

No Compromise on Performance



Floor Scales

Use the SLB415 load cell in platform and floor scales. Due to the hermetic welded design reliability in most industrial environments is guaranteed. The full set of approvals provides maximum applicability and safety in these applications.



Tank Weighing

The capacity range from 110kg to 4.4t allows the weighing of tanks, hoppers and silos. Rocker pin load cell introduction is ideal for high accuracy and repeatability. Various accessories to ease installation are available.

SLB415 Beam Load Cells Cost Efficient Solution

The SLB415 is approved for use in various applications in Europe, Asia, America and almost everywhere else in the world. If an approval is required, the SLB415 probably already complies.



Hermetically Sealed

SLB415 load cells are made from nickel plated tool steel but are hermetically sealed, something normally available only on higher end stainless steel models. This protects the load cell from damp for the best stability and measuring performance.

Every SLB415 beam load cell features:

- Blind hole load introduction
- OIML C3 and NTEP III M 5,000d approvals
- ATEX Zone1/2 and 21/22 approvals
- IECEx Approval
- FM Class I,II,III Div 1&2 approvals
- Nickel plated steel
- Hermetically sealed design
- IP67 protection class



Accessories

The optional accessories for proper load introduction guarantee the optimal performance in conjunction with thermal expansion and vibration.

SLB415 Load Cell Specifications

Parameter	Unit of measure	Specification						
Model No.		SLB415						
Rated capacity (R.C.)	kg (lb, nominal)	110 (250)	220 (500)	550 (1250)	1100 (2500)	2200 (5000)	4400 (10000)	
Rated output	mV/V @R.C. - kg	1.940 ± 0.002						
	mV/V @R.C. - lb	2.000 ± 0.002						
Zero load output	%R.C.	≤ 1.0						
Combined error ¹⁾²⁾	%R.C.	≤ 0.018						
Repeatability error	%A.L. ³⁾	≤ 0.01						
Creep, 30 minute	%A.L.	≤ 0.0167						
Min. dead load output return (DR), 30 min	%A.L.	≤ 0.0167						
Temperature effect on	Min. dead load output	≤ 0.0023 (0.0013)						
	Sensitivity ²⁾	≤ 0.0009 (0.0005)						
Temperature range	Compensated	-10 ~ +40 (+14 ~ +104)						
	Operating	-40 ~ +65 (-40 ~ +150)						
	Safe storage	-40 ~ +80 (-40 ~ +176)						
OIML / European approval ⁴⁾	OIML Cert. No.	R60/2000-NL1-13.19						
	European Cert. No.	TC8311						
	Class	C3						
	nmax	3000						
	Y	6000						
	PLC	0.7						
	Humidity symbol	None						
	Min. dead load	kg (lb)	0.4 (0.88)					
	Z		3000					
	NTEP approval ⁴⁾	Number	13-081					
Class		III M						
nmax		5000						
Vmin		kg (lb)	0.018 (0.04)	0.037 (0.08)	0.092 (0.20)	0.183 (0.40)	0.367 (0.81)	0.733 (1.62)
Min. dead load		kg (lb)	0 (0)					
ATEX approval ⁴⁾	Number, cat. 2	DEKRA 13ATEX0081						
	Number, cat. 3	DEKRA 13ATEX0082						
	Rating		II 2 G Ex ib IIC T4 Gb					
			II 2 D Ex ib IIIC T100 °C Db					
			II 3 G Ex ic IIC T4 Gc					
			II 3 G Ex nA IIC T4 Gc					
		II 3 D Ex tc IIIC T100 °C Dc						
	Ta: -40 °C to +60 °C							
Entity parameters		Ui=20V, Ii=600mA, Pi=1.25W, Ci=0.2nF/m (5), Li=1µH/m (5)						
IECEX Approval ⁴⁾	Number	IECEX DEK 20.0086X						
	Rating	Ex ib IIC T4 Gb; Ex ic IIC T4 Gc; Ex ec IIC T4 Gc Ex ib IIIC T100 °C Db; Ex tc IIIC T100 °C Dc						
	Entity Parameters	Ui=20V, Ii=600mA, Pi=1.25W, Ci=1.2nF, Li=6µH; Urated = 20V, Irated = 55mA						
Factory Mutual Approval US/Canada ⁴⁾	Number, USA/Canada	FM18US0025 / FM18CA0032						
	Rating USA	IS / I, II, III / 1 / ABCDEFG / T4 Entity NI / 1 / 2 / ABCD / T6 NIFW; S / II, III / 2 / FG / T6						
	Rating Canada	IS / I, II, III / 1 / ABCDEFG / T4 Entity NI / 1 / 2 / ABCD / T6 NIFW; DIP / II, III / 2 / FG / T6						
	Entity parameters	Vmax=20V, Imax=600mA, Pi=1.25W, Ci=0, Li=0; NIFW: Vmax=20V, Imax=600mA, Ci= 0, Li=0						
	System drawing No, USA	30032271						
Excitation voltage	Recommended	5~15						
	Max.	20						
Terminal resistance	Excitation	382±4						
	Output	350±1						
Insulation resistance @50VDC	MΩ	>5000						
Breakdown voltage	V AC	>500						
Material	Spring element	Alloy Steel						
	Enclosure	304 Stainless steel						
	Cable entry fitting	304 Stainless steel						
	Cable	PVC						
Finish		Nickel plated						
	Type	Welded						
Protection	IP rating	IP67						
	NEMA rating	NEMA 6						
Load limit	Safe	150						
	Ultimate	300						
Safe side load	%R.C.	100						
Safe dynamic load	%R.C.	70						
Fatigue life	cycles @R.C.	> 1,000,000						
Direction of loading		Beam						
Deflection @ R.C., nominal	mm (in)	0.07 (0.003)	0.14 (0.005)	0.23 (0.009)	0.26 (0.01)	0.37 (0.015)	0.6 (0.024)	
Weight, nominal	kg (lb)	1 (2.2)						
Cable	Length	2, 3, 5, 10 (6.6, 9.8, 16.4, 32.8)						
	Diameter	5.2 (0.20)						
Barometric pressure effect on zero load output	kg/kPa (lb/in.Hg)	None						
Overload protection		Yes				No		

