

INDUSTRYCOMMERCIAL AND
DOMESTIC APPLIANCE**APPLICATION**

ORANGE SQUEEZER

PRODUCT

SILVER 5M

**SITUATION/APPLICATION**

Juicers (also known as a juicing machines or juice extractors) are kitchen appliances used to extract juice from fruits and vegetables. They crush, grind, and/or squeeze juice out of the pulp making it easy for users to enjoy fresh, all-natural juices at home.

Juicers require very compact but powerful, relatively high torque drives as they process everything from soft to very hard and dense fruits and vegetables. They must operate smoothly at high speed with a minimum level of noise and vibration within a small dimensional space.

THE PROBLEM

Because of the space constraints imposed by the very small available drive space, a manufacturer of home appliances contacted Megadyne Application Engineering with a request to re-design a drive for a new juicer that was in the development stage. Their tests with standard rubber 5M pitch synchronous belts from a competitor delivered unsatisfactory results. The client wanted to further minimize the drive space and reduce the noise generated by their high speed appliance.

THE SOLUTION

Developed to provide a more powerful alternative to standard synchronous 5M pitch belts, Isoran RPP Silver 5M belt was supplied for testing. With greater power capability and the RPP (reinforced parabolic profile) tooth profile, they easily upgrade and improve existing drives. Drive calculations performed by Megadyne application engineers confirmed that RPP Silver 5M, with its improved chloroprene rubber compound and extra strong glass fiber tensile cords, made it possible to use a narrower belt width.

THE RESULT

The reduced belt width of the Isoran RPP Silver 5M belt proved to be the ultimate solution for this application. The narrower belt width allowed the client to achieve the required smaller drive dimensions. The RPP tooth profile (recognized as the quietest on the market) combined with the narrower belt width also reduced unwanted drive noise to an acceptable level. The narrower belt also meant narrower pulleys could be used, reducing overall drive weight and cost. Isoran RPP Silver 5M allowed the unit to pass all testing criteria, resulting in approval for the project to move forward to the production phase.

