

Interventional Guidewire Quality Inspection Torque Transducer

Industry: Medical and Healthcare

Summary

Customer Challenge

A medical device manufacturing company needs to do quality checks on threaded ends of their interventional guidewire devices. The threaded end of the guidewire contains an extremely small 000-120 thread that needs to be tested with go and no-go gauges in order to see if it will mate with other critical sub assemblies. Previously, the gages were manually threaded on and results and performance were poor due to the “human element”. The manufacturing company requests a custom made turnkey test stand designed for this specific request, that is both inexpensive and flexible for varying lengths and models of guidewires.

Interface Solution

Interface suggests a system where the customer can axially load and insert the guidewire through the MRT Miniature Flange Style Reaction Torque Transducer, secure it, and use an automated stepper motor on a slide base to test the thread quality. When in use, the MRT measures the torque magnitudes of both no-go and go gauges which indicate quality of the threaded guidewire.

Results

The manufacturing company was able to test the quality of their guidewire threads for the different lengths and sizes produced. Data of the quality tests are recorded, logged, and saved on their PC computer using a specified third party data logger.

Materials

- MRT Miniature Flange Style Reaction Torque Transducer
- Custom designed and 3D Printed Tooling
- 3rd Party Data Logger
- Customer supplied PC or Laptop

How It Works

1. The MRT Miniature Flange Style Reaction Torque Transducer is attached to a 3D printed fixturing assembly, which is installed on the test stand base.
2. The guidewire is fed through the torque sensor and secured to it with additional custom 3D printed tooling.
3. A go-gauge or no-go gauge attached to a stepper motor is moved into position on the sliding base.
4. The program automatically actuates the motor per an onboard program, measuring torque magnitudes by the go/no-go gages and MRT sensor.
5. The data provided to the customer allows inferences to be made of good and bad thread quality, ultimately helping quality control.

