

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 C3.5, C3 MI7 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

Optional rubber sleeve (30t, 40t)



RoHS compliant



specifications

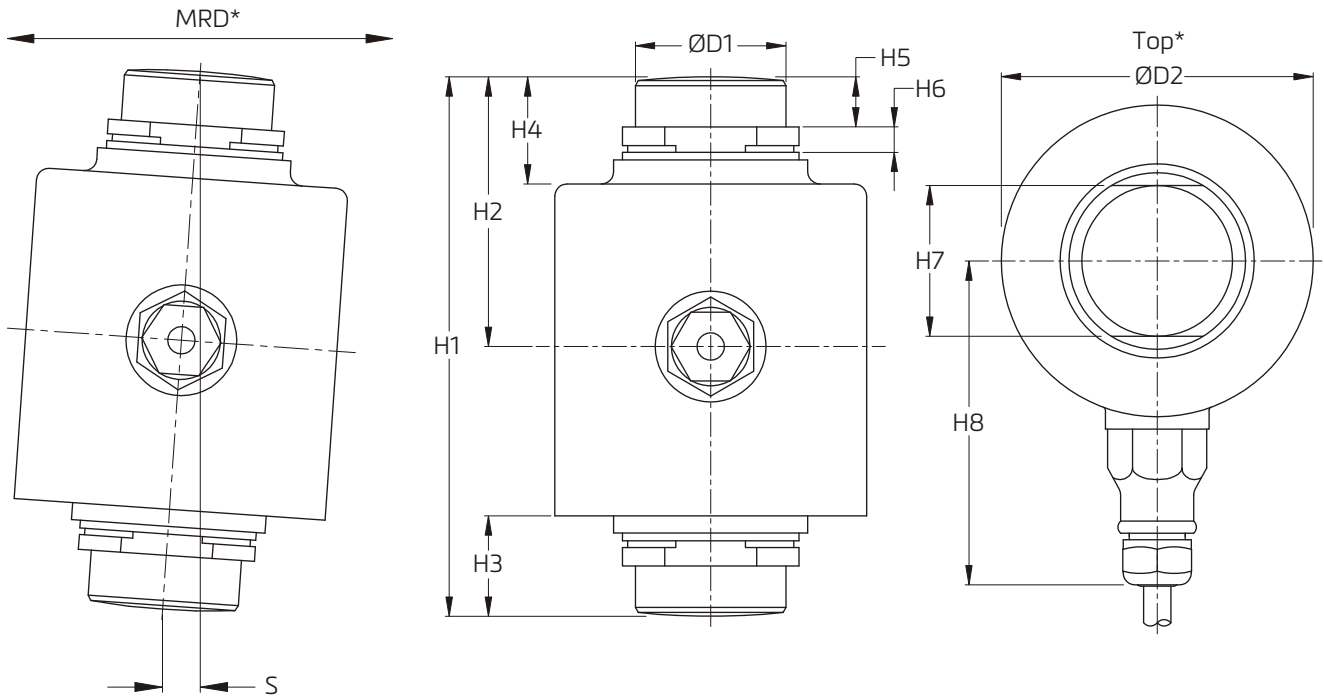
Available models	-	RC3 / RC3-TS*				
Accuracy class according to OIML R60	-	(GP)	C3	C3	C3 MI7	C4
Available maximum capacities (E_{max})	t	7.5 / 15 / 22.5 / 30 / 40 / 50 / 100 / 150 / 300	7.5 / 15 / 22.5	30 / 40 / 50	30 / 40 / 50	30 / 40 / 50
Maximum number of verification intervals (n_{LC})	-	n.a.	3500	3000	3000	4000
Minimum load cell verification interval (v_{min})	-	n.a.	$E_{max} / 10000$	$E_{max} / 15000$	$E_{max} / 15000$	$E_{max} / 15000$
Temp. effect on minimum dead load output (TC_0)	%*RO/10°C	± 0.0400	± 0.014	± 0.0093	± 0.0093	± 0.0093
Temperature effect on sensitivity (TC_{RD})**	%*RO/10°C	± 0.0200	± 0.01	± 0.01	± 0.01	± 0.008
Combined error***	%*RO	± 0.0500	± 0.02	± 0.02	± 0.018	± 0.018
Non-linearity**	%*RO	± 0.0400	± 0.0166	± 0.0166	± 0.0166	± 0.0125
Hysteresis**	%*RO	± 0.0400	± 0.0166	± 0.0166	± 0.010	± 0.0125
Creep error (30 minutes) / DR	%*RO	± 0.0600	± 0.0166	± 0.0166	± 0.0070	± 0.0125
Minimum dead load (E_{min})		0%* E_{max}				
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 RC3-TS model is available in 30t and 40t at C3 or C3 MI7 accuracy, and is specifically intended for truck scales.

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

*** The combined error meets the requirements of 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

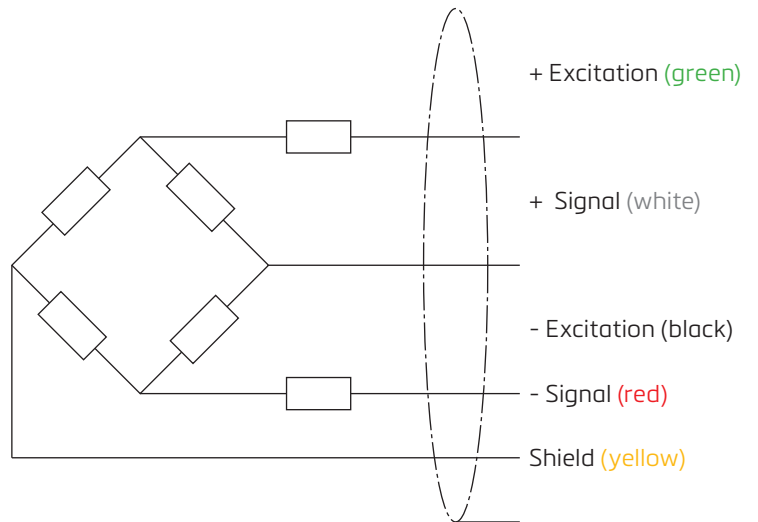
Cable length: 12m for 7.5 to 22,5 t

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.