

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
- 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	0.970 ± 0.002	1.940 ± 0.002				
		mV/V @R.C. - lb	1.000 ± 0.002	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	%R.C./°C (./°F)	≤ 0.0023 (0.0013)					
	Sensitivity ²⁾	%A.L./°C (./°F)	≤ 0.0009 (0.0005)					
Temperature range	Compensated		-10 ~ +40 (+14 ~ +104)					
	Operating	°C (°F)	-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, li=600mA, Pi=1.25W, Ci=0.2nF/m (5), Li=1µH/m (5)					
	Number, USA/Canada		FM18US0025 / FM18CA0032					
Rating USA		IS / I, II, III / 1 / ABCDEFG / T4 Entity						
Factory Mutual Approval US/Canada ⁴⁾	Rating Canada		NI / I / 2 / ABCD / T6 NIFW; S / II, III / 2 / FG / T6					
			IS / I, II, III / 1 / ABCDEFG / T4 Entity					
			NI / I / 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	V DC	5~15					
	Max.		20					
Terminal resistance	Excitation	Ω	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					
Protection	Type		Welded					
	IP rating		IP67					
	NEMA rating		NEMA 6					
Load limit	Safe	%R.C.	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)				1.4 (3.1)	2.4 (5.3)
Cable	Length	m (ft)	2, 3, 5, 10 (6.6, 9.8, 16.4, 32.8)					
	Diameter	mm (in)	5.2 (0.20)					
Barometric pressure effect on zero load output		kg/kPa (lb/in.Hg)	None					
Overload protection			Yes				No	
Mounting screw	Grade		10.9 (Grade 8)					
	Size/thread	mm (in)	M12 (1/2-13 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

