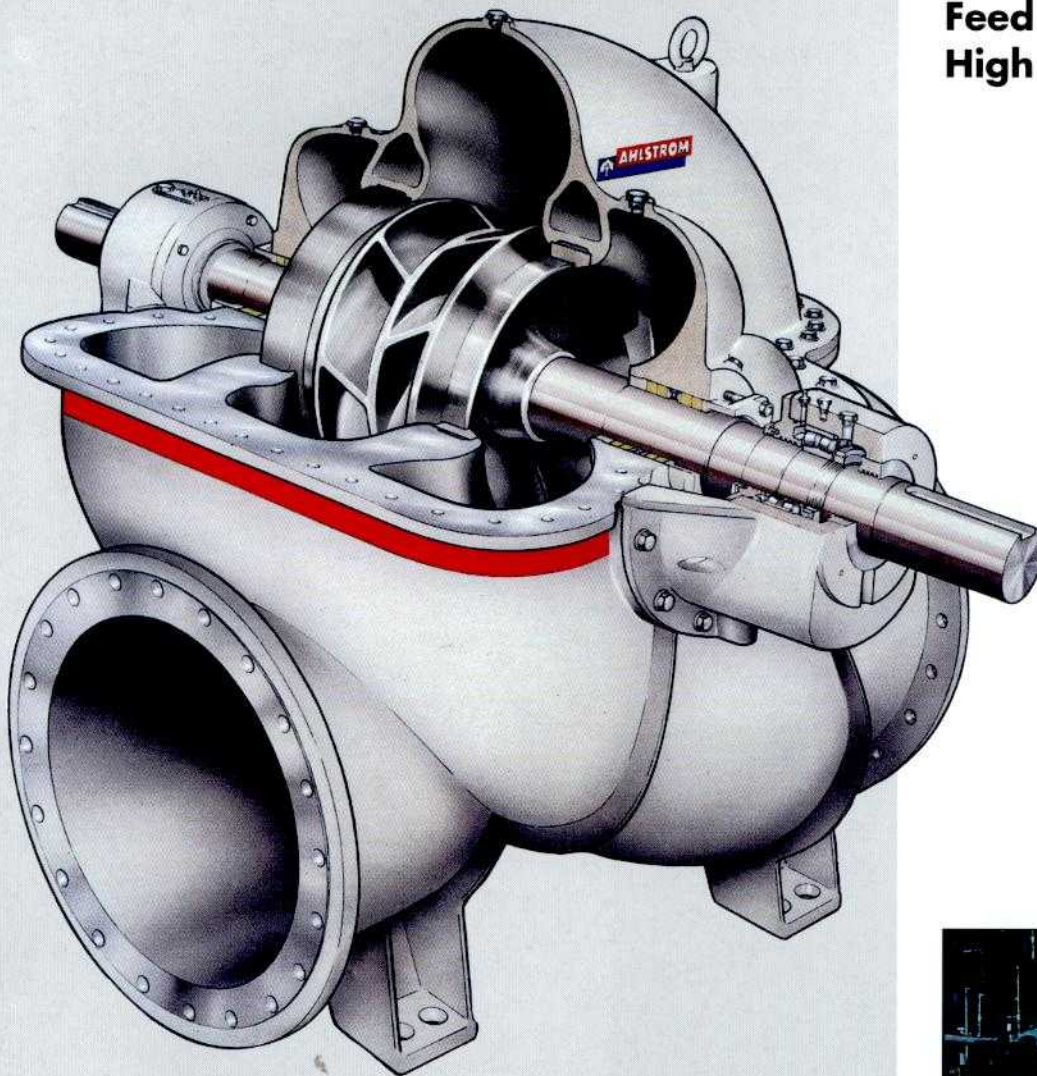


HEADBOX FEED PUMPS

Double Suction Pumps

Type ZPP



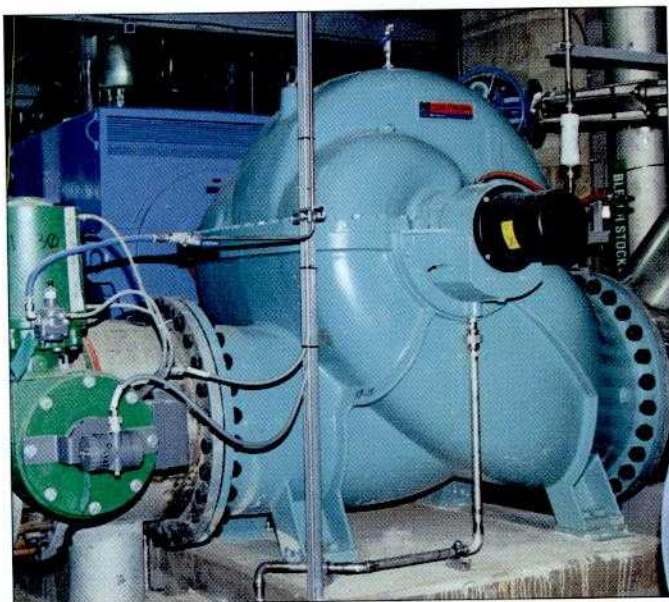
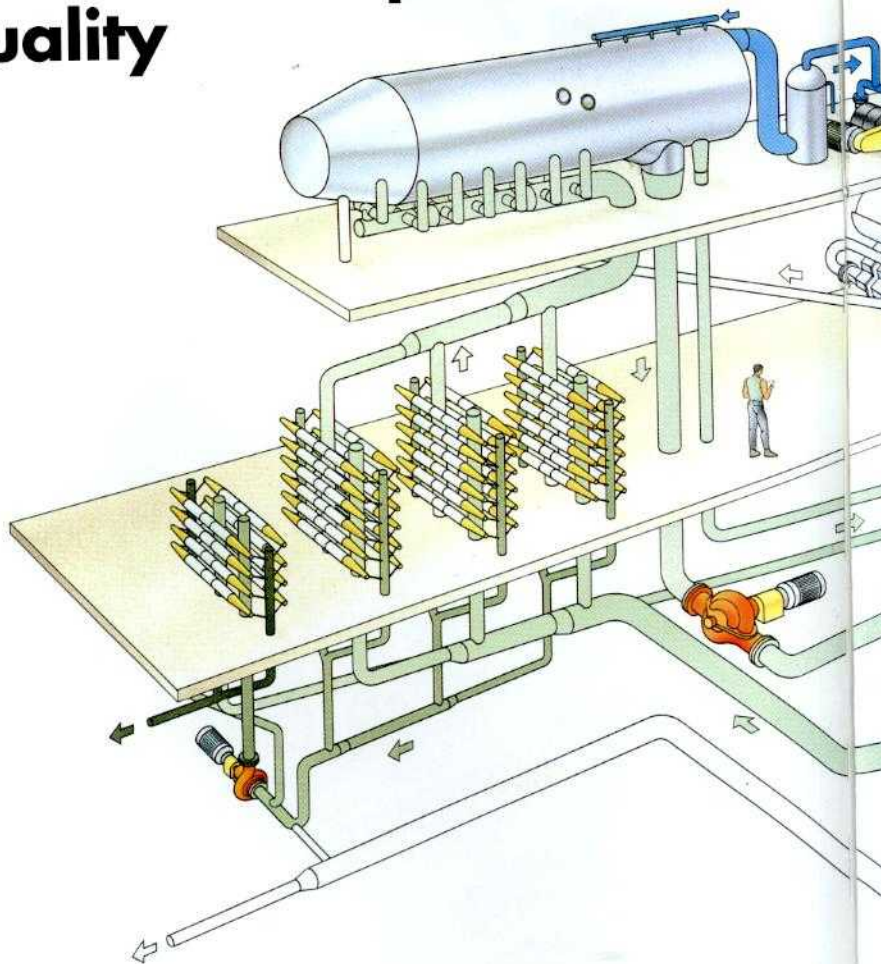
**Low-Pulse Headbox
Feed Pump for
High Paper Quality**



Ahlstrom Headbox Feed Pump for High Paper Quality

Ahlstrom headbox feed pumps are designed to provide the special features needed by today's fast, high-output paper machines. They give high efficiency and durability for profitable production, and they minimize pressure pulsation to give uniform paper basis weight.

With a total of over 3000 headbox feed pumps and 1st stage cleaner pumps delivered worldwide, Ahlstrom has an outstanding number of references for different applications with various paper grades and paper machine suppliers.



