

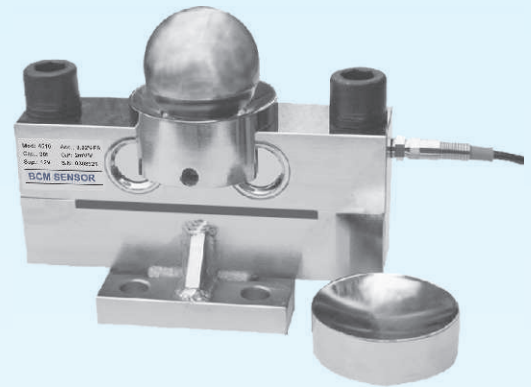
# Model 4510/4590

## Double-ended Shear-beam Load Cells



### Features

- double-ended shear beam
- capacity from 10 t to 50 t
- accuracy up to 0.02%fs
- mild steel construction with nickel plated treatment (4510)  
17-4PH construction (4590)
- environment protection grade up to IP 68 (only for 4590)



### Applications

- vehicle scales
- tank and hopper weighing
- catalyst vessels weighing
- batching plant weighing

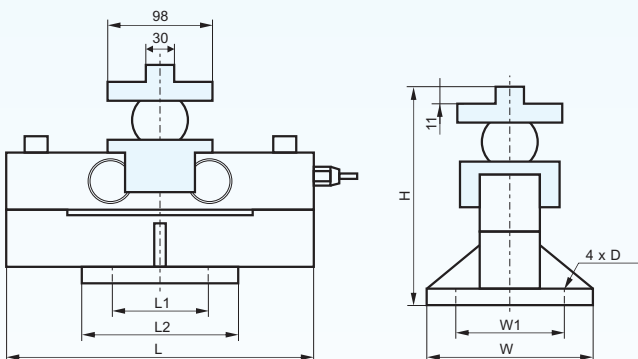
### Description

Based on BCM advanced metal foil strain gauge technology, model 4510/4590 load cells are made of double-ended shear-beam working principle. These load cells are produced with center loading configuration, that is, the load is introduced via a compression nut used at the center of the load cell.

The capacities of 4510/4590 load cells range from 10 t to 50 t with an accuracy up to 0.02%fs (fs = full scale). Thanks to BCM leading technology in sealing, 4510/4590 load cells can be made to a higher protection grade of IP 68, and fit to harsh industrial conditions.

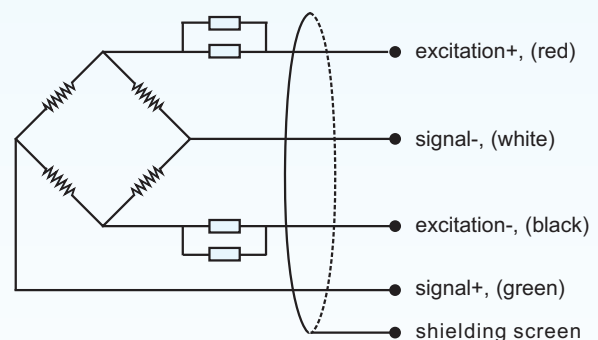
Featuring compact construction and high capacity compared to the single point load cells, 4510/4590 load cells are widely used in applications of vehicle scales, tank and hopper weighing.

### Dimensions



cap. (t)	L1	L2	L	W1	W	H	D
10-40	80	125	240	100	135	225	18
50	124	160	340	124	160	262	21

### Electrical Connection



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# Model 4510/4590

## Double-ended Shear-beam Load Cells



### Technical Data

parameters	units	specifications	
capacity	t	10, 20, 30, 50	
safe load limit	%fs	150	
ultimate overload	%fs	300	
output sensitivity at fs	mV/V	2.0 ± 0.004	
zero unbalance	%fso	± 1	
non-linearity	%fs	± 0.02	± 0.03
hysteresis	%fs	± 0.02	± 0.03
repeatability	%fs	± 0.01	± 0.02
creep error (30 min.)	%fs	± 0.02	± 0.03
excitation (supply voltage)	Vdc	12	
max. excitation voltage	Vdc	18	
input resistance	Ω	730 ± 10	2050 ± 10
output resistance	Ω	700 ± 10	2000 ± 10
insulation resistance	MΩ	≥5000@50 Vdc	
storage temp. range	°C	-35 ~ +80	
operating temp. range	°C	-35 ~ +80 (standard), -35 ~ +150	
compensated temp. range	°C	-10 ~ +55	
temp. coefficient of sensitivity	%fs/°C	± 0.002	± 0.005
temp. coefficient of zero	%fs/°C	± 0.002	± 0.03
load cell body material		mild steel (4510), 17-4PH stainless steel (4590)	
sealing		potted	
mechanical interface		refer to the dimensions on the datasheets	
electrical interface		potted	
environment protection		IP 66 (standard), IP 67, IP 68 (only for 4590)	
unit weight	kg	~ 17.5	

The listed specifications are subject to change without prior notice.

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# Model 4510/4590

## Double-ended Shear-beam Load Cells



### Ordering Information

<b>position (pos.) 1: model</b>									
4510: made from mild steel 4590: made from 17-4PH stainless steel									
<b>pos. 2: capacities</b>									
10 t 20 t 30 t 50 t									
<b>pos. 3: output sensitivity</b>									
2 mV/V									
<b>pos. 4: non-linearity or accuracy class</b>									
0.02 %fs    0.03 %fs									
<b>pos. 5: bridge resistance</b>									
700 Ω (Rin = 730±30 Ω, Rout = 700±10 Ω) 2000 Ω (Rin = 2050±10 Ω, Rout = 2000±10 Ω) (for non-linearity=0.03%fs)									
<b>pos. 6: operating temperature range</b>									
std: -35 ~ +80 °C hTemp: -35 ~ +150 °C									
<b>pos. 7: electrical interface</b>									
cable, code = diameter(Φ)/number of conductors/cable jacket/cable length 6.3/4/PVC/13 = Φ6.3 mm, 4-conductors shielded, PVC, length = 13* m									
<b>pos. 8: environment protection</b>									
IP 66 IP 67 IP 68 (only for 4590)									
<b>pos. 9: accessories for installation</b>									
N = 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.									
pos.1	pos. 2	pos. 3	pos. 4	pos. 5	pos. 6	pos. 7	pos. 8	pos. 9	pos. 10

\*: This value can also be a customized value.

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

**example:** 4510-50t-2mV/V-0.02%fs-700Ω-std-6.3/4/PVC/13-IP66-C



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