Parameter		Unit of measure	Specification	
Mounting screw	Grade		10.9 (Grade 8)	
	Size/thread	mm (in)	M12 (1/2-13 UNC)	M18 (3/4-10 UNC)
	Engaged length	mm (in)	-	
	Torque, nominal	N.m (ft-lb)	98 (81)	275 (220)
Drawing No.	Dimensions		30106055	
	2D		30094487	
	3D		30094488	

1) Error due to the combined effect of non-linearity and hysteresis

2) Typical values only. The sum of errors due to combined error and temperature effect on sensitivity comply with the requirements of OIML R60 and NIST HB44

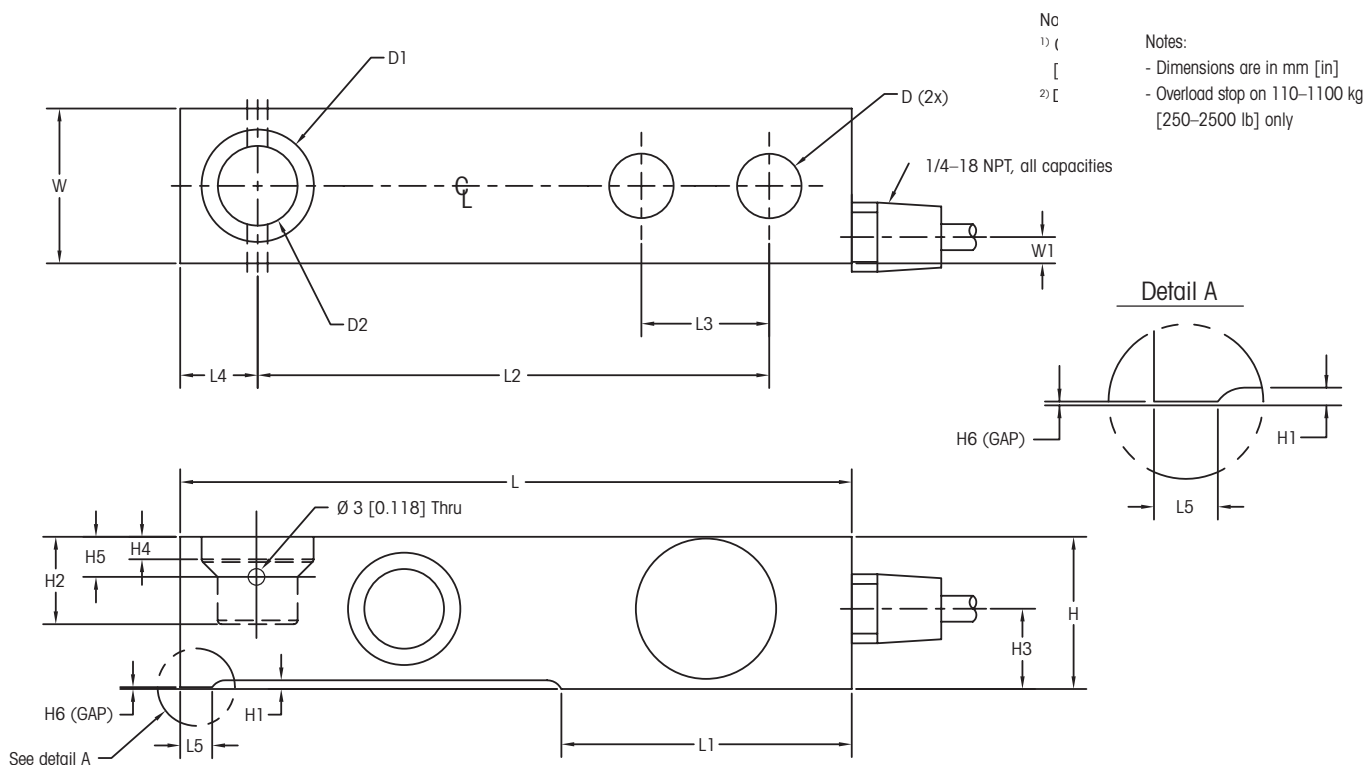
3) A.L. = Applied Load

4) See certificate for complete information

5) /m Load cell cable

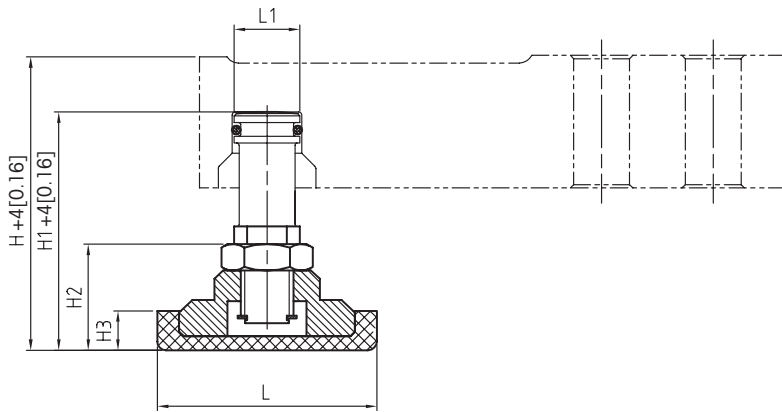


SLB415 Load Cell Dimensional Drawings mm [in]



Model	Capacity	Dimensions and locations																	
