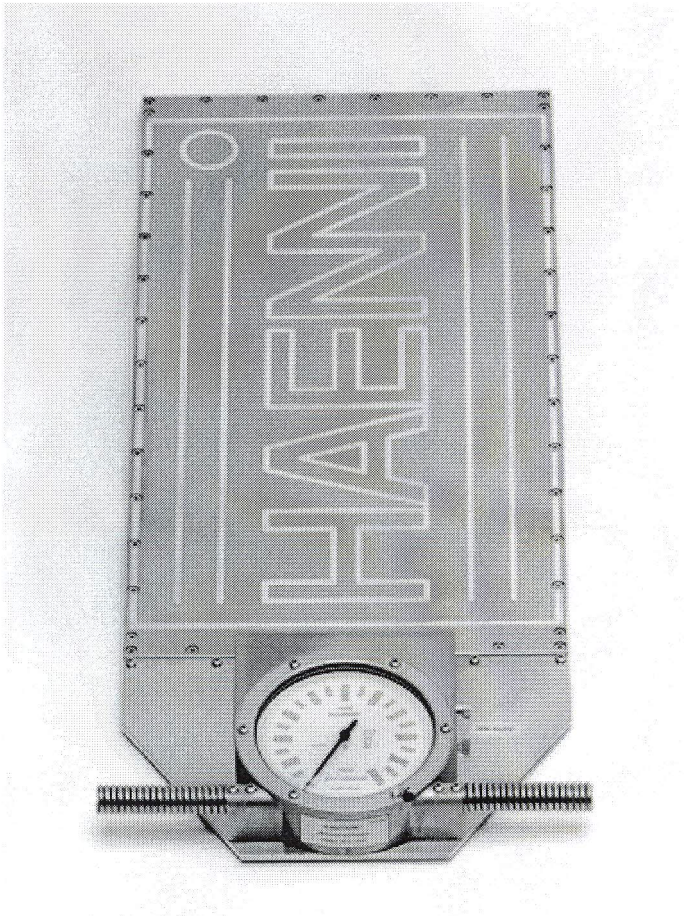
Wheel Load Scale WL 101

Application	Measurement of wheel and axle loads of vehicles with pneumatic tires
Ranges	0...20 000 lb
Temperature range	0...120 °F
Accuracy	NIST H 44
Materials	Corrosion resistant aluminium-alloys and stainless steel
Type of protection	Watertight IP 65 (IEC 144)
Dial	white, black markings, according to NIST H 44
Lens	Acrylic glass (perspex), unbreakable
Weight	35 lbs
Platform height	0.67 in



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Operation

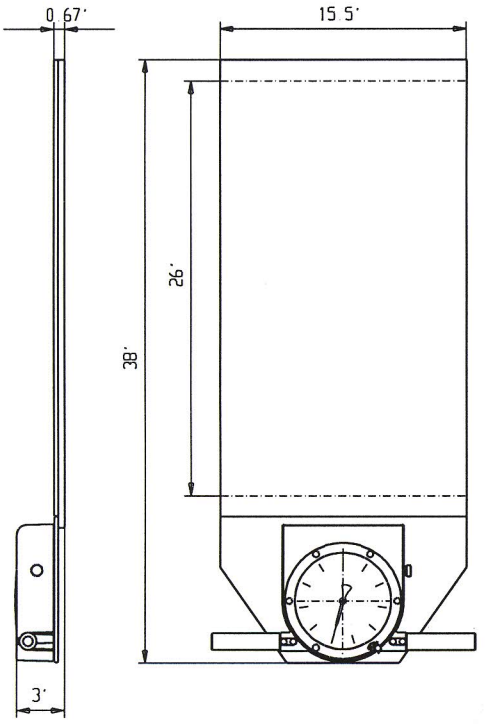
Because of its lightweight the wheel load scale WL101 is easy to transport and can be used at any time without the need of ramps.
For efficient measurements it is recommended to work with at least two units.
Measurements should be made on firm and level ground.
The scale is placed close to in front of the wheel to be tested and the vehicle is driven onto the platform.
The wheel load is indicated directly on the dial of the instrument.

Official Test

In most countries official test laboratories approve the wheel load scale WL 101.

Wheel Load Scale WL 101

Dimensions



Construction and Function

The wheel load scale comprises of a flat weighing platform with a laterally mounted indicating instrument.
The weighing platform is equipped with a measuring element in the form of a grid of flat oval tubes, mounted between the massive ground plate and the top plate. All tubes are connected together and to a sensing element located in the indicating instrument. The whole system is filled with a non-freezing liquid and is hermetically sealed. The elastic tubes are compressed when the platform is loaded. A part of the liquid is expelled from the measuring element and produces a deflection of the bellow in the indicating instrument, which is proportional to the applied load. A system of levers, connecting members and a gear movement is converting the deflection into a angle of the pointer, so that the load can be read directly on the dial.
Additionally a temperature measuring system is located in the platform to compensate for all unfavourable temperature influences.
An adjustment device located at the right side of the indicating instrument ensures an exact zero setting of the pointer before any measurement.
The absence of any moving part in the platform and the use of high strength and corrosion resistant materials guarantee both great reliability and a long lifetime. Periodic service and maintenance is not required.
The construction of the platform is specially designed for measuring the weight of vehicles with air filled tires. Hard rubber tires and rigid items as containers and so on, are not suitable because the load will be distributed on a too small surface. In these cases a measurement is possible by using a specially designed HAENNI load distribution pad. Such a pad is also needed for checking the accuracy on a test machine.

Technical Data

Execution		NIST 1)	
Standard		NIST H 44 Class 4	
Range		0...20 000 lb	
Division		50 lb	
Accuracy	at first calibration	±50 lb	(up to 2500 lb)
		±100 lb	(2500...10 000 lb)
		±150 lb	(10 000..20 000 lb)
	in operation	±100 lb	(up to 2500 lb)
		±200 lb	(2500...10 000 lb)
		±300 lb	(10 000..20 000 lb)
Loading limit		22 000 lb	
Permissible load per area		170 lb/in^2	
Loading limit per area		340 lb/in^2	
Temperature range	in operation	0 °F .... 120 °F	
	storage	-20 °F .... 140 °F	
Type of protection (IEC 144)		IP 65	
Operating site		Firm and level ground, max. 10 mm bend through, max. 5% slope (≈3°)	
Dimensions	platform height	0.67 in	
	active surface	26 x 15 in	(170 lb /in^2) 2)
		26 x 15.5 in	(80 lb / in^2) 2)
	overall size	approx. 38 x 3 x 15.5 in	

1) NIST is the abbreviation for National Institute of Standards and Technology (USA)
2) In practical operation the complete surface may be used, because the ground pressure in the marginal area of the tyre foot print does not exceed 6 kg/cm^2 .