

1410

## LOAD CELL FOR ROTARY FILLING MACHINES



### FEATURES

- The first and only load cell specifically designed for use in rotary filling machines
- Short settling times
- High resistance to side loads
- Effective isolation of base vibrations
- Centrifugal forces do not affect accuracy
- Two mounting options

### DESCRIPTION

Model 1410 represents a radical new concept in load cell design, which alleviates many of the problems encountered when conventional load cells are used in rotary weighing machines.

Due to a patented damping system, typical settling times of 700ms are dramatically reduced to less than 300ms (depending upon conditions), significantly reducing cycle times and increasing throughput capabilities.

Centrifugal forces are handled in such a way that their effect on output is very small.

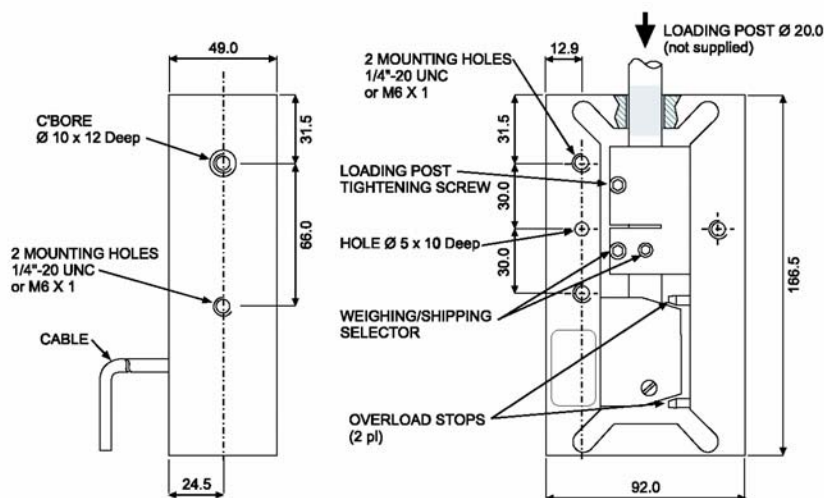
For example, tested up to 20 RPM, total dynamic error amounted to less than 0.2 gram per kg. Also the model 1410 provides excellent isolation of base vibrations. Both features enable use of higher machine speeds without loss of accuracy.

The uniquely rugged construction of the model 1410 is very resistant to side loads and can therefore withstand bottle jams and other mishaps.

### APPLICATIONS

- Rotary filling machines

### OUTLINE DIMENSIONS in millimeters



For different mounting configuration consult factory.



## SPECIFICATIONS

| PARAMETER   | VALUE  |       | UNIT                                  |
|---|--|-------|---------------------------------------|
| Rated capacity-R.C. ( $E_{max}$ )   | 10, 20, 30   |       | kg                                    |
| T-H Accuracy class  | E  | G     |                                       |
| Rated output-R.O.   | 2  |       | mV/V                                  |
| Rated output tolerance  | 0.3  |       | ±mV/V                                 |
| Zero balance  | -0.0 / +0.2  |       | ±mV/V                                 |
| Total static error at room temperature per OIML   | 0.05   | 0.02  | ±% of R.O.                            |
| Dynamic error: speed range of 0 to 15rpm, rotational radius of 1m, load placed on platform located 14cm above top surface of load-cell & connected by 3/4" or 20mm dia. steel shaft | 0.04   |       | ±% of the static reading at same load |
| Creep & Zero return (30 min.)   | 0.05   | 0.025 | ±% of load                            |
| Temperature effect on zero  | 0.010  | 0.004 | ±% of R.O./°C                         |
| Temperature effect on output  | 0.003  | 0.001 | ±% of load/°C                         |
| Temperature range, compensated  | +5 to +40  |       | °C                                    |
| Temperature range, safe   | -30 to +70   |       | °C                                    |
| Maximum safe static overload, positive  | 160<br>Factory adjusted to 120 ... 160% of R.C.  |       | % of R.C.                             |
| Maximum safe static overload, negative  | -120<br>Factory adjusted to -30 ... -120% of R.C.  |       | % of R.C.                             |
| Ultimate static overload (central loading)  | 300  |       | % of R.C.                             |
| Excitation, recommended   | 10   |       | Vdc or Vac rms                        |
| Excitation, maximum   | 15   |       | Vdc or Vac rms                        |
| Input impedance   | 415±15   |       | Ohms                                  |
| Output impedance  | 350±3  |       | Ohms                                  |
| Insulation resistance   | >2000  |       | Mega-Ohms                             |
| Cable length  | 0.6  |       | m                                     |
| Construction  | Anodized aluminum  |       |                                       |
| Damping   | Internal silicone fluid damping. Piston has two positions: Working and shipping. In shipping position the cylinder is sealed |       |                                       |

### Wiring Schematic Diagram (unbalanced bridge configuration)