		D (2x)	D1	D2	H	H1	H2	H3	H4	H5	H6 ¹⁾	L	L1	L2	L3	L4	L5 ¹⁾	W	W1
SLB415	110-1100 kg [250-2500 lb]	13.0 [0.51]	22.2 [0.88]	15.9 [0.62]	30.2 [1.19]	1.8 [0.07]	17.3 [0.68]	16 [0.63]	4.5 [0.18]	7.9 [0.31]	0.38 [0.015]	133.4 [5.25]	57.7 [2.27]	101.6 [4.0]	25.4 [1.0]	15.4 [0.61]	6.4 [0.25]	30.7 [1.21]	6.1 [0.24]
SLB415	2200 kg [5000 lb]	13.0 [0.51]	22.2 [0.88]	15.9 [0.62]	36.6 [1.44]	6 [0.24]	22.9 [0.90]	19.6 [0.77]	9.5 [0.37]	12.7 [0.50]	6 [0.24]	136.6 [5.38]	57.9 [2.28]	101.6 [4.0]	25.4 [1.0]	18.4 [0.72]		36.8 [1.45]	6.1 [0.24]
SLB415	4400 kg [10 000 lb]	19.3 [0.76]	34.9 [1.38]	22.2 [0.88]	42.9 [1.69]	4.5 [0.18]	29.3 [1.16]	22.6 [0.89]	10.8 [0.43]	17.8 [0.70]	4.5 [0.18]	171.5 [6.75]	73.8 [2.91]	133.4 [5.25]	38.1 [1.50]	21.4 [0.84]		42.9 [1.69]	6.1 [0.24]

