INTRODUCTION

The combination of economy and superior performance is utilized for so many different purposes in so many different ways that the range of applications is virtually limiting less. Experience engineers in the field of mechanical power transmission all over the world will appreciate the logical sequence in the selection of drives featuring benefits beyond current conventional flat & Vee pulley as well chain sprocket drive.

The synchronous belt drive transmits power through two spindles, multi spindle, and various directions as well conveying material. Timing belt drive provides a concept superior to conventional flat belt, Vee belt, chain sprocket and gear. Timing belts are flat belt with a series of evenly spaced teeth on the inside circumference there by combining the advantage flat belt with positive grip feature of chain and gear drive.

The toothed timing belt drive has distinct advantage for it can utilize either similarly or in combinations. It synchronizes the driver and drive sheave pulley. It transmits greater power range than Vee belts. Timing pulley belts are available with tooth on both sides (twin power) suitable for all industrial serpentine application requiring reversed rotation in same shaft. This drive reduces vibration & is free from maintenance. Increase horsepower provides increase energy, efficiency and noise reduction.

The high efficiency and durability of timing pulley drive accounts for their use in many different areas for point drive or multipoint drives. A timing pulley transmits force to the belt via evenly spaced groove, which mate with teeth in the belt. These same grooved belt and pulley teeth prevent belt slippage. Belt teeth roll in to and out of these grooves smoothly unlike V belt on wedging or friction. Timing belts drives transmit torque to a driven pulley or force to a linear actuator. They may also convey a load placed on the belt surface.

Timing belt drive are historical and started as timing in sewing machines for Belts molded teeth engage with axial groove of similar tooth profile on the pulley in a smooth rolling motion. Can be utilize singly o combination to rotate, position and manipulate various objects and it transmits or a greater power than any other type of drive.

PowerDrive synchronous drives are made of high quality materials and are utilized in applications from medical to oil fields.

Absence of metal to metallic contact reduces need for lubrication i.e. lubrication system or oil retaining device not required as chain drives.

Drive does not rely on friction which eliminates the need for high initial installation tension, increasing abatable bearing loads.

High precision and accurate positioning with very low noise compare to gears.

Power capacity range from sub fractional to approximately 800-h.p. speed range from inches per hour to approximately 16,000 fpm. /10 rpm to 10,000 rpm.

Timing pulleys are manufacture in various pitches with many configurations and sizes. Some of the pitch size and tooth profiles are :-

- Trapezoidal tooth profile
  - Standard series- MXL, XL, L
  - Metric series- T, AT
- Curvilinear tooth profile
  - HTD®, Poly Chain®

industrial applications:-

Light duty precision critical equipments like computer printer, plotters, laboratory equipment, measuring equipment, data Storage equipment, hand power tools, postage processors, D.C. stepper/servo motor applications, food processors, medical diagnostic equipments, sewing application, automated tailor machine, robotic equipments, vacuum cleaners etc.

Medium and heavy duty like engineering machine tools, food processor plant equipment, rolling mills, glass and plastic machinery, conveyors, building machinery, printing machinery, agriculture Equipments.