

## Globally Approved for Accuracy and Safety



### Process Weighing

Due to the hermetically sealed design, MTB is ideal for harsh environments in process or food applications. The full set of approvals makes it the right choice for your application.



### Tank Weighing

The capacity range from 5kg to 500kg makes the weighing of small vessels possible. The stainless steel design, hermetic sealing and IP68/IP69K protection provides the best reliability in these applications.



### SWB505 MultiMount™ Weigh Module

With the optional SWB505 MultiMount™ weigh module METTLER TOLEDO provides a complete solution for vessel weighing in harsh environments. MultiMount™ is available in zinc plated and stainless steel version.



### Hermetically Sealed

MTB load cells are made from stainless steel and hermetically sealed by laser welding. This protects the load cell from damp for the best stability and measuring performance.



### MTB Load Cell Fully Approved

The MTB is approved for use in various applications in Europe, Asia, America and almost everywhere else in the world. If an approval is required, the MTB probably already complies. If ever needed for hazardous areas later, the MTB is already prepared.

The MTB load cell features:

- OIML C3, C6, NTEP IIIM 5,000d and IIS 3,000d approvals
- ATEX Zone1/2 and 21/22 approvals
- FM Class I,II,III Div 1&2 approvals for USA & Canada
- Stainless steel
- Hermetically sealed design
- IP68/IP69K protection class
- All approvals standard on every Load Cell

# MTB Load Cell Specifications

Parameter		unit of measure	Specification								
Model No.			MTB								
Rated Capacity (R.C.)		kg (lb, nominal)	5 (11)	10 (22)	20 (44)	30 (66)	50 (110)	100 (220)	200 (441)	300 (661)	500 (1102)
Rated Output		mV/V @R.C.	2 ± 0.1%								
Zero load Output		%R.C.	≤ 1								
Combined Error <sup>1), 2)</sup>		%R.C.	C3: ≤ 0.018 / C6: ≤ 0.012								
Repeatability Error		%A.L. <sup>3)</sup>	C3: ≤ 0.01 / C6: ≤ 0.005								
Creep, 30 minute		%A.L.	≤ 0.05 <sup>5)</sup>	C3: ≤ 0.017 / C6: ≤ 0.008							
Min. Dead Load Output Return (DR), 30 min		%A.L.	–	C3: ≤ 0.017 / C6: ≤ 0.008							
Temperature Effect on Min Dead load Output		%R.C./°C (./°F)	C3: ≤ 0.001 (0.0006) / C6: ≤ 0.001 (0.0006)								
Temperature Effect on Sensitivity <sup>2)</sup>		%A.L./°C (./°F)	C3: ≤ 0.001 (0.0006) / C6: ≤ 0.0005 (0.0003)								
Temperature Range		Compensated	–10 ~ +40 (+14 ~ +104)								
		Operating	–40 ~ +65 (–40 ~ +150)								
		Safe Storage	–40 ~ +80 (–40 ~ +176)								
Number, OIML / Europe			R60/2000-NL 1-05.18 / NMI TC6035								
Class			C3		C6		C3 / C6		C3		
n <sub>max</sub>			3000		6000		3000 / 6000		3000		
Y			12000								
PLC			0.7								
Humidity Symbol			none								
Min. dead load		kg (lb)	0 (0)								
Z			3000		6000		3000 / 6000		3000		
Barometric Pressure Effect		Vmin/kPa	–								
Number			06-045								
Class			III S / III M								
n <sub>max</sub>			3000 / 5000								
V <sub>min</sub>		kg (lb)	R.C. / 12000								
Min. dead load		kg (lb)	0 (0)								
Number			KEMA 05ATEX1178 X / KEMA 05ATEX1179								
Rating			II 2 G Ex ib IIC T4 / II 2 D ibD 21 IP6X T 135°C II 3 G Ex nA II T4 / II 3 G Ex nL IIC T4 / II 3 D Ex tD A22 IP6X T 135°C								
Entity Parameters			U <sub>i</sub> = 25V, I <sub>i</sub> = 600mA, P <sub>i</sub> = 1.25W, C <sub>i</sub> = 0.2 nF/m <sup>6)</sup> , L <sub>i</sub> = 1 μH/m <sup>6)</sup>								
Number			IECEx DEK 16.0031X								
Rating			Ex ib IIC T4 Gb, Ex ib IIIC T135°C Db, Ex ic IIC T4 Gc, Ex nA IIC T4 Gc, Ex tc IIIC T135°C Dc								
Entity Parameters			U <sub>i</sub> = 25V, I <sub>i</sub> = 600mA, P <sub>i</sub> = 1.25W, C <sub>i</sub> = 0.2nF/m, L <sub>i</sub> = 1 μH/m / Un = 25V								
Number, USA / Canada			3005885 / 3025753C								
Rating, USA			IS / I,II,III / 1 / ABCDEFG / T4 NI / I / 2 / ABCD / T6 / S / II, III / 2 / FG / T6								
Rating, Canada			IS / I,II,III / 1 / ABCDEFG / T4 NI / I / 2 / ABCD / T6 / DIP / II, III / 2 / FG / T6								
Entity Parameters			V <sub>max</sub> = 25V, I <sub>max</sub> = 600mA, P <sub>i</sub> = 1.25W, C <sub>i</sub> = 0, L <sub>i</sub> = 0								
System Drawing No, USA			72184367								
System Drawing No, CDN			72189337								
Recommended		V AC/DC	5-15								
Maximum			20								
Terminal Excitation Resistance		Ω	≥ 383								
Output			350 ± 1								
Insulation Resistance @50VDC		MΩ	> 5000								
Breakdown Voltage		V AC	> 500								
Spring Element			stainless steel								
Enclosure			316 stainless steel								
Cable entry fitting			304 stainless steel								
Cable			PVC								
Type			welded								
IP Rating			IP68/IP69K								
NEMA Rating			NEMA 6/6P								
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)	0.25 (0.01)				0.36 (0.014)		0.43 (0.017)		0.59 (0.023)
Weight, nominal		kg (lb)	0.6 (1.3)								
Length		m (ft)	3 (9.8); 5 (16.4)								
Diameter		mm (in)	5.8 (0.23)								
Grade			8.8 (grade 5) or 10.9 (grade 8)								
Size/thread		mm (in)	M8x1.25 (5/16-18 UNC)								
Torque, nominal		N.m (ft-lb)	15 (13)								
Dimensions			TB601173								
To-Scale			TA601199								

