

WORLDSID FIBER OPTIC RIB DISPLACEMENT MEASUREMENT SYSTEM

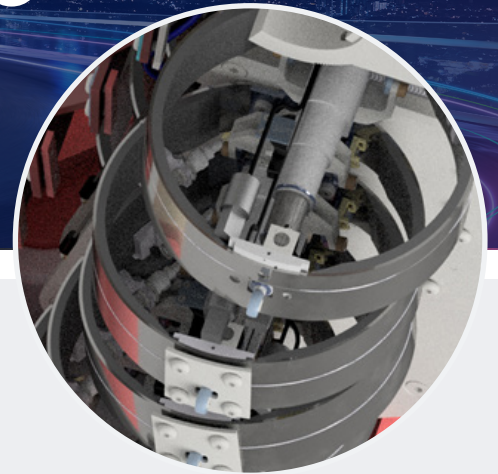
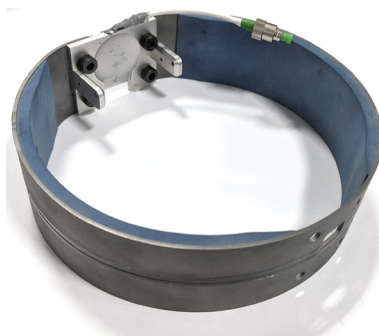
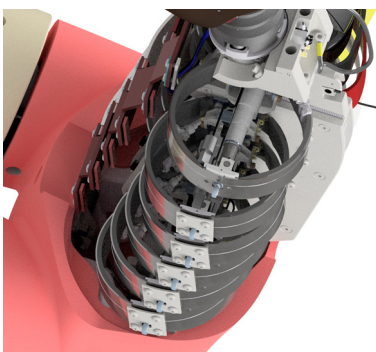
The WorldSID Fiber Optic Rib Displacement Measurement System is a next generation sensor for measuring rib deflection. By utilizing wavelength division multiplexing (WDM) fiber optic technology, the system is a collection of strain sensors placed on the inner WorldSID rib. The strain measurements are used to build a rib shape representative of the actual deflection inside the dummy.

Most of the world's current portfolio of crash test dummies use thorax rib displacement sensors that give us single point measurements that do not accurately represent the shape deformation of the rib cage. Humanetics has designed an ingenious new fiber optic rib for the WorldSID-50M ATD that uses a single optical fiber with multiple strain measurement nodes to calculate the entire rib shape.

With this exciting new tool, detailed maps of ribcage shape deformation can be created that can further the science of injury measurement in anthropomorphic crash test devices.

SPECIFICATIONS

PARAMETER	SPECIFICATION
SIZE	360 mm x 250 mm x 330 mm
MASS	~9 lbs
INTERFACE	Ethernet
MEMORY	1600 ms
SAMPLE RATE	10 kHz
INPUT POWER	12V-48V
NUMBER OF DATA POINTS FROM SHAPE CALCULATION	200 per side, 400 total



KEY FEATURES



Optical fiber is located inside a groove on the WSID-50M rib



The strain of the six different sensors provides shape data of entire rib



Optical fiber is routed outside the dummy to the data collection box inside the trunk of a car or on a sled



An off-board computer will perform the necessary shape construction calculations



All new components inside the dummy will fit into the current IR-TRACC package, no modifications to current dummy



The weight and Center of Gravity of the Thorax assembly will be maintained



Analysis software provided with product

