

COMPRESSION AND TENSION LOAD CELL

TENSION &  
COMPRESSION



- 17-4 PH STAINLESS STEEL
- BIDIRECTIONAL TENSION AND COMPRESSION
- COMBINED ERROR  $\leq \pm 0.05 \%$
- IP68 / IP67 PROTECTION RATING



Manufactured according to OIML R60 standards

NOMINAL LOAD (FS)

| kg      | kN    | Net weight (kg) | Combined error     | EAC | UK CA | ISO 376 | ASTM E74 | Ex | IECEx | EACEx | Ex NEPSY | Rated Output (mV/V) |
|---------|-------|-----------------|--------------------|-----|-------|---------|----------|----|-------|-------|----------|---------------------|
| 500     | 5     | 1.2             | $\leq \pm 0.05 \%$ | •   | •     |         |          | •  | •     | •     | •        | 2 $\pm 0.3 \%$      |
| 1 000   | 10    | 1.2             | $\leq \pm 0.05 \%$ | •   | •     | •       | •        | •  | •     | •     | •        | 2 $\pm 0.3 \%$      |
| 2 000   | 20    | 1.2             | $\leq \pm 0.05 \%$ | •   | •     | •       | •        | •  | •     | •     | •        | 2 $\pm 0.3 \%$      |
| 5 000   | 50    | 1.7             | $\leq \pm 0.05 \%$ | •   | •     | •       | •        | •  | •     | •     | •        | 2 $\pm 0.3 \%$      |
| 10 000  | 1 00  | 1.8             | $\leq \pm 0.05 \%$ | •   | •     | •       | •        | •  | •     | •     | •        | 2 $\pm 0.3 \%$      |
| 20 000  | 200   | 4.8             | $\leq \pm 0.05 \%$ | •   | •     |         |          | •  | •     | •     | •        | 2 $\pm 0.3 \%$      |
| 30 000  | 300   | 5.3             | $\leq \pm 0.05 \%$ | •   | •     |         |          | •  | •     | •     | •        | 2 $\pm 0.3 \%$      |
| 60 000  | 600   | 5.4             | $\leq \pm 0.05 \%$ | •   | •     |         |          | •  | •     | •     | •        | 2 $\pm 0.3 \%$      |
| 100 000 | 1 000 | 12              | $\leq \pm 0.05 \%$ | •   | •     |         |          | •  | •     | •     | •        | 2 $\pm 0.3 \%$      |
| 150 000 | 1 500 | 15              | $\leq \pm 0.05 \%$ | •   | •     |         |          | •  | •     | •     | •        | 2 $\pm 0.3 \%$      |
| 200 000 | 2 000 | 25              | $\leq \pm 0.05 \%$ | •   | •     |         |          | •  | •     | •     | •        | 2 $\pm 0.3 \%$      |

ON REQUEST



## TECHNICAL DATA

### PRECISION

|                                        |                          |
|----------------------------------------|--------------------------|
| Rated Output (Cn)                      | 2 mV/V $\pm 0.3$ % at FS |
| Zero Balance                           | $\pm 1$ %                |
| Combined error                         | $\leq \pm 0.05$ %FS      |
| Creep                                  | 0.3 % (at 30 min FS)     |
| Temperature coefficient of zero        | 0.005 %/°C               |
| Temperature coefficient of sensitivity | 0.005 %/°C               |
| Compensated temperature range          | -20...+70 °C             |
| Operating temperature range            | -30...+90 °C             |

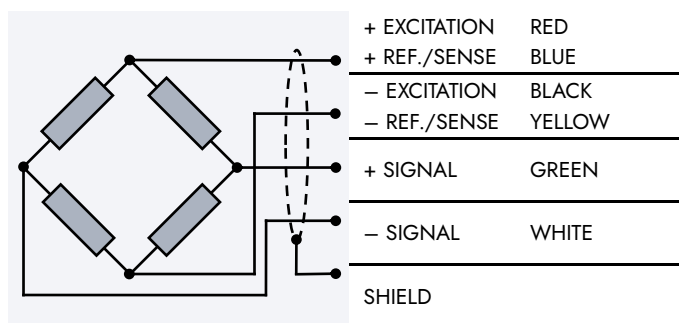
### MECHANICAL PROPERTIES

|                  |                         |
|------------------|-------------------------|
| Material         | 17-4 PH stainless steel |
| Deflection at FN | 0.3 mm                  |

### ELECTRICAL PROPERTIES

|                                    |                                |
|------------------------------------|--------------------------------|
| Bridge configuration               | Full Wheatstone bridge, 6-wire |
| Input resistance                   | 700 $\Omega$ $\pm 20$          |
| Output resistance                  | 700 $\Omega$ $\pm 5$           |
| Insulation resistance              | > 5 000 M $\Omega$             |
| Max. supply voltage without damage | 15 V                           |
| Cable diameter                     | 5 mm                           |
| Cable cores                        | 6 x 0.14 mm <sup>2</sup>       |
| Cable length                       | 5 000 mm                       |