<sup>1)</sup> Error due to the combined effect of non-linearity and hysteresis

<sup>2)</sup> 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.

<sup>3)</sup> A.L. = Applied Load

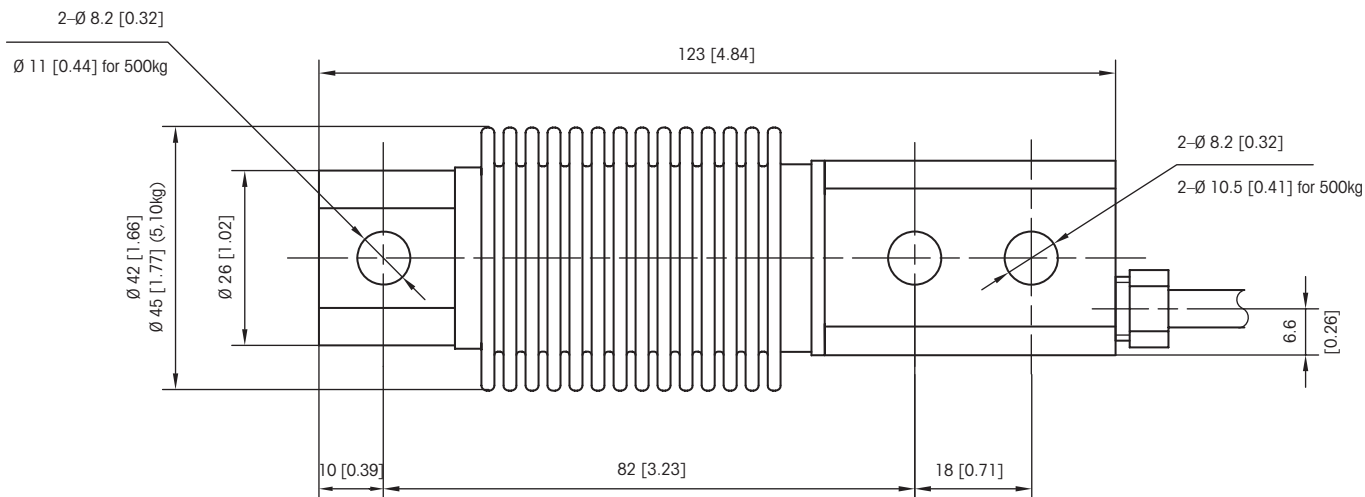
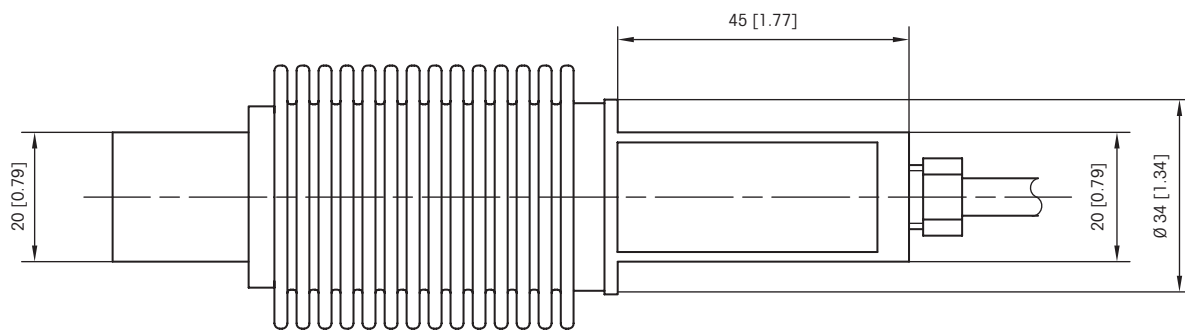
<sup>4)</sup> See certificate for complete information.

