

# Model 1311/1391 Shear-web Compression Load Cells



## Features

- shear-web configuration
- capacity ranges from 10 klb to 200 klb
- accuracy up to 0.02 %fs
- mild steel construction with nickel plated treatment (1311)  
17-4PH construction (1391)
- environment protection up to IP 67



## Applications

- vehicle scales
- tank and hopper scales

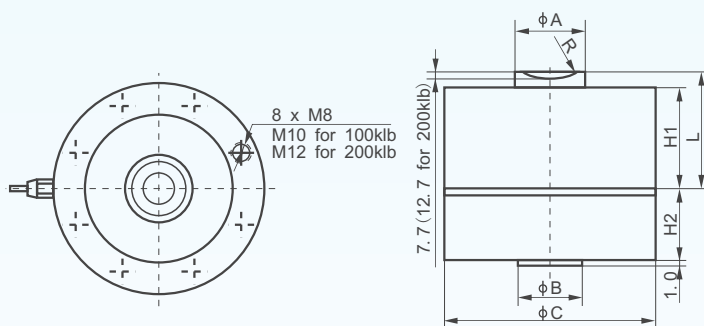
## Description

Model 1311/1391 is compression load cell made of shear-web working principle. These load cells are relatively insensitive to the extraneous load and moments (torque).

1311/1391 load cells have wide load capacities from 10 klb to 200 klb, and the measuring accuracy is up to 0.02%fs (fs = full scale).

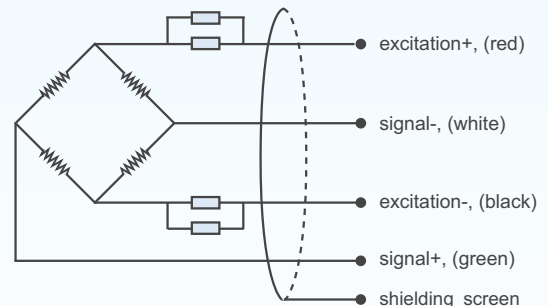
1311 load cells are made from mild steel, while 1391 load cells are made from 17-4PH stainless steel. These load cells are rugged in design and can be used in applications in harsh industrial environment. 1311/1391 load cells are widely used in truck scales, track, tank and hopper scales.

## Dimensions



Capacity	A	B	C	R	L	H1	H2
5-10klb	32	32	105	16	46	34	19
20-50klb	40.6	32	121	22.2	53	47	19
100klb	51	32	141	22.6	57.6	51	29
200klb	76	51	200	44.2	83	70	42

## Electrical connections



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### Technical Data

parameters	units	specifications	
capacity	klb	10, 20, 30, 50, 70, 100, 200	
safe load limit	%fs	150	
ultimate overload	%fs	200	
output sensitivity at fs	mV/V	2.0 ± 0.04	4.0 ± 0.04
zero unbalance	%fso	± 1	
non-linearity	%fs	± 0.02	± 0.03
hysteresis	%fs	± 0.02	± 0.03
repeatability	%fs	± 0.02	± 0.03
creep error (30 min.)	%fs	± 0.02	± 0.03
excitation (supply voltage)	Vdc	10 (recommended), 9, ..., 12	
max. excitation voltage	Vdc	18	
input resistance	Ω	365 ± 10 (standard), 725 ± 10	
output resistance	Ω	350 ± 10 (standard), 700 ± 10	
insulation resistance	MΩ	≥ 5000@50 Vdc	
storage temp. range	°C	-35 ~ +80	
operating temp. range	°C	-35 ~ +80	
compensated temp. range	°C	-10 ~ +55	
temp. coefficient of span	%fs/°C	± 0.002	
temp. coefficient of zero	%fs/°C	± 0.005	
load cell body material		mild steel (1311), 17-4PH stainless steel (1391)	
sealing		potted	
mechanical interface		refer to the dimensions on the datasheets	
electrical interface		Φ 5.7 mm, 4-conductor shielded cable, PVC jacket, 13 m	
environment protection		IP 66 (standard), IP 67	
unit weight	kg	~ 5.5, ..., 24; to be confirmed when order	

The listed specifications are subject to change without prior notice.

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## Shear-web Compression Load Cells



### Ordering Information

<b>position (pos.) 1: model</b>									
1311: made from mild steel 1391: made from 17-4PH stainless steel									
<b>pos. 2: capacities</b>									
10 klb      100 klb 20 klb      200 klb 30 klb 50 klb 70 klb									
<b>pos. 3: output sensitivity</b>									
2 mV/V									
<b>pos. 4: non-linearity or accuracy class</b>									
0.02 %fs (only available for 2mV/V output) 0.03 %fs									
<b>pos. 5: bridge resistance</b>									
350Ω (Rin = 365±10 Ω, Rout = 350±10 Ω) 700 Ω (Rin = 725±10 Ω, Rout = 700±10 Ω)									
<b>pos. 6: threads</b>									
8xM8 (cap.<100 klb)      8xM10 (cap.=100 klb)      8xM12 (cap.=200 klb)									
<b>pos. 7: electrical interface</b>									
cable, code = diameter(Φ)/number of conductors/cable jacket/cable length 5.7/4/PVC/L = Φ5.7 mm,4-conductors shielded, PVC, length = 13* m									
<b>pos. 8: environment protection</b>									
IP 66 (standard) IP 67									
<b>pos. 9: accessories for installation</b>									
NA**. In case of "NA", pos.9 can be omitted.									
<b>pos. 10: customized spec's</b>									
When any customized spec's are required, the customer needs to add "C" as the last parameter in the ordering code, and specifies the wished spec's on his order clearly. The customized spec's needs to be confirmed in advance by BCM's sales representative. Code "C" can be omitted if no customized spec's are required.									
<b>pos.1</b>	<b>pos. 2</b>	<b>pos. 3</b>	<b>pos. 4</b>	<b>pos. 5</b>	<b>pos. 6</b>	<b>pos. 7</b>	<b>pos. 8</b>	<b>pos. 9</b>	<b>pos. 10</b>

\*: This value can be a customized value.

\*\* : NA = not available or not applicable

**example:** 1311-100klb-2mV/V-0.02%fs-700Ω-8xM10-5.7/4/PVC/13-IP66-C



ISO9001 Certified Company

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