

## 2. General Specifications

### 2.1. Rated Capacity (RL: Rated Load, RC: Rated Capacity)

Rated capacity is defined as the maximum load that a load cell can measure while meeting its specifications. It is also called the rated load. Weighing instruments should be designed so that the load to be measured will be less than the rated capacity.

### 2.2. Rated Output (RO: Rated Output)

Rated output is the difference when there is no load and when there is a load of rated capacity. It is generally expressed in output per excitation voltage (mV/V); alternatively called “span.”

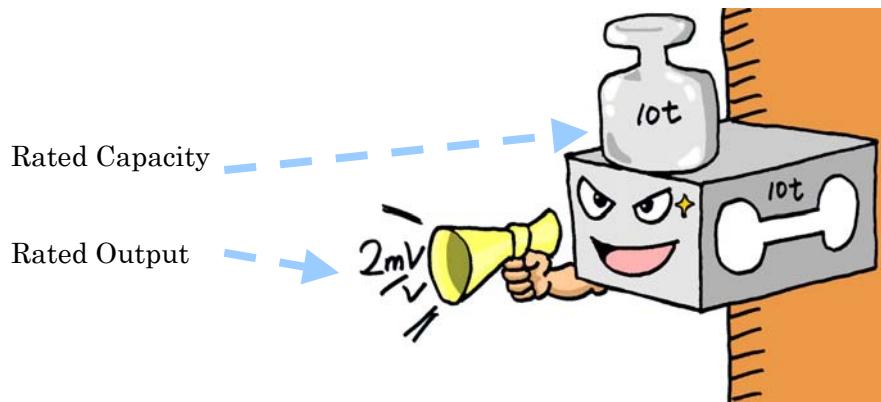
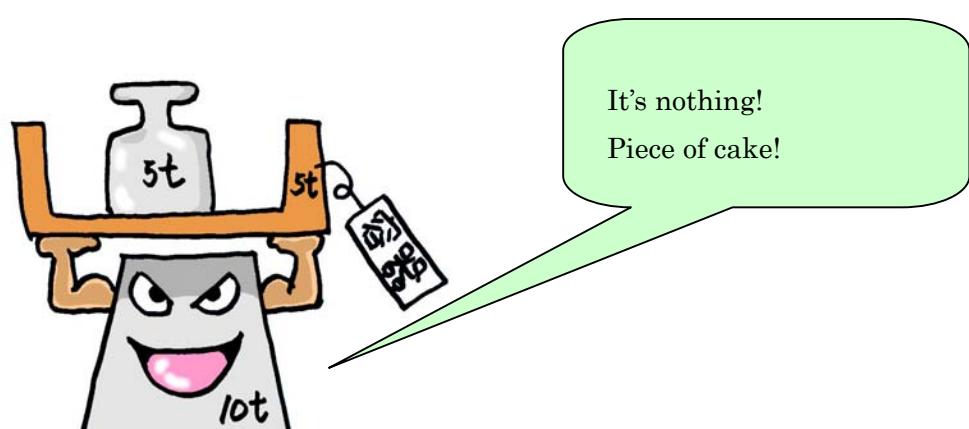


