

Digital Tensiometers High Capacity

Series DPSH Digital Tensiometers



Land/Water Strength In Swimmers

Strength is an essential physical quality for swimmers in short distances. Sprinters are typically stronger than distance swimmers. They spend more time developing strength on land. This is because sprinters need more strength to swim faster for short distances. Sometimes they spend about 40% of workout time on dryland. Is it enough or too much? Testing of swimmers with tensiometers in land/water strength helps answer these questions.

Tensiometers Testing Methodology

Land/water strength is carried out using tensiometers. Strength is measured in four positions: on dryland in the middle of stroke, in water performing pulling, kicking and full body swimming. On dryland, with the use of tensiometers, the athlete applies a maximum effort during an isometric contraction on a swim bench, while in the water the athlete aims to stretch the maximum length of a rubber cord with all-out efforts during the pull, kick, and swim.

Text and photos provided by Genadijus Sokolovas, Ph.D., Director of Physiology, USA Swimming

For additional information about tensiometers testing procedure, please read an article at [For additional information about tensiometers testing procedure, please read USA Swimming Article](#)

Imada is proud to provide tensiometers measurement equipment to USA Swimming.



- **Best value high capacity tensiometers with capacity up to 1100 lbf (push/pull)**
- **RS-232C Tensiometers, Digimatic and analog outputs**
- **Tensiometers have heavy-duty metal construction**
- **lb, kg, and Newton units are push-button selectable**
- **Overload alarm, low battery display indicator**
- **Outstanding display update of 20 times/second**
- **Tensiometers runs on internal NiCad batteries or AC adapter**
- **Real time and peak mode (selectable)**
- **Tare function**
- **Full set of tensiometers accessories, AC charger/ adapter and carrying case**
- **Overload capacity 200% F.S.**
- **Tensiometers have programmable capabilities available in model Z2H**

[Dimensions](#) | [Data Acquisition](#)

The DPSH tensiometers digital force gauges represent the latest technology in an affordable, feature packed instrument. The rugged metal housing is durable enough to withstand harsh industrial

environments. The easy to read display tells you at a glance the unit of force measurement (lb, kg, or Newtons), tension or compression, if you are in Peak Mode, and whether the built-in NiCad batteries are low. The standard tensiometers outputs (RS-232C, Digimatic, and ± 1 VDC analog) allow you to capture data for permanent record. Choose the range or ranges that best suit your needs. All DPSH tensiometers force gauges are sold complete in kit form with gauge, hard plastic carrying case, full set of measuring adapters, extension rod, and AC adapter/charger. All DPSH tensiometers can be run on the internal NiCad batteries or the AC adapter/charger.



DPSH Kit

DPSH Tensiometers Specifications

Tensiometers Accuracy	$\pm 0.2\%$ ± 1 LSD
Tensiometers Selectable Units	Pounds, Kilograms or Newtons
Overload Capacity	200% of F.S., Display flashes beyond 110% of F.S.
Tensiometers Display Update	20 times/second
Tensiometers Power	Rechargeable NiCad battery pack or AC adapter
Low Battery Indicator	Display flashes BAT when battery is low
Tensiometers Outputs	RS-232C, Mitutoyo Digimatic and ± 2 VDC analog output
Operating Temp.	32° to 100°F (0° to 40°C)



Standard display



Reverse display

DPSH Tensiometers Ranges (Resolution) Accuracy: $\pm 0.2\%$ F.S. ± 1 LSD

Model	Capacity (Resolution)		
	Pounds/Ounces	Kilograms/Grams	Newtons
DPSH-440	441.0 lbf (0.1 lbf)	200.0 kgf (0.1 kgf)	1960 N (1 N)
DPSH-1100	1102 lbf (1 lbf)	500.0 kgf (0.1 kgf)	4900 N (1 N)