

RC3 compression load cell



product description

Flintec pioneered the concept of the single column compression load cell – the RC3. Compact and yet very robust the RC3 is available in a very wide range of capacities from 7.5t through to 300t. The rocker column design ensures that the optimum weighing accuracy is achieved when subjected to scale deck movement. Fully hermetically sealed and constructed from stainless steel the RC3 is a more economical solution to the RC1 load cell.

applications

Truck scales, railroad scales, high capacity scales, silo weighing systems.

key features

All stainless-steel construction

Hermetically sealed to IP68

Self-restoring column design

Wide range of capacities from 7.5t through to 300t

High input resistance

Calibration in mV/V/Ω

approvals

OIML approvals to C1 (Y = 5,000), C3, C3 M18 and C4 (Y = 15,000) are available for models with capacities from 7.5t to 50t only

NTEP approval to 10,000 intervals, Class III L (for 7.5t to 50t)

ATEX hazardous area approval for zones 0, 1, 2, 20, 21 and 22

FM hazardous area approval

accessories + options

Compatible range of application hardware and electronics

Integrated surge arrestors

Y = 10,000 for C3 (30t, 40t)

Optional rubber sleeve (30t, 40t)



RoHS compliant



 **flintec**
quality + precision

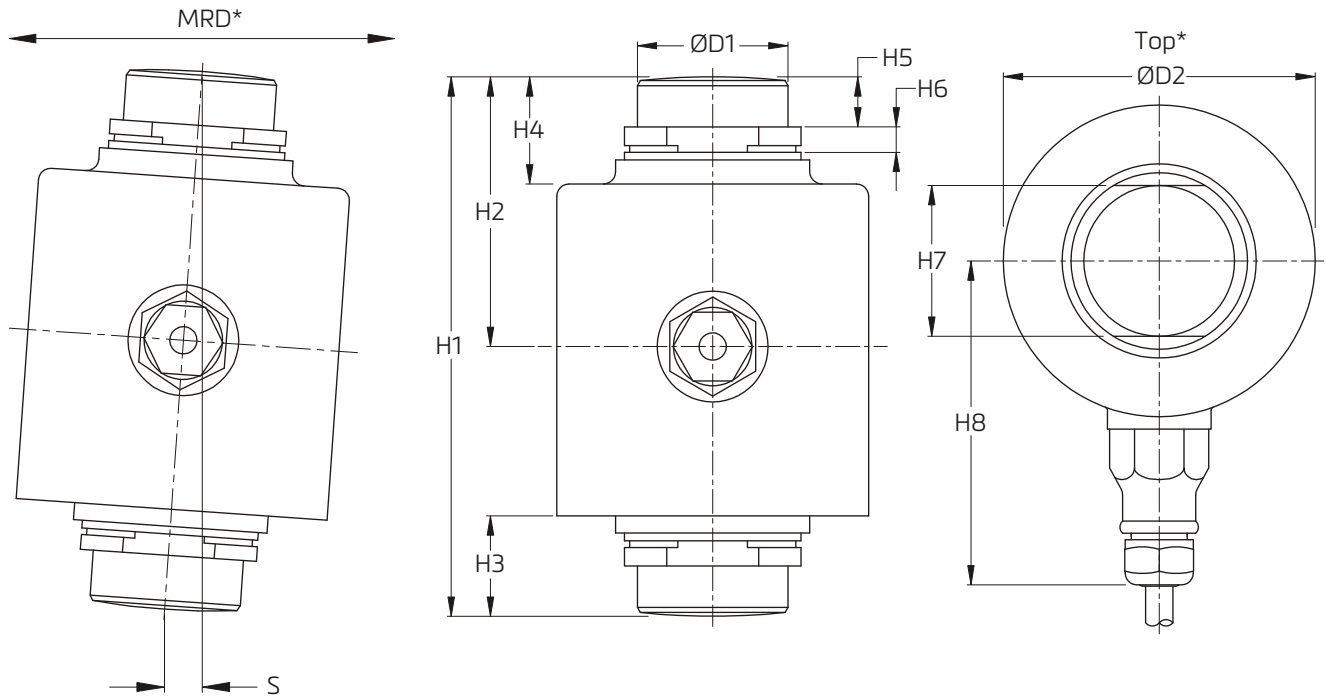
specifications

| | | | | | | |
|--|--------------|--|--------------------------------|---|----------|----------|
| Maximum capacity (E_{max}) | t | 7.5 / 15 / 22.5 / 30 / 40 / 50 / 100 / 150 / 300 | 7.5 / 15 / 22.5 / 30 / 40 / 50 | | | |
| Accuracy class according to OIML R60 | | (GP) | C1 | C3 | C3 MI 8 | C4 |
| Maximum number of verification intervals (n_{LC}) | | n.a. | 1,000 | 3,000 | | 4,000 |
| Minimum load cell verification interval (v_{min}) | | n.a. | $E_{max} / 5,000$ | $E_{max} / 15,000$ | | |
| Temp. effect on minimum dead load output (TC_0) | %*RO/10°C | ± 0.0400 | ± 0.0280 | ± 0.0093 | | |
