Delivery: ex stock | Warranty: 24 months

Compression Load Cell

MODEL **8526**

burster TEDS

NEW
Measuring ranges
500 kN/1 MN

Small measuring ranges

Wide measuring range 500 kN

Wide measuring range 1 MN

Highlights

- Measuring ranges from 0 ... 100 N to 0 ... 1 MN, 0 ... 22.4 lbs up to 0 ... 225 klbs
- Extremely compact design
- For static and dynamic measurements
- Three threaded holes on bottom for easy mounting and cable suitable for drag chain application
- Protection class IP64

Options

- Non-linearity 0.1% F.S.
- Standardized output signal
- burster TEDS

Applications

- All forms of test benches
- Reference sensor for comparative and for calibration jobs
- In cramped assembly situations

Product description

Thanks to its compact shape and three fixing holes on its underside, the 8526 compression load cell can be used in a variety of applications. With its wide choice of measuring ranges from 0 ... 100 N up to 0 ... 1 MN, it really can cover a wealth of measurement tasks, from the laboratory to use in heavy industry.

The integral load button provides an easy and reliable means of applying the force to be measured. Angle errors in the load application with a deviation from the measurement axis of up to 3° have only a minor influence on the measurement signal. For ideal measurement accuracy, the load cell should be mounted on a surface that has been ground and has a hardness of at least 60 HRC.

The model 8526 load cell is designed with an internal elastic membrane, to which strain gages are attached. When a compressive load is applied to the load cell, the membrane is elastically deformed and transfers its tension to the strain gages. These in turn respond with a proportional change in their ohmic resistance, which can be evaluated using a suitable instrumentation amplifier or display device.

Technical Data

8526	–	5100	5200	5500	6001	6002	6005	6010
Measuring range calibrated in N and kN from 0 …		0.1 kN	0.2 kN	0.5 kN	1 kN	2 kN	5 kN	10 kN
		22.4 lbs	44.9 lbs	112.4 lbs	224.8 lbs	449.6 lbs	1.1 klbs	2.2 klbs
Accuracy								
Relative non-linearity*		≤ ±0.25 % F.S. (option: ≤ ±0.1 % F.S.)						
Characteristic curve deviation*		≤ ±0.25 % F.S.				≤ ±0.5 % F.S.		
Relative hysteresis		≤ 0.15 % F.S.				≤ 0.5 % F.S.		
Temperature effect on zero output		≤ ±0.02 % F.S./K						
Temperature effect on nominal sensitivity		≤ ±0.03 % F.S./K						
Electrical values								
Sensitivity nominal		1.5 mV/V						
Measurement direction		Compression direction						
Standardization**		option 1.0 mV/V (±0.25 %)				option 1.0 mV/V (±0.5 %)		
Bridge resistance		350 Ω nominal						
Excitation		max. 5 V DC			recommended 5 V DC or AC; max. 10 V DC or AC			
Insulation resistance		> 30 GΩ at 45 V						
Environmental conditions								
Nominal temperature range		+15 °C … +70 °C						
Operating temperature range		-30 °C … +80 °C						
Mechanical values								
Deflection full scale		< 50-70 µm						
Maximum operating force		150 % of capacity						
Overload burst		> 200 % of capacity						
Dynamic performance		recommended: 50 %; maximum: 70 % (of capacity)						
Protection class (EN 60529)		IP64						
Installation								
Intended mounting screws		3 pieces M2.5						
Tightening torque mounting screws	[N*m]	0.7						
Mounting screws		-						
Installation instructions		The entire bearing area of the sensor must be mounted on a base which is hardened (60 HRC), flat, polished or better lapped						
Other								
Material		stainless steel 1.4542						
Natural frequency	[kHz]	2	3	5	8	11	13	15
Mass	[kg]	0.04						0.05

* The data in the area 20 % - 100 % of rated load F

** Realized on board in connection cable, 1.7 m from sensor housing or 0.3 m from cable end (temperature range limited to 0 … +60 °C)

