

VIII. Power

POWER FOR DRIVING THE LINOTYPE

THE Linotype may be driven from any source of power having a uniform speed such as a line shaft, electric motor, gas engine, or water motors, and requires approximately one-quarter horsepower. The driving pulley on the Linotype is $14\frac{1}{2}$ inches in diameter and has a $2\frac{1}{2}$ -inch face. Its speed should be seventy revolutions per minute, which will give approximately six and one third lines per minute, as the Linotype is geared so that eleven revolutions of the driving shaft will make one revolution of the cam shaft. To ascertain the size of pulley required to drive the Linotype, multiply the diameter of the driving pulley on the Linotype, $14\frac{1}{2}$ inches, by the number of revolutions, 70, and divide the product by the number of revolutions of the line shaft, and the quotient will be the diameter of the pulley required on the line shaft.

ELECTRIC MOTORS

The individual electric motor provides the most convenient and efficient drive for a Linotype. Turning a snap switch, located within easy reach of the operator's working position, starts or stops the machine, and there is no power consumed except when the machine is running.

We have adopted as standard product an electric motor specially designed and built to our order by a prominent and successful manufacturer of small motors. This motor has given universal satisfaction for many years. It is mounted on the frame of the Linotype and becomes an integral part of the machine. This locates the motor within the lines of the Linotype where it is free from floor dirt and within easy reach for oiling. These motors are wound for any desired commercial electric light or power circuit, both direct current and alternating current. They show exceptional electrical efficiency which tends toward low operating cost, and their slow speed insures long life and low maintenance expenses.

The driving pinion is of the helical type, which insures noiseless operation, maximum efficiency and economy in power transmission.

Every motor is tested at the factory, under full load and overload, with accurate instruments. The rating assigned to each motor is not a nominal rating based on the performance of a few motors, but is the actual brake load successfully carried by the individual motor during a prolonged test. They have a large overload capacity and are designed with a liberal factor of safety.

These motors are carried in stock for immediate shipment wound for 115-volt and 230-volt direct current, and 110-volt and 220-volt, single-phase, 60-cycle, alternating current. The direct-current motors will operate satisfactorily on a circuit within ten per cent. of these voltages. The alternating-current motors will operate satisfactorily on a circuit within ten per cent. of these voltages and frequencies. These single-phase motors will operate entirely satisfactorily on a two-phase or a three-phase circuit. We are prepared to furnish them wound for other voltages or frequencies or for two-phase or three-phase circuits, on special order, but we advise the use of single-phase motors wherever possible.

An electric motor equipment for the Linotype consists of the motor and pinion, a gear wheel which is to replace the tight and loose belt drive pulleys, snap switch, cable, and attaching screws. The motor is shipped with a suitable pinion to drive the shaft on the Linotype at about 70 r.p.m. when motor is operated at its rated voltage. This speed permits of casting approximately six and one-third lines per minute. If it is desired to increase or decrease this speed the motor pinion may be changed. Substituting a pinion with one having one more tooth will increase the casting speed about one-third line per minute.

ORDERING MOTORS

In ordering direct-current motors it is only necessary to state the voltage. We do not supply, nor do we advise the use of, a 500-volt direct-current individual motor on the Linotype.

In ordering an alternating-current motor it is necessary to give the voltage, frequency, and phase. When motors are installed, we wish particularly to call attention to the necessity of having the work done by competent electricians.

ELECTRICAL NOTES

746 watts equals 1 horsepower.

1 horsepower is equal to raising 33,000 pounds one foot in one minute, or 550 pounds one foot in one second.

1 kilowatt equals 1,000 watts.

The alternating-current motor, 110 volts, 133 cycles, consumes about 350 watts an hour.

The direct-current motor, 115 volts, 2.2 amperes, consumes about 253 watts an hour.