| Temperature effect on sensitivity (TC_{RO}) | %*RO/10°C | ± 0.0200 | ± 0.0160 | ± 0.0100 | | ± 0.0080 |
| Combined error | %*RO | ± 0.0500 | ± 0.0300 | ± 0.0200 | ± 0.0180 | ± 0.0180 |
| Non-linearity | %*RO | ± 0.0400 | ± 0.0300 | ± 0.0166 | ± 0.0166 | ± 0.0125 |
| Hysteresis | %*RO | ± 0.0400 | ± 0.0300 | ± 0.0166 | ± 0.0100 | ± 0.0125 |
| Creep error (30 minutes) / DR | %*RO | ± 0.0600 | ± 0.0490 | ± 0.0166 | ± 0.0062 | ± 0.0125 |
| Option: Min. load cell verification interval ($v_{min opt}$) | | n.a. | n.a. | $E_{max} / 10000$ | n.a. | n.a. |
| Option: Temp. effect on min. dead load output ($TC_0 opt$) | %*RO/10°C | n.a. | n.a. | ± 0.0140 | n.a. | n.a. |
| Minimum dead load (E_{min}) | | 0%* E_{max} (30 / 40 / 50 / 100) | | 2%* E_{max} (7.5 / 15 / 22.5 / 150 / 300) | | |
| Rated Output (RO) | mV/V | 2 ± 0.1% | | | | |
| Calibration in mV/V/Ω (A...I classified) | % | ± 0.05 (± 0.005) | | | | |
| Zero balance | %*RO | ± 5 | | | | |
| Excitation voltage | V | 5...15 | | | | |
| Input resistance (R_{LC}) | Ω | 1,150 ± 50 | | | | |
| Output resistance (R_{out}) | Ω | 1,000 ± 2 | | | | |
| Insulation resistance (100 V DC) | MΩ | ≥ 5,000 | | | | |
| Safe load limit (E_{lim}^I) | %* E_{max} | 200 | | | | |
| Ultimate load | %* E_{max} | 300 | | | | |
| Compensated temperature range | °C | -10...+40 | | | | |
| Operating temperature range | °C | -40...+80 (ATEX -40...+60) | | | | |
| Load cell material | | stainless steel 17-4 PH (1.4548) | | | | |
| Sealing | | complete hermetic sealing; cable entry sealed by glass to metal header | | | | |
| Protection according EN 60 529 | | IP68 (up to 2m water depth) / IP69K | | | | |
| Packet weight | kg | 1.3 (7.5t), 1.4 (15t), 1.5 (22.5t), 3.4 (30t), 3.6 (40t), 4.5 (50t), 12.9 (100t), 17.1 (150t), 32.8 (300t) | | | | |

The limits for Non-Linearity, Hysteresis, and TC_{RO} are typical values.