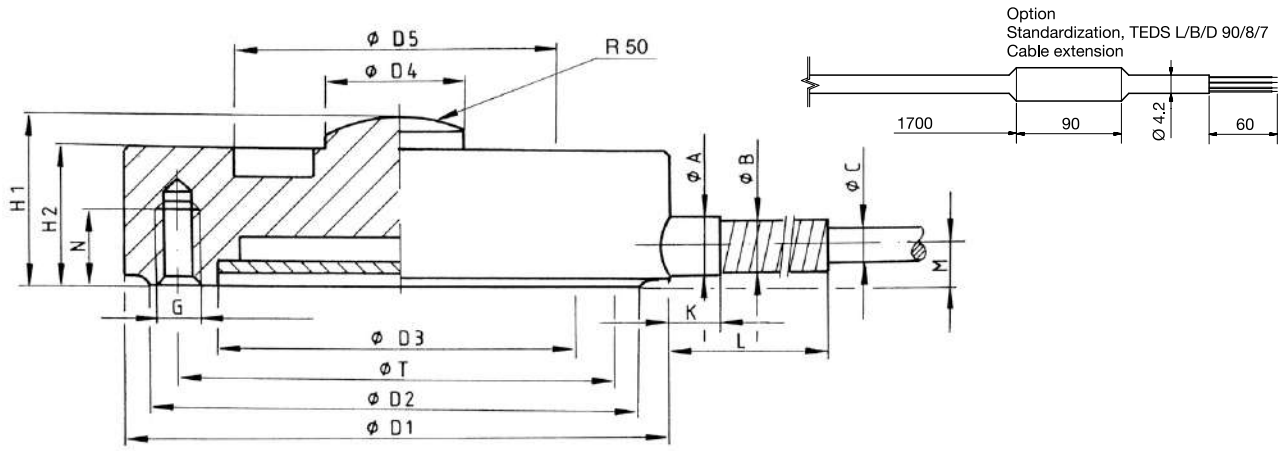
2979-008526EN-5699-011521

8526	–	6020	6050	6100	6200	6500	7001
Measuring range calibrated in N and kN from 0 ...		20 kN	50 kN	100 kN	200 kN	500 kN	1 MN
		4.5 klbs	11.2 klbs	22.5 klbs	45.0 klbs	112 klbs	225 klbs
Accuracy							
Relative non-linearity*		±0.25 % F.S. (option: ±0.1 % F.S.)					
Characteristic curve deviation*		±0.5 % F.S.					
Relative hysteresis		0.5 % F.S.					
Temperature effect on zero output		≤ ±0.02 % F.S./K					
Temperature effect on nominal sensitivity		≤ ±0.03 % F.S./K					
Electrical values							
Sensitivity nominal		1.5 mV/V				2.0 mV/V	
Measurement direction		Compression direction					
Standardization		option 1.0 mV/V (±0.5 %)				option TEDS	
Bridge resistance		350 Ω nominal					
Excitation		recommended 5 V DC or AC; max. 10 V DC or AC					
Insulation resistance		> 30 GΩ at 45 V					
Environmental conditions							
Nominal temperature range		+15 °C ... +70 °C					
Operating temperature range		-30 °C ... +80 °C				0 °C ... +70 °C by using TEDS	
Mechanical values							
Deflection full scale		< 50-70 µm				< 170 µm	< 210 µm
Maximum operating force		150 % of capacity				120 % of capacity	
Overload burst		> 200 % of capacity					
Dynamic performance		recommended: 50 %; maximum: 70 % (of capacity)					
Protection class (EN 60529)		IP64					
Installation							
Intended mounting screws		3 pieces M2.5		3 pieces M4		3 pieces M5	3 pieces M8
Tightening torque mounting screws	[N*m]	0.7	2.5			21	
Mounting screws		-					
Installation instructions		The entire bearing area of the sensor must be mounted on a base which is hardened (60 HRC), flat, polished or better lapped					
Other							
Material		stainless steel 1.4542					
Natural frequency	[kHz]	9	9	6	5	2	1.3
Mass	[kg]	0.05		0.3	1.2	3.4	16.8

* The data in the area 20 % - 100 % of rated load F

** Realized on board in connection cable, 1.7 m from sensor housing or 0.3 m from cable end (temperature range limited to 0 ... +60 °C)