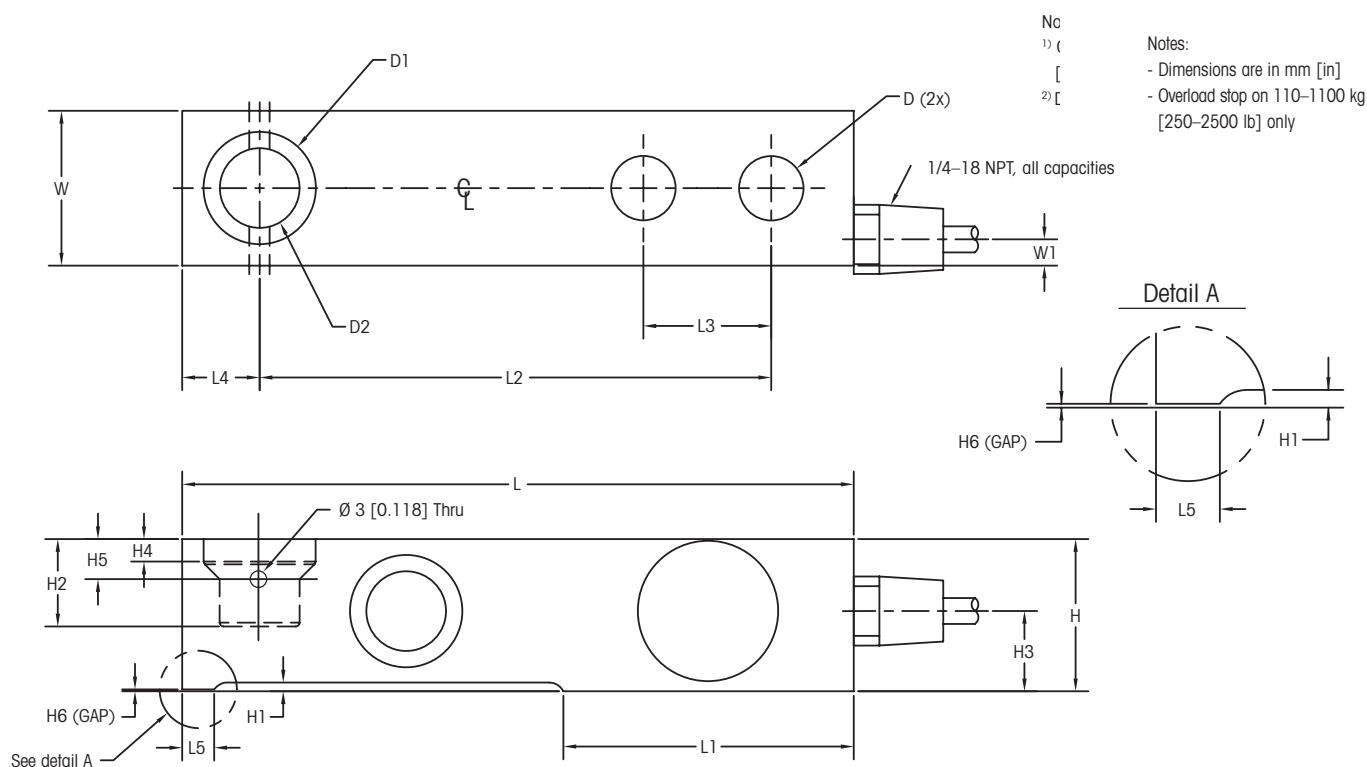
³⁾ A.L. = Applied Load

⁴⁾ See certificate for complete information

⁵⁾ /m Load cell cable

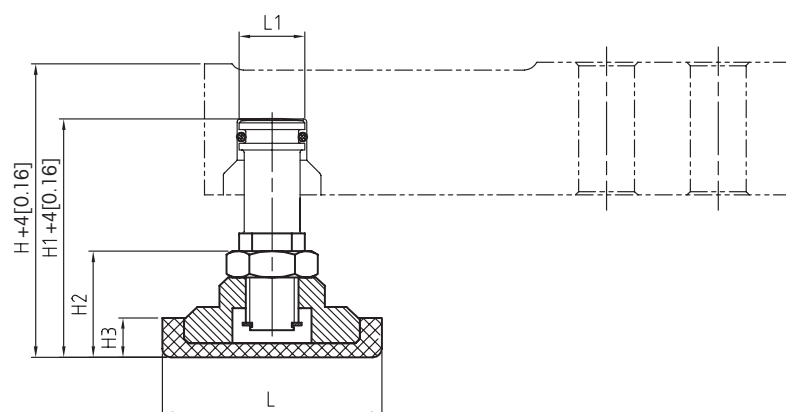


SLB415 Load Cell Dimensional Drawings mm [in]



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	13.0	22.2	15.9	30.2	1.8	17.3	16	4.5	7.9	0.38	133.4	57.7	101.6	25.4	15.4	6.4	30.7	6.1
	[250–2500 lb]	[0.51]	[0.88]	[0.62]	[1.19]	[0.07]	[0.68]	[0.63]	[0.18]	[0.31]	[0.015]	[5.25]	[2.27]	[4.0]	[1.0]	[0.61]	[0.25]	[1.21]	[0.24]
SLB415	2200 kg	13.0	22.2	15.9	36.6	6	22.9	19.6	9.2	12.7	6	136.6	57.9	101.6	25.4	18.4		36.8	6.1
	[5000 lb]	[0.51]	[0.88]	[0.62]	[1.44]	[0.24]	[0.90]	[0.77]	[0.36]	[0.50]	[0.24]	[5.38]	[2.28]	[4.0]	[1.0]	[0.72]		[1.45]	[0.24]
SLB415	4400 kg	19.3	34.9	22.2	42.9	4.5	29.3	22.6	10.8	17.8	4.5	171.5	73.8	133.4	38.1	21.4		42.9	6.1
	[10 000 lb]	[0.76]	[1.38]	[0.88]	[1.69]	[0.18]	[1.16]	[0.89]	[0.43]	[0.70]	[0.18]	[6.75]	[2.91]	[5.25]	[1.50]	[0.84]		[1.69]	[0.24]