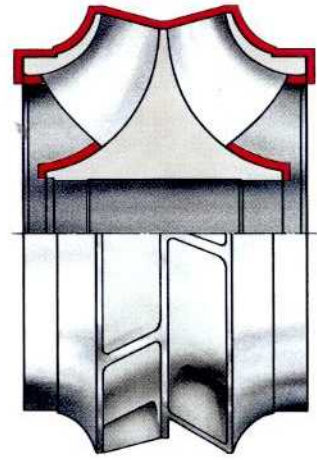
Ahlstrom PM Approach System for Higher Levels of Quality and Efficiency

Ahlstrom's extensive know-how of the requirements of the headbox feed pumps is also based on our experience with close to 800 DECULATOR® Cleaner installations worldwide. We can offer you single-source capability for your PM approach system to provide complete deaeration and excellent separation of dirt, shives and other impurities and to minimize consistency variation and pressure pulsation.

Low Pressure Pulsation

Ahlstrom has minimized pressure pulsation with the design and high manufacturing quality of the impeller, by maintaining the right distance between the impeller and the volute cutwater, by balancing the rotating unit dynamically, and with a V-shaped volute cutwater.

Precision casting at our own foundry is one of the key factors for manufacturing a low-pulse headbox feed pump. The impellers have equal vane passage volumes and high degree of contour concentricity and surface symmetry. All impellers have split, staggered and skewed vanes.

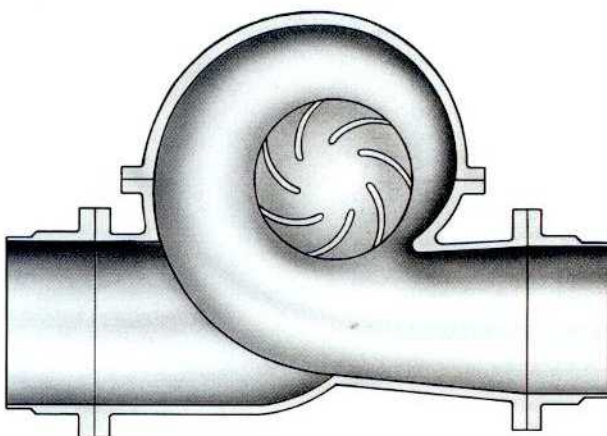


— machined

No Fiber Hang-up

Ahlstrom headbox feed pumps go through several inner surface treatment stages to prevent any build-up deposits or fiber bundles. All joints, matched flanges and vent plugs are contour-ground. Guided counter flanges give a smooth connection to the piping.

As the inner surfaces of the succeeding process equipment such as screen and headbox are normally finished to Ra 0.8 or better, the headbox feed pump can also be polished to a high grade surface finish e.g. cotton ball test or even finer.