The sum of Non-linearity, Hysteresis and TC_{RO} meets the requirements according to OIML R60 with $p_{LC}=0.7$.

product dimensions (mm)



MRD* - Mandatory main rocking direction

Top* - Top view

| Type | H1 | H2 | H3 | H4 | H5 | H6 | H7 | H8 | D1 | D2 | S _{max} * | RF** | S _{nom} *** |
|--------|-----|-----|------|------|------|------|------|-------|------|-----|--------------------|--------|----------------------|
| 7.5 t | 89 | 44 | 17 | 23 | 11 | 6 | 28 | 75 | 28 | 69 | 4.5 | 11 kN | 0.5 |
| 15 t | | | | | | | | | | | | 20 kN | 0.6 |
| 22.5 t | | | | | | | | | | | | 30 kN | 0.6 |
| 30 t | 140 | 70 | 26 | 28 | 13 | 6.5 | 39 | 84 | 39 | 81 | 10.5 | 34 kN | 0.29 |
| 40 t | 150 | 75 | 31 | 33 | | 11.7 | | | | | | 37 kN | 0.8 |
| 50 t | 178 | 89 | 32 | 34 | 17 | 8.5 | 44 | 94 | 44 | 99 | 9 | 51 kN | 1 |
| 100 t | | | 38.5 | 38.5 | | 12 | | | | | | 62 | 62 |
| 150 t | 210 | 105 | 42.7 | 42.7 | 20.6 | 12.8 | 76.2 | 121.5 | 76.2 | 165 | 14.5 | 240 kN | 0.35 |
| 300 t | 280 | 140 | 55.9 | 55.9 | 25 | 21.5 | 100 | | | | | 100 | 15 |

*S_{max} - maximum lateral displacement of load introduction. Recommended gap 2...3 mm for 7.5...22.5 t, 3...5 mm for 30...300 t.

**RF - restoring force at S_{max} and E_{max}.

***S_{nom} = deflection, max. elastic deformation under nominal load in mm

wiring

The load cell is provided with a shielded, 4 conductor cable (7.5 to 22.5t: AWG 24; 30t + 40t: AWG 20 or AWG 24; 50 t or higher: AWG 20).

Cable jacket: polyurethane

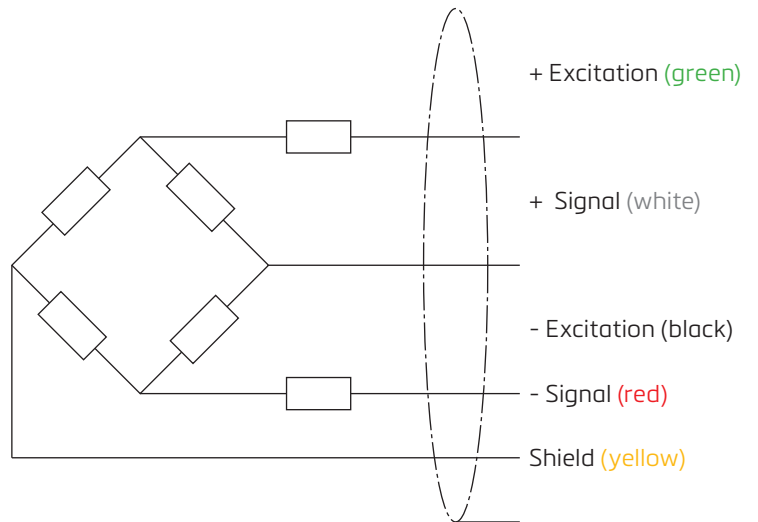
Cable length: 12m for 7.5 to 22,5 t

18m for 30 to 300 t / on request various length available

Cable diameter: 5 mm for 7.5 to 22.5 t (30 t and 40 t as an option)

7.8 mm for 30 to 300 t

The shield is floating (On request the shield can be connected to the load cell body)



Specifications and dimensions are subject to change without notice.