

Reliable End Stops for a World-Class Telescope

Enidine Energy Absorption Application

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Application Overview

A Madrid-based engineering company and current ITT Enidine Inc. customer was tasked with a unique project: Building the world's largest, most advanced telescope. The telescope was under construction at an astrophysics observatory in the Canary Islands. As the project progressed, the engineering firm recognized a need for positive end stops for the main mobile parts of the telescope, to be used in case of emergency. Having already had excellent experience with ITT Enidine Inc., the company requested our expertise for this latest application.

Product Solution

Choosing hydraulic shock absorbers that would fit the application requirements was challenging because of the size and fragility of the instrument. In addition, the shock absorber selected would have to be aesthetically pleasing, to meet design standards; as well as be able to withstand the harsh marine environments of the Canary Islands.

To match the size and scope of the telescope's moving parts, ITT Enidine Inc. recommended the use of six HD 6.0 x 4 shock absorbers with nikrom piston rods, epoxy painted surfaces and bellows, in the Cupolas Dampers of the telescope; two CBOEM 4.0M x 8 with Platinum package features and bellows in the elevation movement of the telescope; four CBLROEM 2.0 x 2 with Platinum package features and bellows in the azimuth movement of the telescope; and four HD 1.5 x 2 FF SP, with nikrom piston rod, epoxy painted bellows and sensors for the Nasmith rotators.

Application Opportunity

ITT Enidine Inc. shock absorbers, with their Platinum package, offer an attractive nickel-plated exterior and were able to offer the aesthetic qualities the engineers were seeking. Their superior corrosion resistance and high performance capabilities offered effective emergency stop energy absorption in a marine environment. The ITT Enidine Inc. heavy duty units were able to meet the size constraints of the telescope, as well as provide effective isolation as an emergency stop.

The successful use of the ITT Enidine Inc. shock absorber in this application has led to additional opportunities with the customer. Any manufacturer, design engineer with unique or particularly challenging applications would benefit from the use of ITT Enidine Inc. products.