Figure 3.1

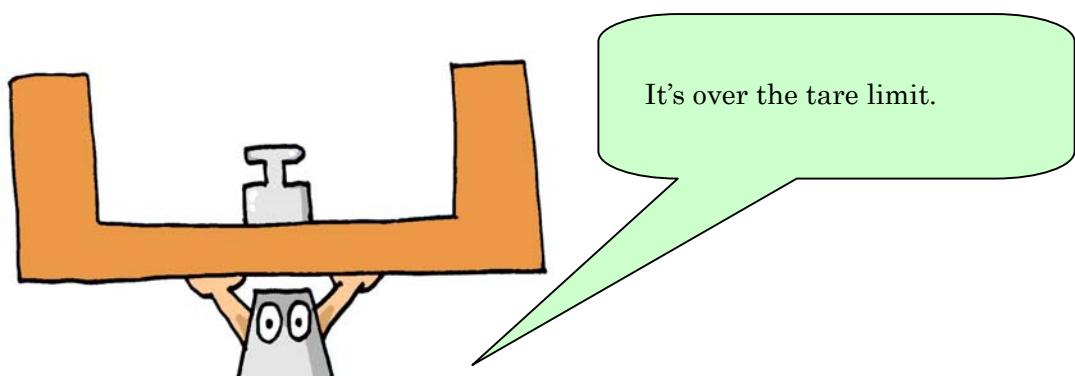
### 2.3. Maximum Deadweight

Maximum deadweight is the maximum tare load that can be applied onto a load cell in addition to the load to be measured.



**Figure 3.2**

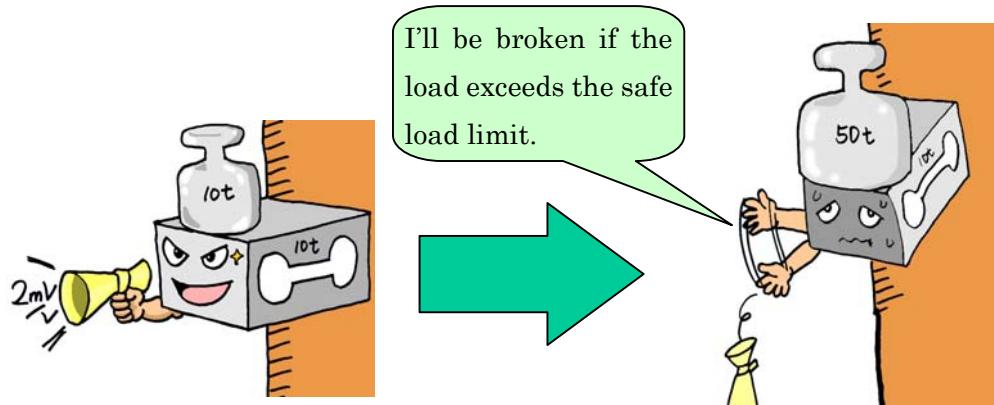
When designing a scale, the weight of tare loads such as weighing pans should be less than the maximum deadweight.



**Figure 3.3**

## 2.4. Safe Load Limit

Safe load limit is the maximum load that can be applied beyond the rated capacity without causing any permanent damage. The safe load limit is expressed as a percentage of rated capacity.



**Figure 3.4**

## **2.5. Compensated Temperature Range**

Compensated temperature range is the temperature range within which the rated output and the zero balance are compensated to meet load cell specifications.

## **2.6. Temperature Effect On Zero Balance**

Drifting of the zero balance caused by changes in the ambient temperature. This value is expressed as a percentage of rated output.

## **2.7. Temperature Effect On Rated Output**

Drifting of the rated output caused by changes in the ambient temperature.

## **2.8. Nonlinearity**

Nonlinearity is the maximum deviation in output from a linear calibration curve linking the zero balance and the rated output, measured only when the load increases. It is expressed as a percentage of the rated output.

## **2.9. Hysteresis Error**

Hysteresis error is the maximum difference in output generated when a load increases and decreases.

## **2.10. Combined Error**

Combined error is the maximum deviation of output from a linear calibration curve linking the zero balance and the rated output, including when a load increases and decreases.

## **2.11. Recommended/Maximum Excitation Voltage**

The recommended/maximum excitation voltage is the voltage applied to the input terminals of a load cell.

## **2.12. Zero Balance**

Zero balance is the electrical output generated when a rated excitation voltage is applied without any load on the cell. It is generally expressed as a percentage of rated output.

## **2.13. Input Terminal Resistance**

Input terminal resistance is measured while the input terminals are open, with no load on the cell.

## **2.14. Output Terminal Resistance**

Output terminal resistance is measured while the input terminals are open, with no load on the cell.

## **2.15. Insulation Resistance**

Insulation resistance is the direct current resistance between a load cell unit and its circuit.