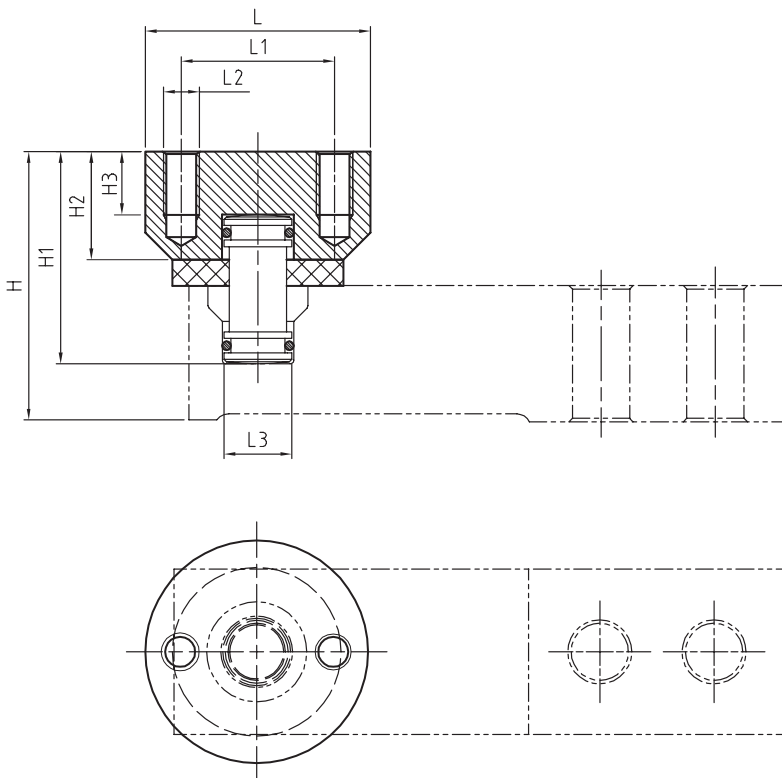
SLB415 Foot Kit FTK mm [in]



Materials: Stainless steel, NBR 70
Provided with retaining clip

Capacity	Dimensions and locations					
	L	L1	H	H1	H2	H3
110 kg–1.1 t [250–2500 lb]	ø50 [ø1.97]	ø15 [ø0.59]	66.8 [2.14]	54.3 [2.14]	24.2 [0.95]	9 [0.35]
2.2 t [5000 lb]	ø50 [ø1.97]	ø15 [ø0.59]	66.5 [2.14]	54.3 [2.14]	24.2 [0.95]	9 [0.35]
4.4 t [10,000 lb]	ø70 [ø2.76]	ø15 [ø0.59]	91.2 [3.59]	80 [3.15]	38.5 [1.52]	17 [0.67]

SLB415 Expansion Kit EK mm [in]

