

Medical / Rehabilitation

Futek offers a variety of standard sensors for medical applications such as: automated drug delivery control systems, infusion pump, fluid / medical bag weighing, sterilization systems, and rehab equipment. Below are some of the miniaturized, submersible, cryogenic, RoHS compliant, and MRI compatible sensors that make challenges more feasible to overcome in this demanding market. Custom sensors can also be provided for new OEM applications.



Application Examples

For more application examples, visit FUTEK's knowledge center or applications section on www.futek.com.

1. Dentistry / Neck Sensor

Customized 4 channel sensor to measure forces applied during jaw relocation while pushing the head down into neck or all sides. Helps minimize forces during operation.

2. Blood Transfusion Management Systems & Kidney Dialysis (Pg. 13)

OEM type load cell Model LSM250 & 300 with overload protection available from 100 g to 500 lbf capacity for bag weighing applications.

3. Carpal Tunnel

Very specialized 3 integrated load cells are used in assessing a wide range of Neuromuscular and skeletal disorders

4. Pinch Test AND Hand Gripper

Utilized in many rehabilitation programs to determine the severity of the injury, as well as the speed of recovery. Helps identify hand pains.

5. Tendon & Ligament Transducer

Special miniature version of the S-Beam type is used to measure tensional forces of tendons and ligaments during surgical procedures. Some special types are also implanted to measure forces and provide feedback.

6. Ophthalmology (Pg. 9-10)

Small load button type or force sensors used in Ophthalmology systems during critical operations to control applied forces on the sharp blade.

7. Fluid Weighing & Drug Delivery System (Pg. 11-13)

Sbeam Jr. & LSM series widely used for this type of OEM application.

8. Orthopedic AND Joint Simulator (Pg. 8)

Load cells similar to LCF series are widely used for endurance testing of artificial / implant Knee or hip joints in the "Load Soak Station system" or other medical simulator.

9. Guide Wire Torque Verification (Pg. 15)

FUTEK's very low capacity 5 In-oz TFF400 with a digital display as a system is used to verify the torque in guide wire.



FB1300 & FB1350
(pg. 13)

Force Sensor

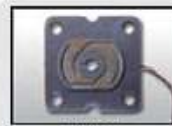
Available from 100 grams to 40 lbf. Used in instrumentation such as infusion pumps.



QLA101

Band Aid Sensor

A very flexible beam that can be used in tension or bending.



FFP350
(pg. 13)

Flat Plate Force Sensor

FUTEK's unique Archimedian design widely used in medical instruments.



LSM500
(pg. 13)

Bending Beam

Used to monitor fluid changes in infusion pump or other drug delivery instruments.



QLA150

Submersible Jr. S-Beam




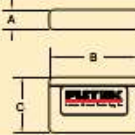
S-beam Jr w/ effective overload stop now available w/ submersible option.



LRF400
(pg. 11)

In Line Tension / Compression

Special version for MRI environment applications.

Model #	Capacities	Description	Dimensions	Specifications
LMD300 	50 lbf (222 N)	Pinch Sensor • Used to measure pinch force in medical rehab, lab testing and window pinch force measurement • Anodized aluminum • 29 AWG, 4 conductor shielded PVC cable, 10 ft • Weight: 0.70 oz (20 g)	 A = 1.54 in. (39.1 mm) B = 0.55 in. (14.0 mm)	Rated Output (RO) ... 2 mV/V nom. Nonlinearity ±0.5% of RO Operating Temp 0 to 160°F Excitation (max) 18 VDC Bridge Resistance 10000 nom. Deflection 0.005" nom. Wiring Code WC1
LMD500 	300 lbf (1334 N)	Hand Gripper • One piece aluminum construction • Can be used in rehab therapy and as an auditing hand tool • 4 Pin Lemo Receptacle • Weight: 3.6 oz (102 g)	 A = 0.83 in. (21.0 mm) B = 2.78 in. (70.6 mm) C = 1.73 in. (43.9 mm)	Rated Output (RO) ... 2 mV/V nom. Nonlinearity ±0.25% of RO Hysteresis ±0.25% of RO Operating Temp -60 to 200°F Excitation (max) 18VDC Bridge Resistance 3500 nom. Wiring Code WC1, CC4

TEDS Option available on all models shown above.

