

# GROWER DETECTO®

LIVE BOLT MONITORING



## A new technology to keep your safety under control. Anytime, anywhere.

### TECHNOLOGY

Grower Detecto® is a smart sensorized washer for bolt monitoring, made of a smart sensor embedded in the washer.

This system allows a live detection of the bolt loosening and the evaluation of the static load applied to the washer, through an Electrical Mechanical Impedance method.

### HOW IT WORKS

Bolted connections are among the most widely used parts in mechanical applications and are usually subjected to tridimensional loading conditions which may cause joint loosening or failures.

Monitoring and periodic manual inspections are essential to guarantee safety and correct functioning, however these operations are time consuming with high costs and require the operator to check every single bolt.

Thanks to the integrated sensor technology, Grower Detecto® collects and sends signal parameters and data to an Artificial Neural Network, preventing failures in the structure and in the bolted joint. In this way the electro-mechanical system offers the possibility to automatically detect the bolt loosening and structural deterioration.



**REAL-TIME MONITORING**

Thanks to Grower Detecto® the status of the structure and the bolted joint connections can be easily checked in real - time and remotely, eliminating the need for on-site and manual inspection.

**FIELDS OF APPLICATION**

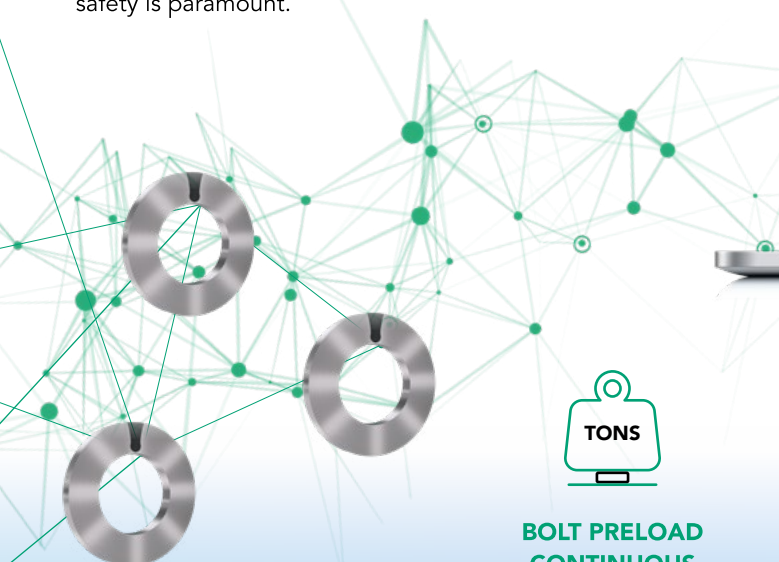
Thanks to its strength, ease of use and efficiency, Grower Detecto® technology is indicated in mechanical and construction engineering and all the applications where safety is paramount.

**SAFETY AND EFFICIENCY**

The continuous inspection enables the identification of loose fasteners, preventing bolt failures for safe and reliable performance even in presence of loading and vibrations.

**TIME AND COST-EFFICIENT**

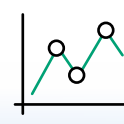
The sensor collects and sends data to the monitoring system for cost-effective operations, rapid interventions and minimized downtime related to maintenance.



**BOLT PRELOAD  
CONTINUOUS  
MONITORING**



**BOLT  
LOOSENING  
DETECTION**



**STATISTICS  
AND  
PROJECTIONS**



**LOWER  
MAINTENANCE  
COSTS**