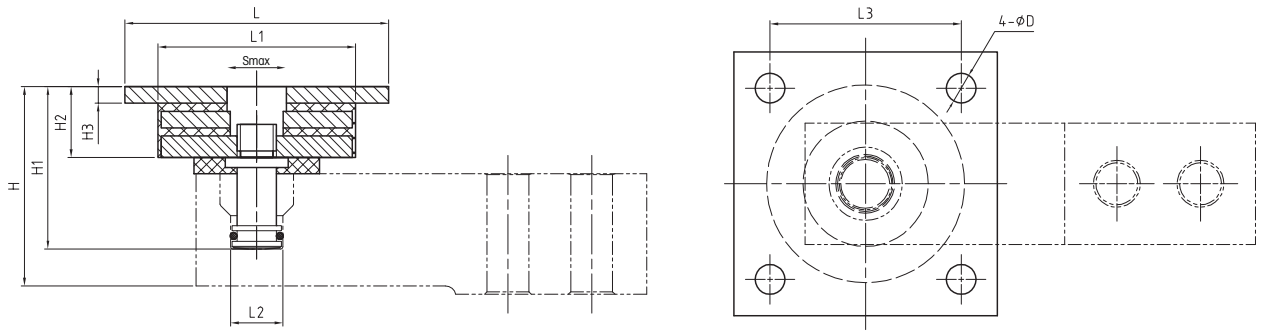


Materials: Stainless steel, polyethylene foam

Capacity	Dimensions and locations								
	L	L1	L2	L3	H	H1	H2	H3	Smax*
110 kg–1.1 t [250–2500 lb]	ø50 [ø1.97]	34 [1.34]	M8	ø15 [ø0.59]	59.6 [2.35]	47.1 [1.85]	24 [0.94]	14 [0.55]	±3 mm [±0.12]
2.2 t [5000 lb]	ø50 [ø1.97]	34 [1.34]	M8	ø15 [ø0.59]	63.5 [2.50]	52.3 [2.06]	24 [0.94]	14 [0.55]	±3 mm [±0.12]
4.4 t [10,000 lb]	ø60 [ø2.36]	45 [1.77]	M10	ø21.5 [ø0.85]	73.6 [2.90]	62.4 [2.46]	28 [1.10]	17 [0.67]	±3 mm [±0.12]

* Max lateral displacement

SLB415 Expansion and Vibration Kit EVK mm [in]



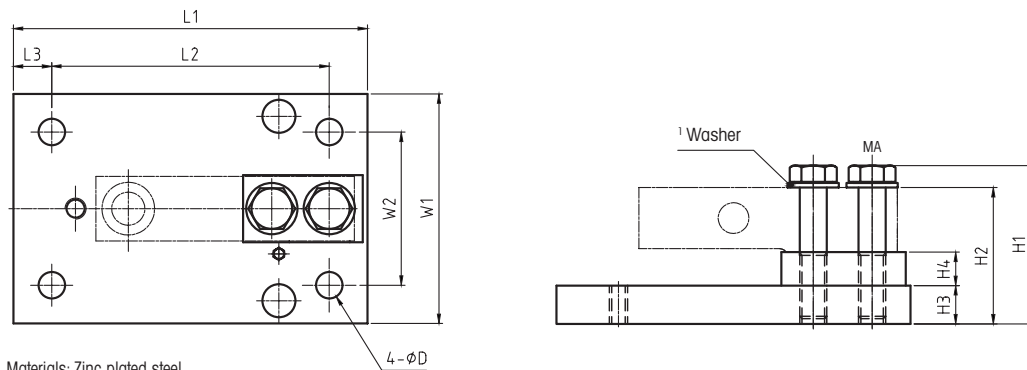
Materials: Stainless steel, NBR 70, polyethylene foam

Capacity	Dimensions and locations											
	D	L	L1	L2	L3	H	H1	H2	H3	SHmax*	SVmax**	Max. Side load ratings
110 kg–1.1 t [250–2500 lb]	ø9 [ø0.35]	ø80 [ø3.15]	ø58 [ø2.28]	ø15 [ø0.59]	58 [2.28]	56.6 [2.23]	44.1 [1.74]	21.5 [0.85]	5 [0.20]	±3 mm [±0.12]	1 [0.04]	2100N
2.2 t [5000 lb]	ø9 [ø0.35]	ø80 [ø3.15]	ø58 [ø2.28]	ø15 [ø0.59]	58 [2.28]	60.5 [2.38]	49.3 [1.94]	21.5 [0.85]	5 [0.20]	±3 mm [±0.12]	1.6 [0.07]	2400N
4.4 t [10,000 lb]	ø11 [ø0.43]	ø100 [ø3.94]	ø72 [ø2.83]	ø21.5 [ø0.85]	76 [2.99]	75.6 [2.98]	64.4 [2.54]	30 [1.18]	10 [0.39]	±3 mm [±0.12]	2.2 [0.09]	2800N

