



The Synchromesh Drive System represents an entirely new approach to synchronous drives. At the heart of the system is a drive cable, which replaces conventional timing belts as well as other means of transmitting synchronous motion. The cable consists of a core bundle of stranded stainless steel wires encapsulated in a nylon jacket. Wound spirally around the nylon jacket is another cable of similar construction. The spiral member is bonded to the core cable to provide functional stability under load. The pitch of the spiral winding is carefully controlled during the winding and bonding processes.

The use of stranded wire and nylon resin produces an extremely flexible cable that opens up new design possibilities, which were previously not possible with any other synchronous drives. The schematic diagram shown below illustrates the geometric features of the x-y plotter. Synchromesh cables are capable of changing operating planes, limited only by the size and proximity of adjacent pulleys. This unique characteristic makes it possible to produce this plotter design without employing expensive lead screw drive components. This is only one example of the countless possibilities offered with Synchromesh Drive Systems.

Complementing the Synchromesh cables are the drive pulleys, which have helical grooves on their outside diameter, to accurately engage the spiral convolutions on the drive cable. An additional radial groove of half round cross section supports the core cable and provides lateral stability. Synchromesh cables can be readily secured to other mechanism members in many different ways as well as those offered in the catalog pages.

Please note, however, that the Synchromesh Drive Systems are intended for reciprocating motion applications and cannot be made endless.

## Advantages and Design Features

- SYNCHRONOUS MOTION
- FLEXIBLE IN ALL DIRECTIONS
- MINIATURE IN SIZE
- HIGH STRENGTH
- SMALL BENDING RADIUS
- LIGHTWEIGHT
- LOW INERTIA
- LOW TENSION REQUIRED
- CHEMICALLY RESISTANT
- ELECTRICALLY CONDUCTIVE & INSULATED
- PULLEYS AVAILABLE MACHINED OR MOLDED
- EASY TO MOUNT ATTACHMENTS & END FITTINGS
- CABLES AVAILABLE UP TO 200 FEET LONG