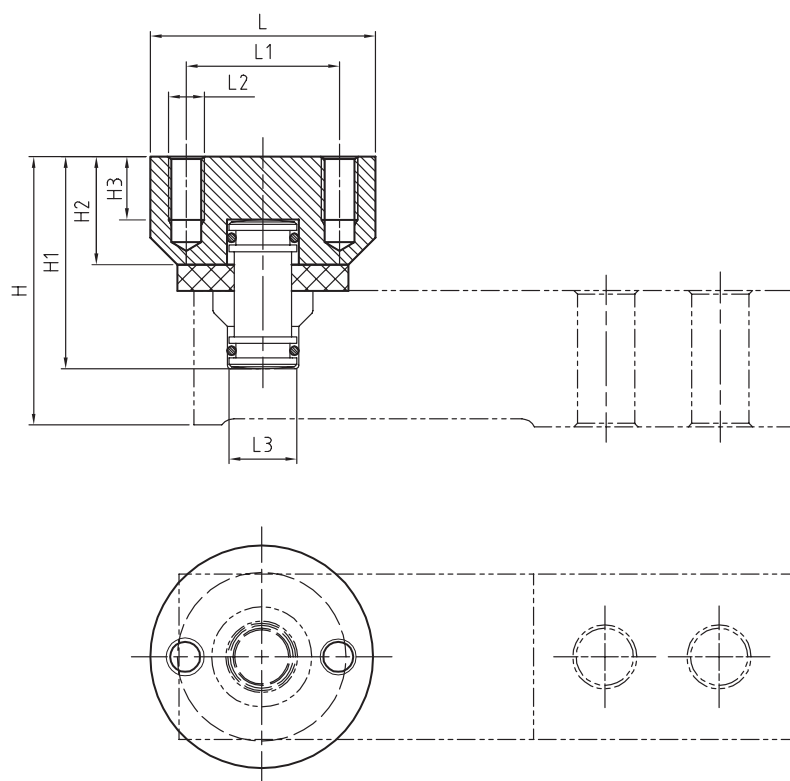
SLB415 Foot Kit FTK mm [in]



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]

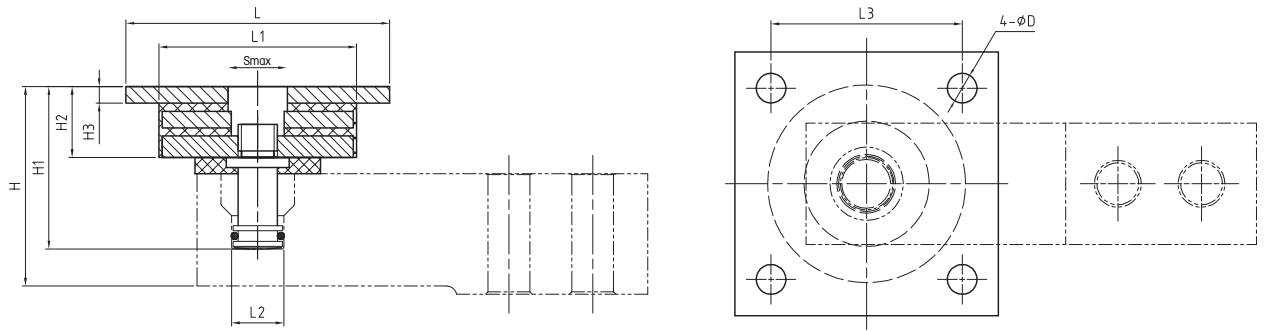


Materials: Stainless steel, polyethylene foam

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]



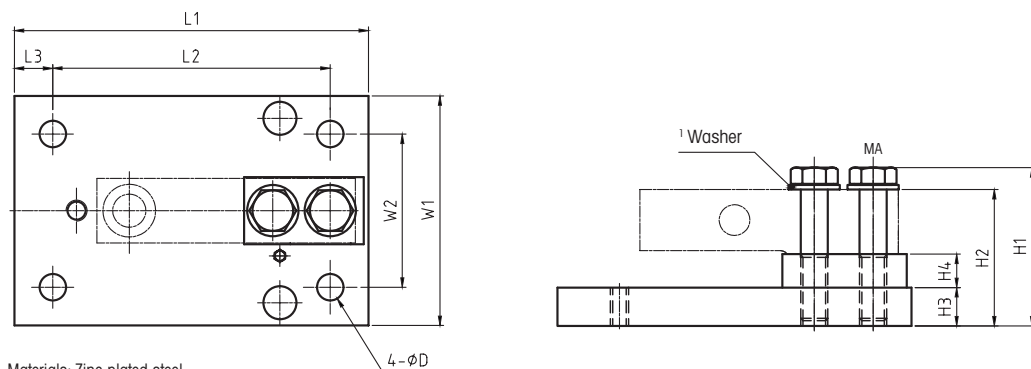
Materials: Stainless steel, NBR 70, polyethylene foam

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 MAcs	³ MAss
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 4.4 t

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

Bolded entries are stocked

SLB415 Load Cell Cable Colours

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

* Connected to spring element

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.

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

Local contact: www.mt.com/contacts

Subject to technical changes

© 10/2020 METTLER TOLEDO. All rights reserved

Document No. 30304906 A

MarCom Industrial