Ahlstrom Double Suction Pump ZPP for Reliable Operation

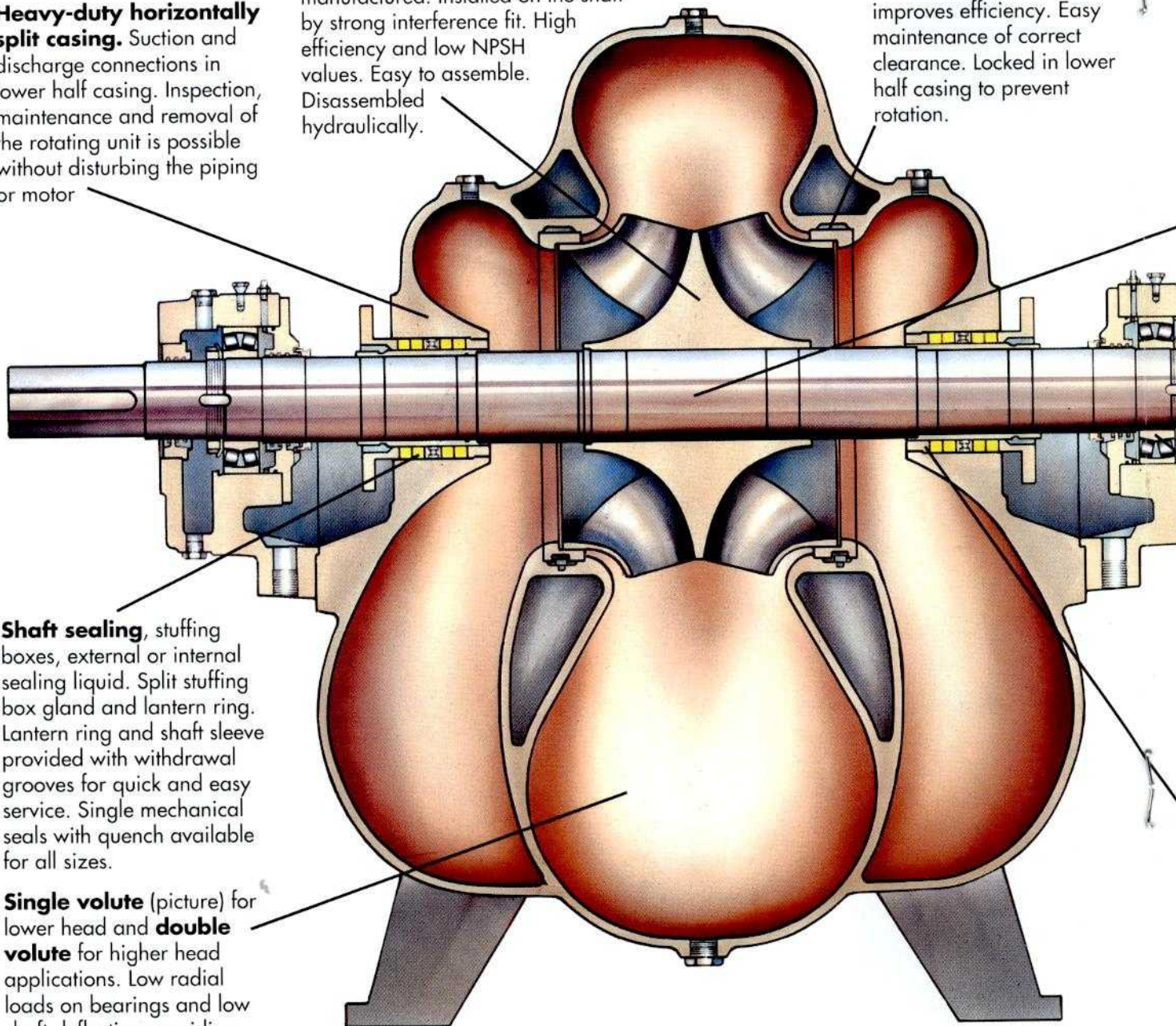
Heavy-duty horizontally split casing. Suction and discharge connections in lower half casing. Inspection, maintenance and removal of the rotating unit is possible without disturbing the piping or motor.

Double suction low-pulse impeller, with split, staggered and skewed vanes. Precisely manufactured. Installed on the shaft by strong interference fit. High efficiency and low NPSH values. Easy to assemble. Disassembled hydraulically.

Renewable casing wear rings protect casing from wear. Smooth flow to the impeller improves efficiency. Easy maintenance of correct clearance. Locked in lower half casing to prevent rotation.

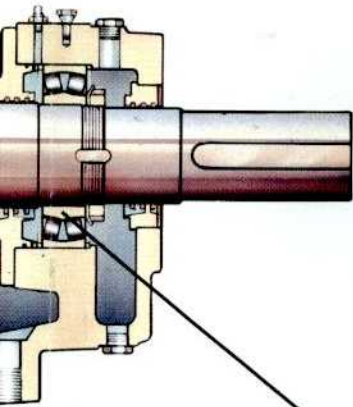
Shaft sealing, stuffing boxes, external or internal sealing liquid. Split stuffing box gland and lantern ring. Lantern ring and shaft sleeve provided with withdrawal grooves for quick and easy service. Single mechanical seals with quench available for all sizes.

Single volute (picture) for lower head and **double volute** for higher head applications. Low radial loads on bearings and low shaft deflection providing extended seal and bearing life.



High Manufacturing Quality

Duplex stainless steel shaft, double-ended. For high corrosion and wear resistance plus high strength. No keyway for impeller fastening. Reduced shaft deflection for extended seal and bearing life.



Long lifetime with high thrust spherical roller bearings, identical on both sides. Grease or oil lubrication. Effective bearing protection by non-contact wear-free labyrinth seals and deflector.

Renewable stuffing box bushing, protects casing from wear.

The Pump Factory Karhula, where the Z pump range is manufactured, has been certified for the quality assurance system ISO 9002 by Det Norske Veritas.

High manufacturing quality starts with the design and manufacturing of patterns by CAD-CAM systems and with precise castings from our own foundry and is followed by Flexible Manufacturing Systems, which assure consistent high quality.

An extensive quality control procedure includes pressure testing of the casing and a test run in the factory test loop. All important performance data, such as flow, head and efficiency are checked. Headbox Feed Pumps are additionally tested for pulsation levels. Customers are welcome to witness these tests at our factory.



