

# Wheel Load Scale WL 101

<b>Application</b>	Measurement of wheel and axle loads of vehicles with pneumatic tires
<b>Ranges</b>	0...10 t 0...15 t 0...20 000 lb 0...30 000 lb
<b>Temperature range</b>	-20...+60°C 0...140 °F
<b>Accuracy</b>	OIML No. 76 Class 4 or NIST H 44, optionally with HAENNI works test report or intended for official test
<b>Materials</b>	Corrosion resistant aluminium-alloys and stainless steel
<b>Type of protection</b>	Watertight IP 65 (DIN 40050, IEC 144)
<b>Dial</b>	white, black markings, according to OIML No. 76 respectively NIST H 44
<b>Lens</b>	Acrylic glass (perspex), unbreakable
<b>Weight</b>	16 kg
<b>Platform height</b>	17 mm



## Selection Chart

<b>Ordering example:</b>	<b>WL 101 / 4 1 1 . 1 1 1 / 10Y / . . . .</b>				
<b>Temperature range and standard</b>	- 20 . . . + 60°C OIML Nr. 76 Cl. 4	<b>4</b>	<b>1</b>	<b>1</b>	<b>1 1 1 1</b>
	0...140°F NIST H 44 Cl. 4	<b>6</b>	<b>1</b>	<b>1</b>	<b>1 1 1 1</b>
<b>Ranges</b>	0 . . . 10t	<b>10Y</b>			
	0 . . . 15t	<b>20Y</b>			
	0...20 000 lb	<b>60Y</b>			
	0...30 000 lb	<b>70Y</b>			
<b>For official test</b>	The ordering code is determined after the approval procedure				

## Accessories

For accessories as levelling mats, pads for weighing point loads, carrying cases etc. refer to data sheet W9.100.

## Operation

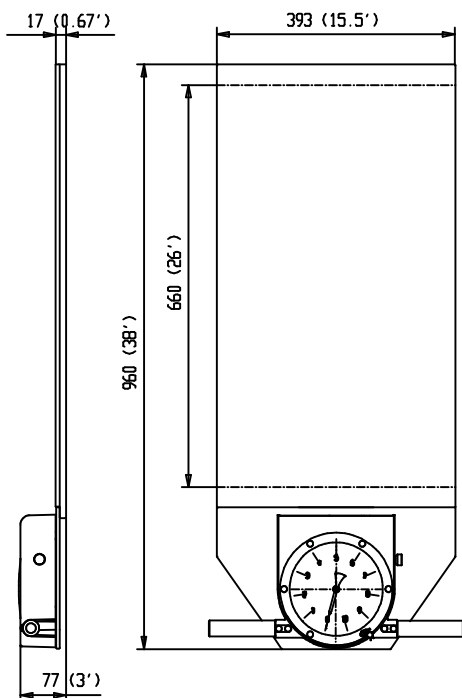
Because of its light weight the wheel load scale WL101 is easy to transport and can be used at any time without the need of ramps. For efficient measurements it is recommended to work with at least two units. Measurements should be made on firm and level ground. The scale is placed close to in front 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 the wheel load scale WL 101 is approved by official test laboratories.

# 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 an 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	OIML <sup>1)</sup>	NIST <sup>1)</sup>		
Standard	OIML No. 76 Class 4	NIST H 44 Class 4		
Range	0...10 t, 0...15 t	0...20 000 lb	0...30 000 lb	
Division	50 kg	50 lb	100 lb	
Accuracy	on calibration	±25 kg (up to 2,5 t)	±50 lb (up to 2500 lb)	±100 lb (up to 5000 lb)
		±50 kg (2,5 t...10 t)	±100 lb (2500...10 000 lb)	±200 lb (5000...20 000 lb)
		±75 kg (10 t...15 t)	±150 lb (10 000...20 000 lb)	±300 lb (20 000...30 000 lb)
	in operation	±50 kg (up to 2,5 t)	±100 lb (up to 2500 lb)	±200 lb (up to 5000 lb)
		±100 kg (2,5 t...10 t)	±200 lb (2500...10 000 lb)	±400 lb (5000...20 000 lb)
		±150 kg (10 t...15 t)	±300 lb (10 000...20 000 lb)	±600 lb (20 000...30 000 lb)
Loading limit	0...10 t: 12,5 t	22 000 lb	33 000 lb	
	0...15 t: 16 t			
Permissible load per area	0...10 t: 12 kg/cm <sup>2</sup>	170 lb/in <sup>2</sup>	210 lb/in <sup>2</sup>	
	0...15 t: 15 kg/cm <sup>2</sup>			
Loading limit per area	0...10 t: 24 kg/cm <sup>2</sup>	340 lb/in <sup>2</sup>	430 lb/in <sup>2</sup>	
	0...15 t: 30 kg/cm <sup>2</sup>			
Temperature range	in operation	-20°C .... +60°C		
	storage	-30°C .... +60°C		
Type of protection (DIN40 050, IEC 144)	IP 65			
Operating site	Firm and level ground, max. 10 mm bend through, max. 5% slope (≈3°)			
Dimensions	platform height	17 mm	0.67 in	
	active surface	660 x 380 mm (12 kg/cm <sup>2</sup> ) <sup>2)</sup>	26 x 15 in (170 lb/in <sup>2</sup> ) <sup>2)</sup>	26 x 15 in (210 lb/in <sup>2</sup> ) <sup>2)</sup>
		660 x 393 mm (6 kg/cm <sup>2</sup> ) <sup>2)</sup>	26 x 15.5 in (80 lb/in <sup>2</sup> ) <sup>2)</sup>	26 x 15.5 in (100 lb/in <sup>2</sup> ) <sup>2)</sup>
	overall size	ca. 960 x 77 x 393 mm		ca. 38 x 3 x 15.5 in

<sup>1)</sup> OIML is the abbreviation for Organisation Internationale de Métrologie Légale. NIST is the abbreviation for National Institute of Standards and Technology (USA)

<sup>2)</sup> 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<sup>2</sup>.