* Max lateral displacement

** Max vertical displacement incl. load cell

SLB415 Base Plate Kit BPK mm [in]



Materials: Zinc plated steel

Capacity	Dimensions and locations											
	L1	L2	L3	W1	W2	H1	H2	H3	H4	D	² MA _{cs}	³ MA _{ss}
110 kg–1.1 t [250–2500 lb]	177.9 [7.00]	152.4 [6.00]	12.7 [0.50]	114.4 [4.50]	89.0 [3.50]	72.6 [2.86]	65.1 [2.56]	19.1 [0.75]	15.88 [0.625]	11.2 [0.44]	98Nm [72lb-ft]	98Nm [72lb-ft]
2.2 t [5000 lb]									12.7 [0.5]			
4.4 t [10,000 lb]	235.0 [9.25]	184.2 [7.25]	25.4 [1.00]	152.4 [6.00]	101.6 [4.00]	105.0 [4.13]	90.5 [3.56]	25.4 [1.00]	22.2 [0.87]	17.5 [0.69]	270Nm [200lb-ft]	270Nm [200lb-ft]

¹ Two washers only for 4.4t

² Torque carbon steel version

³ Torque stainless steel version

SLB415 Load Cell Order Information

Description		Item No.
Load cell, model no.	SLB415-110kg (250lb) C3 5m (16.4ft) Ex	72260663
Load cell, model no.	SLB415-110kg (250lb) C3 10m (32.8ft) Ex	30088789
Load cell, model no.	SLB415-220kg (500lb) C3 5m (16.4ft) Ex	72260669
Load cell, model no.	SLB415-220kg (500lb) C3 10m (32.8ft) Ex	30088790
Load cell, model no.	SLB415-550kg (1250lb) C3 5m (16.4ft) Ex	72260687
Load cell, model no.	SLB415-550kg (1250lb) C3 10m (32.8ft) Ex	30088791
Load cell, model no.	SLB415-1.1t (2500lb) C3 5m (16.4ft) Ex	72260693
Load cell, model no.	SLB415-1.1t (2500lb) C3 10m (32.8ft) Ex	30088792
Load cell, model no.	SLB415-2.2t (5000lb) C3 5m (16.4ft) Ex	72260681
Load cell, model no.	SLB415-2.2t (5000lb) C3 10m (32.8ft) Ex	30088793
Load cell, model no.	SLB415-4.4t (10000lb) C3 5m (16.4ft) Ex	72260656
Load cell, model no.	SLB415-4.4t (10000lb) C3 10m (32.8ft) Ex	30088795

Options		Item No.
Base Plate Kit BPK	Carbon steel 110kg-1.1t (250-2500lb)	30265369
Base Plate Kit BPK	Carbon steel 2.2t (5000lb)	30265371
Base Plate Kit BPK	Carbon steel 4.4t (10000lb)	30265373
Expansion Kit EK	Stainless steel 110kg-2.2t (250-5000lb)	72208662
Expansion Kit EK	Stainless steel 4.4t (10000lb)	72208663
Expansion+Vibr Kit EVK	Stainless steel 110kg-2.2t (250-5000lb)	72208670
Expansion+Vibr Kit EVK	Stainless steel 4.4t (10000lb)	72208671
Foot Kit FTK	Stainless steel 110kg-2.2t (250-5000lb)	72208674
Foot Kit FTK	Stainless steel 4.4t (10000lb)	72208675

Global Approvals

The SLB415 is provided with all listed approvals. No need to think about options and additional charges. Simplifies the conduct of global business, order processing and service-part stocking.



METTLER TOLEDO Service

Our extensive service network is among the best in the world and ensures maximum availability and service life of your product.

SLB415 Load Cell Cable Colours

Colour	Function
Green	+ Excitation
Black	- Excitation
White	+ Signal
Red	- Signal
Yellow	Shield*

* Connected to spring element

Weighing Electronics

METTLER TOLEDO offers a complete family of electronics from simple weighing to application solutions for filling, stock control, batching, formulation, counting, checkweighing.



www.mt.com

For more information



METTLER TOLEDO Group

Industrial Division
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Subject to technical changes
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