### ELECTRICAL CONNECTION

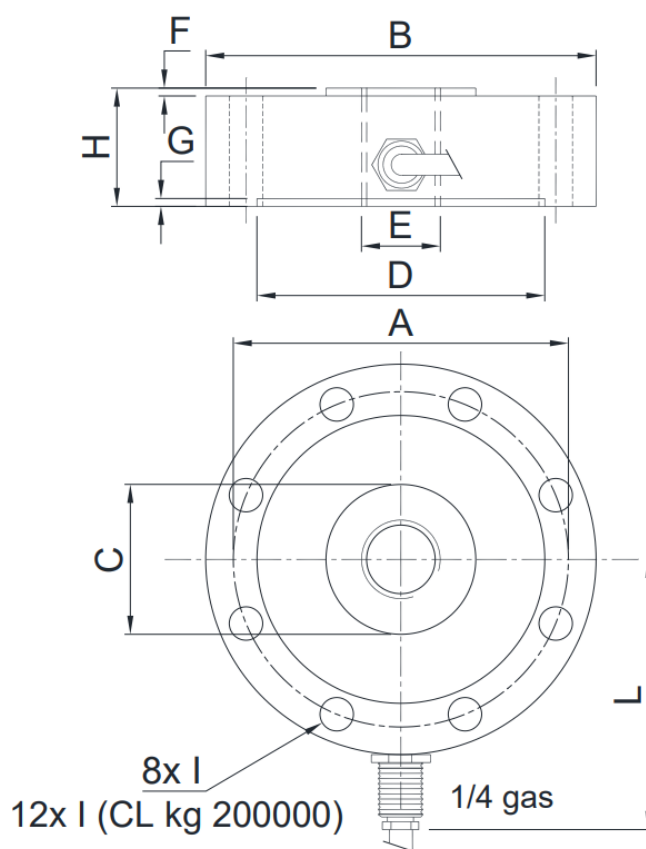


### MECHANICAL LIMITS

|                   |         |                                                                                        |
|-------------------|---------|----------------------------------------------------------------------------------------|
| Safe overload     | 150 %FS | The highest static load that may be applied once or briefly without mechanical damage. |
| Ultimate overload | 300 %FS | Load at which permanent deformation or mechanical failure (fracture) occurs.           |



## DIMENSIONS (mm)



|             | kg 500<br>kg 1000<br>kg 2000 | kg 5000<br>kg 10000 | kg 20000<br>kg 30000<br>kg 60000 | kg 100000 | kg 150000 | kg 200000 |
|-------------|------------------------------|---------------------|----------------------------------|-----------|-----------|-----------|
| A           | Ø 85                         | Ø 94                | Ø 136                            | Ø 175     | Ø 213     | Ø 254     |
| B           | Ø 99                         | Ø 109               | Ø 164                            | Ø 219     | Ø 249     | Ø 299     |
| C           | Ø 31                         | Ø 38                | Ø 70                             | Ø 88      | Ø 140     | Ø 170     |
| D           | Ø 72                         | Ø 78                | Ø 113                            | Ø 135     | Ø 176     | Ø 210     |
| E           | M20 x 1.5                    | M24 x 2             | M48 x 3                          | M64 x 4   | M72 x 4   | M90 x 6   |
| F           | 2                            | 2                   | 5                                | 5         | 5         | 5         |
| G           | 1.5                          | 1.5                 | 2                                | 3         | 3         | 3         |
| H           | 30                           | 35                  | 50                               | 70        | 70        | 80        |
| I           | Ø 8.5                        | Ø 8.5               | Ø 16.5                           | Ø 26      | Ø 26      | Ø 26      |
| L           | 68.5                         | 73.5                | 101                              | 128.5     | 143.5     | 168.5     |
| Weight (kg) | 1.1                          | 1.4                 | 5                                | 11        | 16        | 26        |

| Screw | Class 6.8 / A2-70 | Class 8.8 / A2-80 |
|-------|-------------------|-------------------|
| M8    | 15 Nm             | 20 Nm             |
| M16   | 120 Nm            | 160 Nm            |
| M24   | 400 Nm            | 550 Nm            |

For the load cell fixing screws (I), provide the tightening torque indicated in the table. For capacities of 10000, 30000, 60000, 150000 and 200000 kg use screws of class 8.8 or higher.



## COMPLIANCE AND CERTIFICATION

|                             |                                                                                                                |                                                                                                   |
|-----------------------------|----------------------------------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------------------|
| Protection Rating           | IP68 (500...60000 kg), IP67 (100000...200000 kg) according to IEC 60529                                        |                                                                                                   |
| Compliance                  | CE, RoHS, REACH                                                                                                |                                                                                                   |
| Calibration                 | Factory calibrated, ISO 17025 calibration available on request                                                 |                                                                                                   |
| HS-CODE                     | 9031.80.80                                                                                                     |                                                                                                   |
| Certifications              |                               | Complies with the Eurasian Customs Union regulations                                              |
|                             |                               | Equivalent of the CE marking for the United Kingdom                                               |
| Certifications (on request) |                               | Calibration report                                                                                |
|                             |                               | LAT Accredia calibration certificate ISO 376 <u>for capacities from 1000 kg to 10000 kg</u>       |
|                             |                              | LAT Accredia calibration certificate ASTM E74 <u>for capacities from 1000 kg to 10000 kg</u>      |
|                             |                             | ATEX (zone 2-22)                                                                                  |
|                             |                             | ATEX/IECEx (zone 1-21)                                                                            |
|                             |                             | Complies with the Eurasian Customs Union regulations for use in potentially explosive atmospheres |
|                             |                             | Complies with Chinese market regulations for use in potentially explosive atmospheres             |
| Options (on request)        | Two redundant strain gauges Wheatstone bridges (350 $\Omega$ ) with two output cables, for dual safety systems |                                                                                                   |

