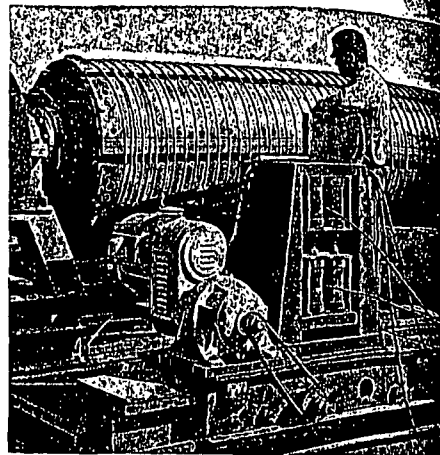


(Advertisement)

THIS MONTH'S MOTOR TIPS

How VARIABLE SPEEDS improve production tempo



U. S. Varidrive motor operating special drum machine for fabricating circular reinforcing cages for concrete pipe; permits speed variation to suit size diameter of wrapping.

COUNTLESS PLANTS ARE SWITCHING TO VARIDRIVE MOTORS FOR OUTPUT EFFICIENCY

MAKING machines more responsive to the operator's command has resulted in an amazing step-up in production. Machines powered with conventional constant-speed motors "loaf on the job" during many operations, but the same machines driven with Varidrive motors can accomplish one or a combination of these improvements—(1) increase production by the adjustable "overdrive" of accelerated speed; (2) effect better cutting or operating action by setting speed at the precise rpm essential for the job; (3) provide the operator with infinite speeds to coordinate with his rhythm of movement or selection of speed that is, in his judgment, just the exact rpm to produce his best workmanship.

Just as an automotive engine operates at highest efficiency at a certain

speed, almost any production machine or powered equipment will produce more where selectivity of motor speeds is provided. In a study of advantages created by the use of variable speeds, the manufacturers of U. S. Varidrive motors have compiled a list of applications covering diversified fields ranging from sewing machine factories to sorghum mills. From most of these interesting applications the design engineer and plant production engineer can learn of uses they can apply to their own sphere of operations.

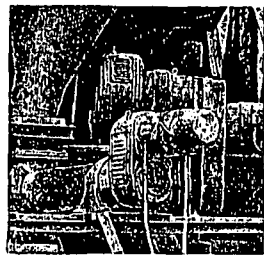
NO GUESSING OF MOTOR SPEED

For instance, the design engineer doesn't have to try to guess what the ultimate speed factor will be in order to be sure his machine will deliver the full optimum of production after

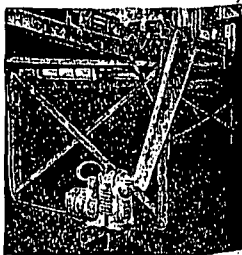
installation. By installing a Varidrive motor he endows his product with speeds instead of a speed; consequently in service his machine presents an "ableness" to adapt itself to a wide range of conditions far beyond his contemplation. If a fixed speed motor operates the machine the design engineer might have guessed wrongly the speed to give it.

REMOVING RESTRICTIONS OF SPEED

The plant production engineer need not be restricted to a set operating speed of a machine. He can, with the Varidrive, experiment with speeds to do a specific job best. For example, a conveyor may at times, when heavily loaded, require slow speed, then higher speed when the load is light, or when parts have to get to a worker's location

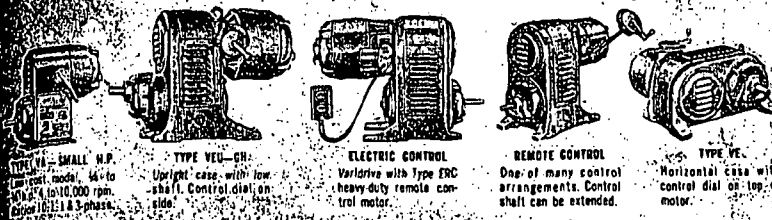


Varidrive on a mixing machine processing rotary drilling oil base. The proper mix depends on the exact speed required to blend materials.



Conveyor travel is controlled for better distribution and timing with a Varidrive. This conveyor is an automatic system for drying printed material.