Machining of Patterns.



Foundry.



Flexible Manufacturing System.



Performance and Pulsation Test Station.

Duplex Stainless Steel

Our standard duplex stainless steel is stronger, harder and has higher pitting corrosion resistance than stainless steel, which is conventionally used for headbox feed pumps.

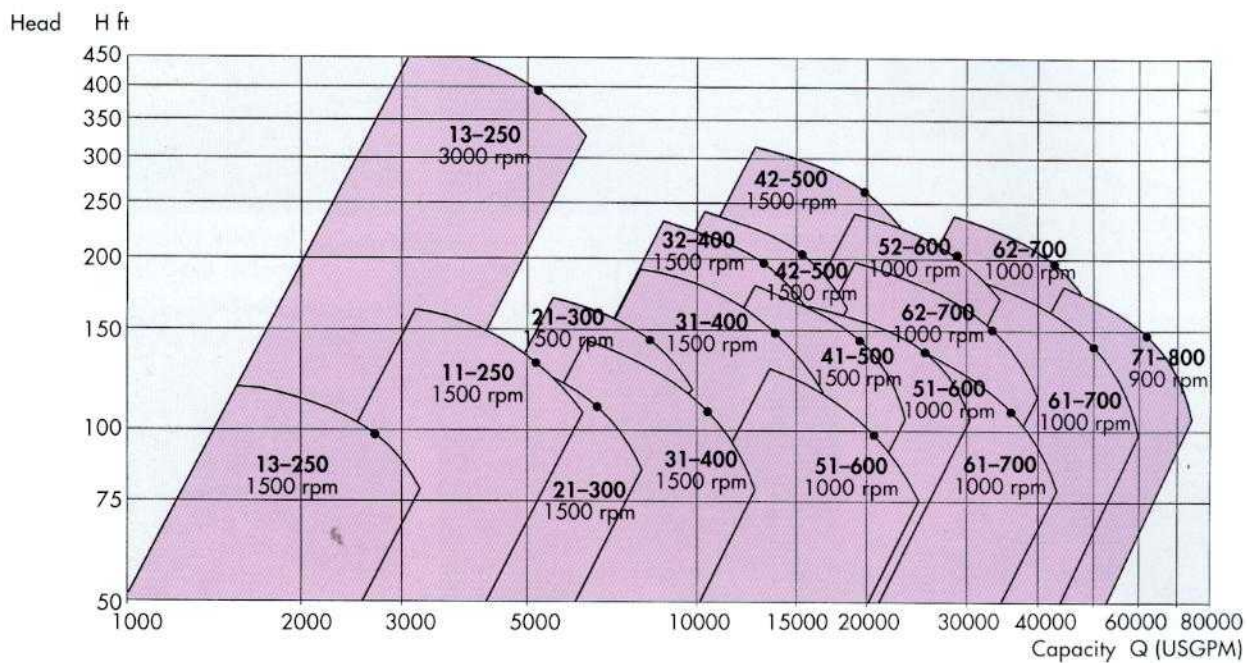
Materials			
Main Parts	Duplex Stainless Steel Design		Cast Iron Design
Volute casing	SS2324**	SS ASTM A890 Gr.3A*	CI ASTM A48 CL 35B
Shaft	SS2324**		
Impeller	SS2324**		
Casing wear ring	SS ASTM A890 Gr.3A*		
Shaft sleeve	SS2324**		

* C 0.06/Cr 24-27/Ni 4-6/Mo 1.75-2.50/N 0.15-0.25

Shaft sleeves can be hard coated.

