INDUSTRY
MEDICAL - PHARMACEUTICAL

APPLICATION
MEDICAL AUTOMATED WAREHOUSE

PRODUCT
MEGAPOWER WITH FALSE TEETH

SITUATION/APPLICATION

Robotic prescription dispensing systems are widely used in retail and hospital pharmacies. These automated systems have revolutionized pharmacy operations with increased speed, accuracy and patient safety. They perform the tasks related to storing, retrieving, and packaging prescriptions, reducing costs associated with manually filling prescriptions. They also allow pharmacies to maximize the amount of dispensing in a small footprint and combine prescription filling, labeling, verification, and dispensing for tablets, capsules, etc. all at one workstation.

These systems are designed to operate at high speed and acceleration with great accuracy while handling many different sizes and shapes of containers. Robotic prescription dispensing demands accurate positioning with smooth motion and necessitates a drive system with a strong, flexible belt that can transmit high power and be configured to accommodate the wide variety of packaging types used for medical prescriptions.

THE PROBLEM

The Application Engineering Team at Megadyne was contacted by a major manufacturer of robotic prescription dispensers. One of their units experienced issues with inaccurate positioning on a dispensing unit driven by a synchronous belt. Pills and capsules would sometimes not dispense into containers, missing the containers entirely and falling down inside the machine. This would require a shutdown of the system while the product was removed from the inside of the machinery. The malfunction not only created product waste but also impacted productivity, wasting the operators' time while they cleaned up the mess and got the machine running again.

Additionally, a longer belt life was also desired as the welded-on belt profiles used to push the product along the filling process seemed to wear out quickly, requiring frequent belt replacement.

THE SOLUTION

After thorough troubleshooting analysis by the Megadyne Application Engineering Team, endless Megapower2 polyurethane synchronous belt with FTS (false teeth – stainless) profiles was recommended. The engineering team determined that the location of the profiles on the previously used belt were not optimally located to actuate the different types of product required, causing accelerated profile wear. A new design with relocated profile positions eliminated this excessive wear while the FTS profiles provided a strong, easy to use, "bolt-on" mechanical attachment option for profile placement. FTS additionally adds the cost-saving benefit of a method to replace broken or worn profiles without replacing the entire belt as was required with the previously used "welded-on" profiles. Various FTS profiles were supplied offering flexibility of adjustment and positioning to expand the various types of packaging they could use in the system.

THE RESULT

With the expertise that comes from being a leading manufacturer and fabricator of product handling belts, Megadyne was able to offer a customized, multi-functional solution from our line of standard products.

The customer requirements of high speed and positional accuracy were addressed as well as the need for the flexibility to move a wide variety of packaging containers. Megapower2 with FTS profiles ensured a strong and durable drive that delivers the required product reliability and life expectancy.