

DE LAVAL STEAM TURBINE CO.

TRENTON, N. J.



Boston
New York
Philadelphia
Pittsburgh
Indianapolis

Chicago
Duluth
Kansas City
Denver
Salt Lake City

Local Offices

Charlotte
Atlanta
Birmingham
New Orleans
Dallas

Seattle
San Francisco
Los Angeles
Montreal
Toronto
Vancouver



Products

The De Laval Steam Turbine Company builds Steam Turbines in capacities up to 15,000 H. P., and for all steam conditions; also De Laval Double-helical Gears for all speed ratios up to 25 to 1 in one step; De Laval Centrifugal Blowers and Compressors, single and multi-stage, for all volumes and for pressures up to 125 lbs. per sq. in.; and De Laval Centrifugal Pumps, horizontal and vertical, single and multi-stage, for all heads and capacities.

De Laval Centrifugal Pumps

De Laval Centrifugal Pumps for mine service are characterized by conservative speeds, high-class materials, construction on a limit-gage, interchangeable basis, guaranteed efficiency and capacity and a comprehensive system of testing, by which the fulfillment of these guarantees is demonstrated and the proper operation of the pump insured before it leaves our works.

De Laval Centrifugal Pumps require little or no foundations and do not produce vibration or pulsation in pipe lines, involve little cost for installation and are easily controlled from a distant point. Due to their low starting torque, they are easily arranged to be self-starting with either alternating or direct current motors. There are no valves or packings to be cut out by acidulous water nor by grit or other foreign matter.

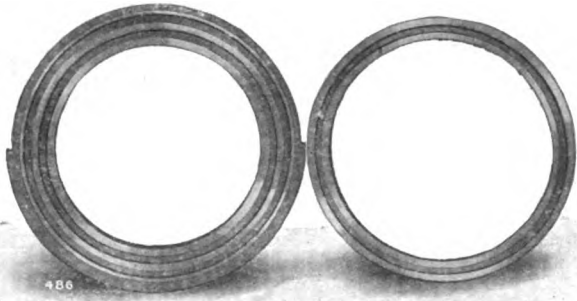
De Laval Pumps are also directly connected to steam turbines. In larger sizes the De Laval Double-helical Speed-reducing Gear is employed, so that both turbine and pump can run at the speeds respectively most favorable to efficiency, thus giving the highest duties and the lowest cost for handling water, including capital, maintenance and operating charges.

Well Known Mining Companies Using De Laval Centrifugal Pumps

International Nickel Co.	Aluminum Company of America	American Smelting & Refining Co.
Calumet and Hecla Co.	Eritania Mining & Smelting Co.	Garfield Smelting Co.
Baritan Copper Co.	Illinois Zinc Co.	American Smelting Securities Co.
Granby Mining, Smelting & Power Co.	U. S. Aluminum Co.	American Zinc Co.
Corrigan & McKinney Co.	Canadian Copper Co.	Steptoe Valley Mining & Smelting Co.
Mining Corporation of Canada	Oliver Iron and Mining Co.	Cobalt Reduction Co.
Dominion Iron & Steel Co. of Canada	New Jersey Zinc Co.	Michigan Copper Mining Co.
U. S. Steel Corp.	Northwestern Iron Co.	
U. S. Metal Refining Co.	Newport Mining Co.	
	Cuyana Mills Iron Co.	

The casing is split horizontally, the suction and discharge connections and the bearing supports being included in the lower part. The casing cover can be lifted off without disturbing piping connections, giving access at once to all internal parts and permitting them to be lifted out after removing the bearing caps.

The design, workmanship and materials embodied in De Laval Pumps are such that the original high efficiency is maintained for a long period. The metals used for impellers, wearing rings, shaft sleeves, and similar parts subject to corrosion are the best obtainable. The De Laval Labyrinth Wearing Ring assists materially in maintaining the original efficiency, as it does not require small clearances in order to prevent excessive leakage and does not wear or cut away so rapidly as do flat wearing rings. Similarly, diffusion vanes are not used in

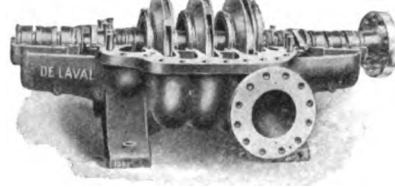


Wearing Rings used to prevent leakage of water from the discharge to the suction chamber in De Laval Centrifugal Pump. The larger ring is held stationary in a recess formed in the pump casing and cover, while the smaller ring is fastened to the impeller.

De Laval Pumps, as they deteriorate rapidly, and we have developed other diffusion means of greater efficiency to which this objection does not apply.

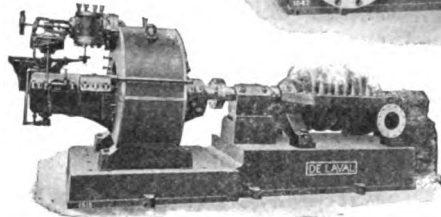
The supplying of finished repair parts, made to accurate dimensions so that they can be put into a pump without requiring to be fitted, is part of the service which the De Laval Steam Turbine Co. gives the purchaser, due to its system of manufacturing parts to standard limit-gages. Each part is marked with a symbol number so that the identification and ordering of parts is easy and the De Laval stock room permits shipment from stock in most instances.

State your requirements of service so that our Engineering Department can specify the most suitable type of power, pumping or air compressing equipment. Ask for special publication B-111.



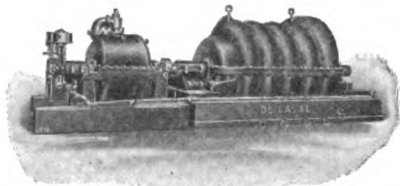
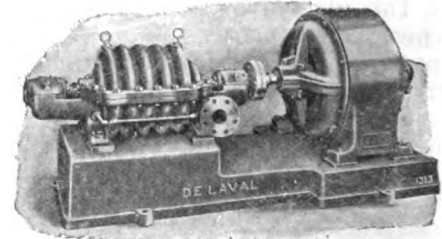
De Laval Multi-Stage Pump with casing cover removed.

De Laval Centrifugal Circulating Pump driven by geared steam turbine, 6500 g.p.m., 25 feet head.

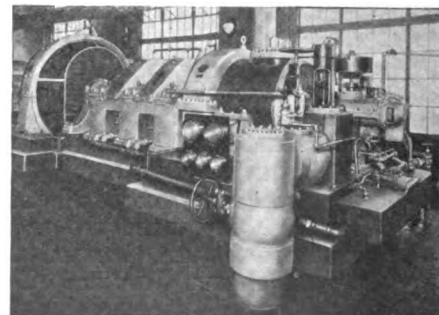


Turbine-Driven Boiler Feed Pump, 1200 g.p.m., 900 feet head at 1750 r.p.m.

De Laval 4-Inch Five-Stage Pump driven by induction motor, 500 g.p.m., 600 feet head, 1450 r.p.m.



De Laval Turbine-Driven Multi-Stage Compressor; 14,650 cu. ft. per min., from 10 inch water column vacuum to 8 lbs. per sq. in. gage.



Direct-Current Generator driven by De Laval Geared Steam Turbine, 1250 K. W.