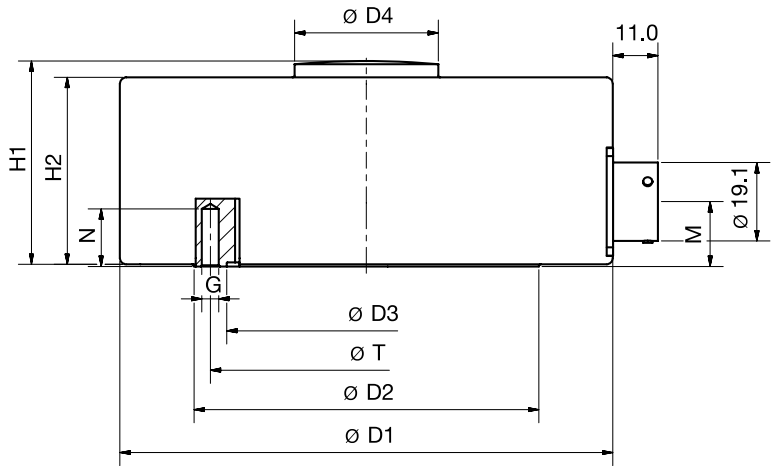
Dimensional drawing 1 – **Measuring ranges from 0 ... 0.1 kN up to 0 ... 200 kN | from 0 ... 22.4 lbs up to 0 ... 45.0 klbs**



8526	–	5100	5200	5500	6001	6002	6005	6010	6020	6050	6100	6200
Measuring range from 0 ...		0.1 kN	0.2 kN	0.5 kN	1 kN	2 kN	5 kN	10 kN	20 kN	50 kN	100 kN	200 kN
Geometry												
Ø D1	[mm]	31.8							38.1		50.8	76.2
Ø D2	[mm]	29.4							35.0		48.0	74.0
Ø D3	[mm]	21.2							28.0		36.0	46.0
Ø D4	[mm]	8.1							10.7		15.2	20.0
Ø D5	[mm]	19							27.0		33.0	45.0
H1	[mm]	9.9							16.0		25.4	38.1
H2	[mm]	8.1							14.0		22.4	33.5
Ø T	[mm]	25.5							31.5		42.0	60.0
Ø A	[mm]	-							-		6.5	
Ø B	[mm]	3.0							4.5			
Ø C	[mm]	2.0							3.0			
K	[mm]	-							-		11.0	
L	[mm]	40.0							40.0		45.0	
M	[mm]	2.5							3.0		6.0	
N	[mm]	3.0							3.5		6.0	
G	[mm]	3 x M2.5									3 x M4	
General tolerance of dimension		ISO 2768-f										

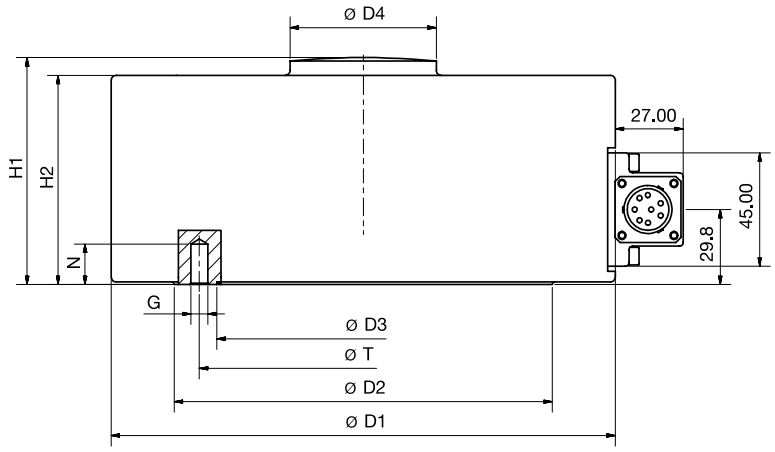
2979-008526EN-5699-011521

Dimensional drawing 2 – **Measuring range from 500 kN | 112 klbs**



8526	-	6500
Measuring range from 0 ...		500 kN
Geometry		
Ø D1	[mm]	120.0
Ø D2	[mm]	84.0
Ø D3	[mm]	68.0
Ø D4	[mm]	35.0
Ø D5	[mm]	60.0
H1	[mm]	50.0
H2	[mm]	46.0
Ø T	[mm]	76.0
Ø A	[mm]	-
Ø B	[mm]	-
Ø C	[mm]	-
K	[mm]	-
L	[mm]	-
M	[mm]	15.75
N	[mm]	12
G	[mm]	3 x M5
General tolerance of dimension		ISO 2768-f

Dimensional drawing 3 – **Measuring range from 1 MN | 225 klbs**



8526	–	7001
Measuring range from 0 ...		1 MN
Geometry		
Ø D1	[mm]	200.0
Ø D2	[mm]	150.0
Ø D3	[mm]	116.0
Ø D4	[mm]	58.0
Ø D5	[mm]	103.0
H1	[mm]	90.0
H2	[mm]	83.0
Ø T	[mm]	130.0
Ø A	[mm]	-
Ø B	[mm]	-
Ø C	[mm]	-
K	[mm]	-
L	[mm]	-
M	[mm]	29.8
N	[mm]	12
G	[mm]	3 x M8
General tolerance of dimension		ISO 2768-f

