



# COMMERCIAL AND DOMESTIC APPLIANCE

WASHING MACHINES  
AND DRYERS



**MEGADYNE**

## WASHING MACHINES AND DRYERS

### INDUSTRY

COMMERCIAL AND  
DOMESTIC APPLIANCE

### APPLICATION

WASHING MACHINES  
AND DRYERS

### PRODUCT

TEM (Tensile Elastic  
Member) PV-belt  
construction



Contact our experts  
to find out more

### SITUATION/APPLICATION

Manufacturers of commercial and domestic appliances need reliable, low-noise, maintenance-free, and energy-efficient drive systems. To achieve these goals, washing machines and dryers typically use rubber PV-style v-belts, also called poly-v, multi-rib, or serpentine belts, which feature grooves that match pulley grooves. These belts connect the motor to the drum, enabling laundry agitation in washers and tumbling in dryers. With motor shaft speeds exceeding 10,000 rpm, drives must ensure quiet, vibration-free operation.

To reduce costs, many designs use a “fixed center distance” setup, eliminating idlers or adjustable motor bases for belt tensioning. Another cost-saving method is to machine the pulley grooves directly into the motor shaft, serving as both the shaft and driver pulley. The belt wraps around the drum’s large circumference, preventing slippage without needing grooves on the drum, further cutting costs.

### THE PROBLEM

With a fixed center distance drive design there is no means to adjust or give tension to the belt system to avoid slippage and guarantee efficient operation. Without adequate tension the belt will slip. The result is the drum in a washer or dryer will not spin at the required speed. This negatively affects efficiency and energy consumption of the appliance. Additionally, the belt will suffer a reduction in life as the slippage generates excessive heat and wear, degrading the belt construction to the point of early failure. The use of the motor shaft as a driver pulley also presents a challenge as its very small diameter does not offer a great amount of contact area for the belt to grip the pulley grooves on the shaft. In the assembly process, it is also desirable that the belt be capable of installation by robotic automation. A standard PV belt requires a complex and expensive robotic system to apply correct tension.

## MEGADYNE SOLUTION:

### TEM (TENSILE ELASTIC MEMBER) PV-BELT CONSTRUCTION

Designed for fixed center distance drives, the belt is “stretched” onto the drive to achieve the required tension. After installation and a brief stabilization period, Megadyne TEM PV belt automatically adjusts and maintains optimal tension throughout the appliance’s lifespan, preventing incorrect tension settings during assembly. Its construction compensates for the small wrap angle on the driver pulley/motor shaft while damping vibrations and absorbing intermittent loads, reducing transmission noise.

### THE RESULT

- Reduced in overall cost
- Improved drive reliability
- Elimination of tensioning device and robotic assembly
- Less quality issues due to incorrect belt tension

Customers also enjoy a captive aftermarket as the TEM belt is manufactured according to the specific power characteristics of each drive meaning it cannot be replaced with standard construction PV belts.