TYPICAL VARIDRIVE MOTOR TYPES



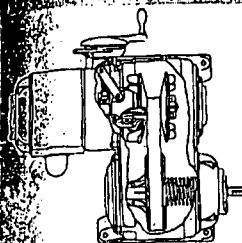
TYPE VU-SMALL H.P.
Upright case, 1/4 to 1/2 h.p., 10 to 10,000 rpm.
Control 10:1 & 3-phase.

TYPE VEU-CH
Upright case, with low shaft control dial on side.

ELECTRIC CONTROL
Varidrive with type ERC heavy-duty remote control motor.

REMOTE CONTROL
One of many control arrangements. Control shaft can be extended.

TYPE VE
Horizontal case with control dial on top of motor.



OPERATION OF A VARIDRIVE

By using control dial, the diameter of the belt and speed of control, thus changing fixed speed of motor shaft to variable speed of the take-off shaft, chockless, enclosed transmission.

In cutting shafts on a lathe from large to small diameter, frequent change in speed keeps the power tool operating at a uniform lineal travel to get the job completed in the least time.

With a Varidrive, the speed can be instantly changed to synchronize with each specific travel or load condition. Machines turning out different sizes of parts can produce better with variable speeds. If work chatters, feed can be adjusted for best surface speed, longer tool life and finer workmanship. In experimental processes involving setting in vats under varying condi-

tions of viscosity, temperature, homogenization or rate of agitation, variable speed plays an important role, which is impossible with a fixed speed motor. The right speed makes all the difference in getting the right mix. With Varidrive no stop-cone pulleys, external gears, intermediate speed changers or connections, such as extra chains and couplings are needed. Usually a Varidrive can be direct connected to the prime driving shaft of the machine or equipment.

In pumping and hydraulic control operations variable speed is the answer. Flow, pressure, suction and load can be maintained at just the right equilibrium by a Varidrive. In some machines the exasperating problems of noise, chatter, vibration, over-heating and pulsation contribute to the shortened life of equipment, or affect the quality of the product undergoing processing. These troubles can be invariably "cured" with a Varidrive because the operator can experiment down to a split rpm to get the most sensitive speed to overcome the trouble.

SPEEDS TO FIT TIMING FACTORS

Equipment is frequently required to complete an operation in predetermined time. Variable speed permits a step-up or step-down to establish the right production tempo. In controlling cycles of infra-red baking, drying, heating, soaking, grinding, capping, tumbling, coating, plating, etc., speed

movement must be precise—or rejects will cut into profits. What, then, is more logical than to install a Varidrive to provide the nerve-center of speed regulations?

IMPROVEMENT IN OUTPUT

In thousands of plants, the U. S. Varidrive motor has brought about amazing improvements in production. Powered machines have had their output stepped up to 30 percent or more in innumerable instances.

In general, these Varidrive motors can be obtained in a range of from 1/4 to 50 h.p., and for speeds from 2 to 10,000 rpm in ratios of 10:1.

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VARIABLE RPM'S

U.S. VARIDRIVE

THE MIRACLES MOTOR

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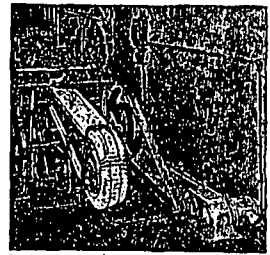
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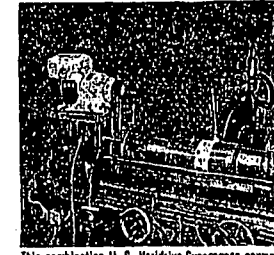
Request for Varidrive Booklet

U. S. ELECTRICAL MOTORS Inc., P-11
Box 2058, Los Angeles 54, Calif., or Milford, Conn.
Send free 16-page Booklet. No obligation

NAME _____
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Envelope folding and gluing machine powered with U. S. Varidrive. For different sizes of envelope a different speed is required.



This combination U. S. Varidrive-Synco gear powers a special roll grinding machine for cold rolling aluminum sheets, from heavy to light gauge.