

CUSTOMIZATION AND ENGINEERING KNOW-HOW DELIVER EXTENDED BEARING LIFE FOR THE MARS CURIOSITY ROVER

CHALLENGE ▼

Environmental extremes can challenge even the finest-precision and highest-quality component designs. Like those for the soil sampling system on the Mars Curiosity Rover. Temperature and humidity fluctuations often create demands that need uncommon engineering expertise. To optimize bearing performance in such a harsh environment, the bearing design requires in-depth analysis. There also should be an assessment of how a bearing reacts to the entire mechanical system.

TIMKEN SOLUTION ▼

Timken delivers the best of both worlds to our aerospace customers: extensive engineering expertise and the capability to create customized bearing solutions.

Our engineers understand the high demands placed on aerospace applications. We help customers develop the right bearing solution for their design challenges. While we have a portfolio of standard miniature precision bearings, we can create customized solutions. Our application engineers tailor designs, materials and processes to best meet application requirements. We take into consideration factors like environmental conditions, properties of mating components and how they behave across the full range of operating conditions. This helps to optimize the performance and reliability of their designs.

RESULTS THAT MATTER ▼

Drawing on decades of experience, we designed, delivered and helped in the installation of custom bearings for the Mars Curiosity Rover. We made our solution capable of achieving three times the mission life while gathering, collecting, sorting and analyzing soil samples onboard the rover.



04-23 Order No. 11495 | Timken® is a registered trademark of The Timken Company. | © 2023 The Timken Company



The Timken team applies their know-how to improve the reliability and performance of machinery in diverse markets worldwide. The company designs, makes and markets bearings, gear drives, automated lubrication systems, belts, brakes, clutches, chain, couplings, linear motion products and related industrial motion rebuild and repair services.