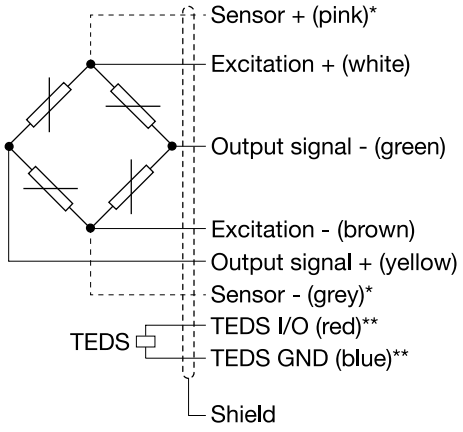
2979-008526EN-5699-011521

Electrical termination

Output signal

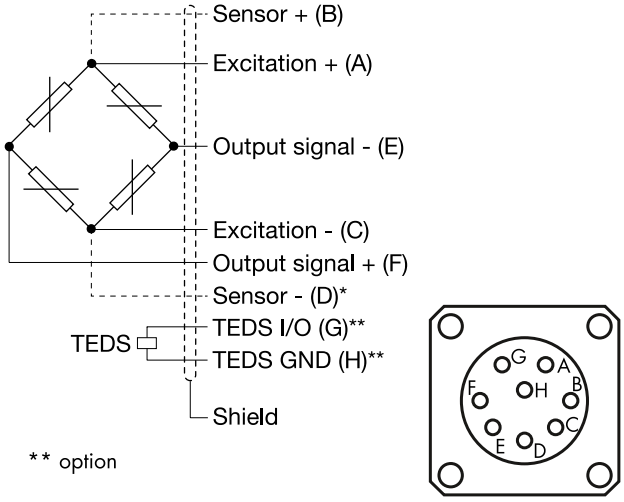
burster load cells are based on a strain-gage Wheatstone bridge. This measurement principle means that the output voltage mV/V is highly dependent on the sensor supply voltage. Our website contains details of suitable instrumentation amplifiers, indicator and display devices and process instruments.

Electrical termination at measuring range Messbereich up to 0 ... 200 kN



* only for extended cables of length 5 m or more
** option

Electrical termination at measuring range 0 ... 500 kN and 0 ... 1 MN



** option

8526	–	5100	5200	5500	6001	6002	6005	6010	6020	6050	6100	6200
Measuring range from 0 ...		0.1 kN	0.2 kN	0. 5 kN	1 kN	2 kN	5 kN	10 kN	20 kN	50 kN	100 kN	10 kN
Electrical termination												
Specifications		Highly flexible, oil resistant, drag chains suitable.										
Cable fastening		cable cover										
Bending protection		bend protection spiral										
Bending radius	[mm]	Bending radius three times the diameter for fixed cable, ten times the diameter for cable permanently moving.										
Cable type		PUR, Ø = 2.0 mm										

8526	–	6500	7001
Measuring range from 0 ...		500 kN	1 MN
Electrical termination			
Specifications		Bajonett connector 8 pin 9900-V643; mating connector in scope of delivery	
Cable fastening		-	
Anti-kink coil		-	
Bending radius	[mm]	-	
Cable type		-	

Accessories

Connectors and units

Order Code		
Connection cable		
99643-000A-0570030		Connection cable for measuring ranges 500 kN and 1 MN, length 3 m, open ends on one side
Connectors		
9941		Connectors 12 pin, suitable to all burster desktop units
9900-V209		Connectors 9 pin, suitable to SENSORMASTER, DIGIFORCE® and TRANS CAL
9900-V229		Connectors 9 pin with TEDS
9900-V245		Connectors 8 pin, suitable to ForceMaster
Units		
7281-V0001		Mobile measuring device with strain gage simulator and sensor test (R_i, R_a, Shunt, R_{ISO})
refer to section 9		Sensor electronics, amplifier and process control units like digital indicator model 9180, model 9163, modular amplifier model 9250 or DIGIFORCE® model 9307