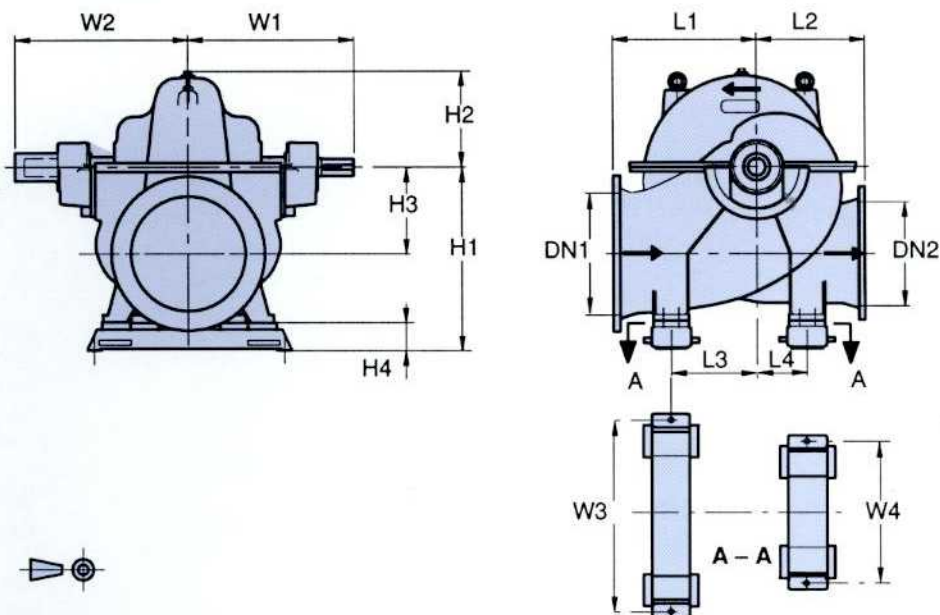
** C max 0.1/Cr 23-27/Ni 4.5-7.0/Mo 1.3-1.8

Wide Hydraulic Coverage



Ahlstrom offers good coverage with many pump sizes for low and high head applications with high efficiencies. We are able to provide you with the best possible choice of pump and motor for your requirements.

Dimensions



Size	Main Dimensions (in)							
	DN1	DN2	H1	H2	H3	H4	L1	L2
ZPP11-250	13.8	9.8	26.1	14.0	12.8	5.2	19.7	15.7
ZPP13-250	11.8	9.8	23.0	11.0	10.0	5.2	16.7	14.0
ZPP21-300	15.7	11.8	30.0	15.1	14.0	5.2	24.9	16.7
ZPP31-400	19.7	15.7	33.2	17.9	16.7	5.2	26.4	17.7
ZPP32-400	19.7	15.7	34.8	18.1	15.7	5.2	31.5	23.6
ZPP41-500	23.6	19.7	36.7	19.3	17.7	5.2	29.5	22.0
ZPP42-500	23.6	19.7	38.7	20.9	18.7	5.2	37.4	27.9
ZPP51-600	27.6	23.6	47.0	25.4	23.6	5.2	37.4	24.8
ZPP52-600	27.6	23.6	47.0	26.8	24.8	5.2	49.2	35.4
ZPP61-700	31.5	27.6	54.1	28.2	26.4	7.7	44.1	35.4
ZPP62-700	31.5	27.6	54.1	30.7	27.9	7.7	49.2	31.5
ZPP71-800	35.4	31.5	59.6	32.3	29.1	7.7	49.2	39.4

Size	Main Dimensions (in)						Weight (lbs)
	L3	L4	W1	W2	W3	W4	
ZPP11-250	9.4	5.5	25.3	26.6	26.5	20.7	2205
ZPP13-250	8.1	5.8	23.5	24.7	23.6	23.6	1435
ZPP21-300	11.8	5.5	28.1	30.5	26.5	20.7	2140
ZPP31-400	14.6	5.9	31.0	32.3	26.5	20.7	2490
ZPP32-400	19.3	11.6	32.8	34.1	26.5	20.7	3460
ZPP41-500	17.6	10.2	34.2	37.4	38.3	26.5	3505
ZPP42-500	23.2	14.6	26.5	39.6	38.3	26.5	5070
ZPP51-600	23.1	10.5	40.7	41.9	38.3	26.5	5135
ZPP52-600	35.0	11.3	44.0	45.4	38.3	26.5	7275
ZPP61-700	27.9	19.3	43.3	44.9	55.9	46.8	9150
ZPP62-700	32.5	14.8	47.9	49.7	55.9	46.8	10580
ZPP71-800	33.1	22.8	48.0	49.6	55.9	46.8	12080

Other Ahlstrom Pumps

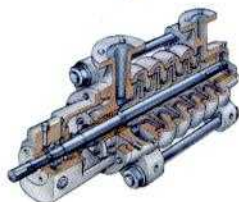
APT Process Pumps.



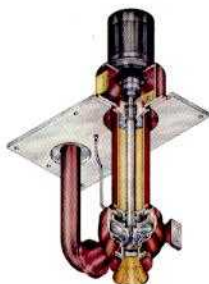
NPT Process Pumps.



HPT Multistage Pumps.



NVT Vertical Pumps.



SL Chest Agitators.



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