**MEDICAL**

BENCHTOP IMMUNOANALYZER



LOW NOISE



COMPACT



SMOOTH MOTION

ADJUSTABLE
FIT AND FEEL

Providing Smooth Operation in a Compact Profile for Medical Equipment

Immunoassay analyzers detect viruses, bacteria, and chemicals in samples through automating biochemical assays, such as ELISA and ELFA. These analyzers are used worldwide to perform vital tests, such as detecting salmonella in food production or COVID-19 in patient samples.

A manufacturer of desktop analyzers required a compact and reliable method of positioning and scanning the testing kit trays. The trays extend to provide easy access for the user to add samples to the reagent kits, then get drawn into the analyzer during operation. The reagent kits are scanned using a moving scanner head, which also required guided motion.

CHALLENGE

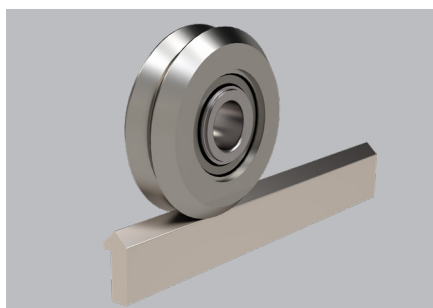
TEST KIT POSITIONING AND SCANNING

A solution was needed for two sizes of benchtop immunoanalyzer: one capable of running 12 tests simultaneously and another capable of running 30 tests simultaneously.

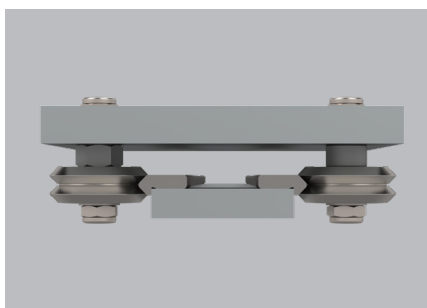
Both the tray for inserting samples and the scanner for checking the test kit reagents require smooth, low-friction motion solutions

to reduce wear and enhance the overall user experience. Quiet operation and high reliability are also expected.

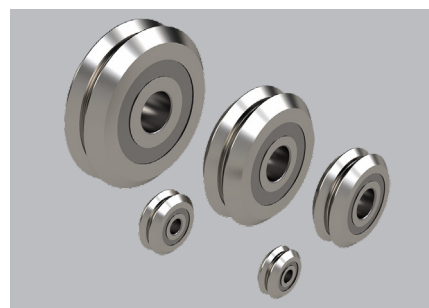
- ✓ Smooth Motion
- ✓ Low Noise
- ✓ Compact
- ✓ Adjustable Fit and Feel



DUALVEE® WHEEL AND TRACK



EXAMPLE DUALVEE® ASSEMBLY WITH JOURNALS



A VARIETY OF COMPONENT SIZES TO SUIT APPLICATION SPACE AND LOAD REQUIREMENTS

SOLUTION

DELIVER RELIABLY SMOOTH MOTION THROUGHOUT THE ANALYZER

To move the testing kit trays into position for access and operation, the manufacturer went with DualVee® guide wheels and track for their smooth and quiet motion capabilities and compact profile. Size 1 tracks are mounted to each side of the testing kit trays. Size 1 sealed DualVee® guide wheels are mounted (stationary) in the body of the analyzer, three per tray slot. Two concentric wheels guide one side of the tray, while an eccentric wheel on the opposite side provides adjustability to the motion system, thereby easing assembly.

The scanner system also uses vee guide wheels and track from Bishop-Wisecarver® to guide the screw-driven scanning head. Four wheels are used in the scanner, provided with journals for easy through-hole assembly and adjustment.

CHALLENGE SOLVED

SMOOTH AND LOW-FRICTION MOTION FOR EASE OF OPERATION

Both the automated test kit trays and the more precise scanner head can operate smoothly, quietly, and reliably because of Bishop-Wisecarver®'s products. Since DualVee® guide wheels and track are made with high quality materials and built to last, the analyzer continues to provide excellent performance over a long life, with little maintenance required.