Calibration

Test and calibration certificate		
Included in scope of delivery of sensor		Amongst other data, includes figures for zero point, full-scale output and calibration offset
Standard factory calibration certificate for load cells or measurement chains (WKS)		
Optionally available		Our standard factory calibration certificate includes 11 measurement points, starting at zero, spread evenly in 20% steps over the full measuring range, for increasing and decreasing load under the same installation conditions.
Special factory calibration certificate for load cells or measurement chains (WKS)		
On request		We are happy to calibrate sensors and measurement chains to the customer's specification.
German-accredited DAkkS calibration certificate for sensors and measurement chains (DKD)		
Optionally available		Our DAkkS-certified calibration laboratory provides calibration certificates to DIN EN ISO 376. The calibration certificate includes 21 measurement points, starting at zero, spread evenly in 10% steps over the measuring range, for increasing and decreasing load under various installation conditions. DAkkS calibrations can be performed in the compression and/or tension direction depending on the sensor type.

2979-008526EN-5699-011521

Order Code

Measuring range	Code				Measuring range
0 ... 0.1 kN	5	1	0	0	0 ... 22.4 lbs
0 ... 0.2 kN	5	2	0	0	0 ... 44.9 lbs
0 ... 0.5 kN	5	5	0	0	0 ... 112.4 lbs
0 ... 1 kN	6	0	0	1	0 ... 224.8 lbs
0 ... 2 kN	6	0	0	2	0 ... 449.6 lbs
0 ... 5 kN	6	0	0	5	0 ... 1.1 klbs
0 ... 10 kN	6	0	1	0	0 ... 2.2 klbs
0 ... 20 kN	6	0	2	0	0 ... 4.5 klbs
0 ... 50 kN	6	0	5	0	0 ... 11.2 klbs
0 ... 100 kN	6	1	0	0	0 ... 22.5 klbs
0 ... 200 kN	6	2	0	0	0 ... 45.0 klbs

										Delivery ex stock at short notice							
										N	0	0	0	S	0	0	0
8	**5**	**2**	**6**	**–**					**–**				**0**		**0**	**0**	**0**

- Nominal sensitivity/not standardized: N
- Standardization at 1.0 mV/V ***: S

*** temperature range limited to 0 ... +60 °C

- Connection cable 1.7 m (Standardization 2 m): 0
- Connection cable 3 m: F
- Connection cable 5 m: G
- Connection cable 3 m extended *: L
- Connection cable 5 m extended * (with sens line): M

* shortened delivery time compared with cable length 3 m and 5 m in one piece

- Open cable ends + 6 cm single wires: 0
- 9 pins Sub-D connector model 9900-V209: B
- 9 pins Sub-D connector model 9900-V209 for 9163-V3xxxx: E
- 12 pins round connector model 9941 for burster desktop devices: F
- 9 pins Sub-D connector with burster TEDS model 9900-V229 ***: T
- 8 pins coupling connector model 9900-V245 for 9110: H

*** temperature range limited to 0 ... +60 °C

- Non-linearity 0.25 % F.S. **: S
- Non-linearity 0.1 % F.S. **: L

** The data in the area 20 % - 100 % of rated load F_{nom}

- Nominal temperature range +15 °C ... +70 °C: 0

Measuring range	Code				Measuring range
0 ... 500 kN	6	5	0	0	0 ... 112.4 klbs
0 ... 1 MN	7	0	0	1	0 ... 224.8 klbs

8	**5**	**2**	**6**	**–**					**–**	**N**	**X**		**0**		**0**	**0**	**0**

- burster TEDS in the sensor connector ***: S
- Without TEDS: R

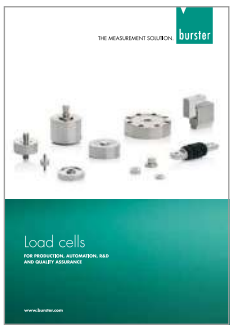
*** temperature range limited to 0 ... +60 °C

- Non-linearity 0.25 % F.S. **: S
- Non-linearity 0.1 % F.S. **: L

** The data in the area 20 % - 100 % of rated load F_{nom}

- Nominal temperature range +15 °C ... +70 °C: 0

Note



- **Brochure**
  Our brochure **„Load cells for production, automation, R&D and quality assurance“** is available for download on our website. It conatains numerous applications, detailed product specifications and overviews.

- **Product videos**
  Watch our **How-to-do video** at: **www.youtube.com/bursterVideo**

- **CAD data**
  Download via **www.burster.com** or directly at **www.traceparts.com**

2979-008526EN-5699-011521