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## TRANSDUCERS

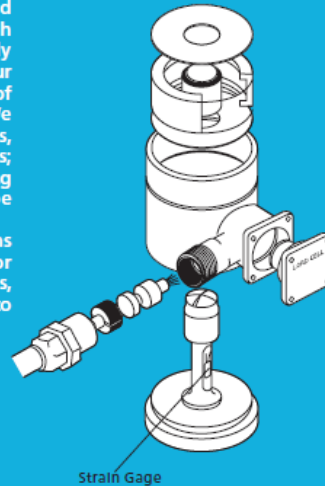
# Load Cells (Load Transducers)

Kyowa's load cells offer outstanding and sustained performance over long-term usage even under harsh operating conditions by adopting our independently developed, dedicated strain gages of excellent accuracy, our superior production technologies, calibration equipment of supreme precision, and our rich experience in this field. We offer a full range of models to satisfy all industrial needs, including models for compression and tension applications; explosion-proof models usable in environments containing dangerously explosive liquids, gases, etc.; washer type models for measuring rolling pressure, etc. Kyowa's load cells can be used in sensing applications ranging from general force measurement in testing or research to measuring and controlling weight (mass) in tanks, hoppers, mills, vehicles, etc. Discounted pricing is available to clients placing high-volume order. Inquiries are welcome.

### Features

- Enable highly accurate measurement
- Stably operate for long-term usage even under harsh conditions
- Ensure long service life against repetitive loads

### Typical Structure



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### Important Notice

Load cells cannot be used under hydrogen environment.

### To Ensure Safe Usage

1. The rated capacity of each load cell is designed for cases of center spindle loads only. In cases involving inclined loads, angular Moments, lateral force or bending Moments, the load cell may be damaged. Contact Kyowa for applications of these types.
2. Loads involving shock or vibration are measured as 'static load x acceleration.' When acceleration is unknown, be sure to prepare sufficient rated capacity.
3. With repetitive tensile load & compressive load use at below 1/2 of the rated capacity in order to extend the fatigue life.
4. Special accessories are designed only for use with Kyowa's load cells.
5. To avoid accidents, make sure to take precautionary measures against unexpected situations caused by a broken load cell.

#### 1) Tension load cells

- Please use special accessories combined by Kyowa for tensile application. Tension load cell special accessories, ring (TRC, TRD), a hook (THC, THD), and a rotary attachment (RJ) are not applicable to compressive load measurement.
- When suspending a load, in the selection of rated capacity for the load cell, please ensure a full margin of safety, and add safety apparatus in order to prevent dropping, etc. (For static breaking load, refer to the special accessories combination measurement table.)
- The tension load cell is joined to the counterpart by screws. Be sure to prevent screws from loosening. If set screws are used for this purpose, counter bore the mating parts to fit set screws. Also, check regularly for any loosening of set screws.

#### 2) Compression load cells

- In the event that the strain column of the load cell buckles, the height is reduced by up to several tens of mm. The load is thereafter supported by the outer case. Examine the effect of such dimensional change on the load cell installation area and equipment.
6. Check periodically to make sure the load cell fixing screws have not become loose. If looseness is found, tighten completely.
  7. Contact Kyowa concerning usages involving legal safety factors, etc. (cranes, etc.)