<sup>5)</sup> 60 minutes

<sup>6)</sup> /m Load Cell Cable

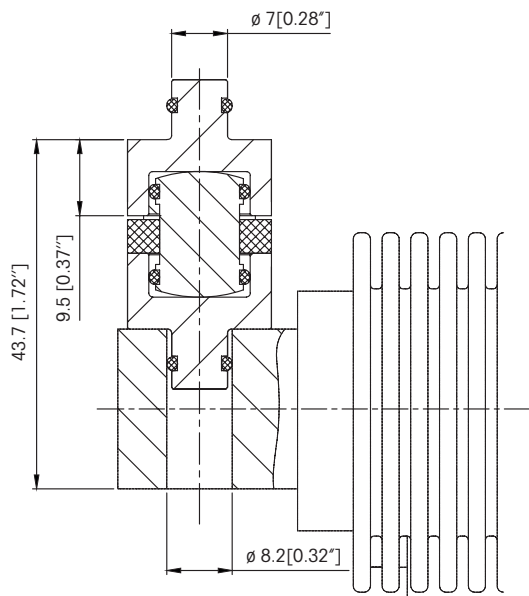


# MTB Load Cell Dimensional Drawings mm [in]

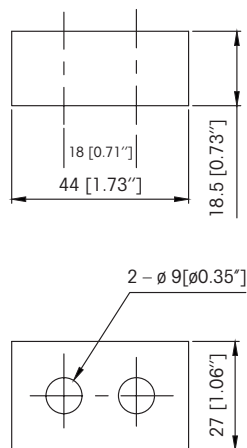


MTB 5, 10, 20, 50, 100, 200, 300, 500

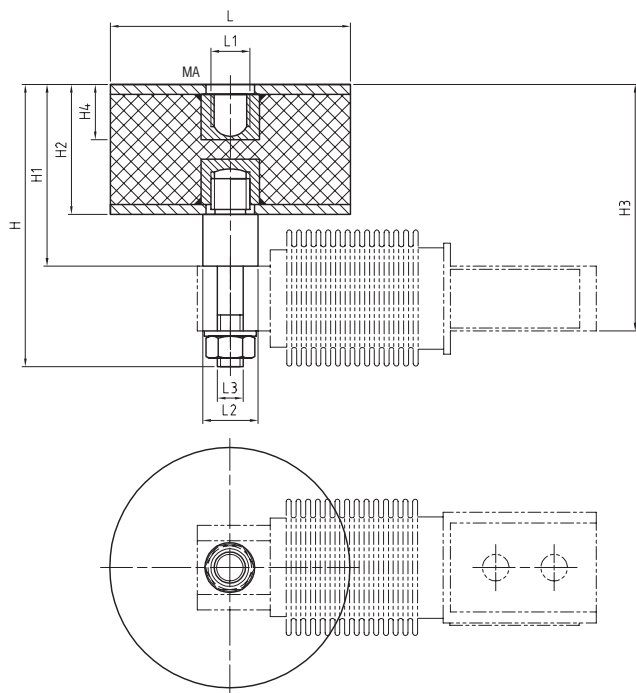
## MTB Expansion Kit EK mm [in]



## MTB Spacer mm [in]



## MTB Expansion + Vibration Kit EVK mm [in]



Materials: Stainless steel, NBR 70

### Capacity

### Dimensions and Locations

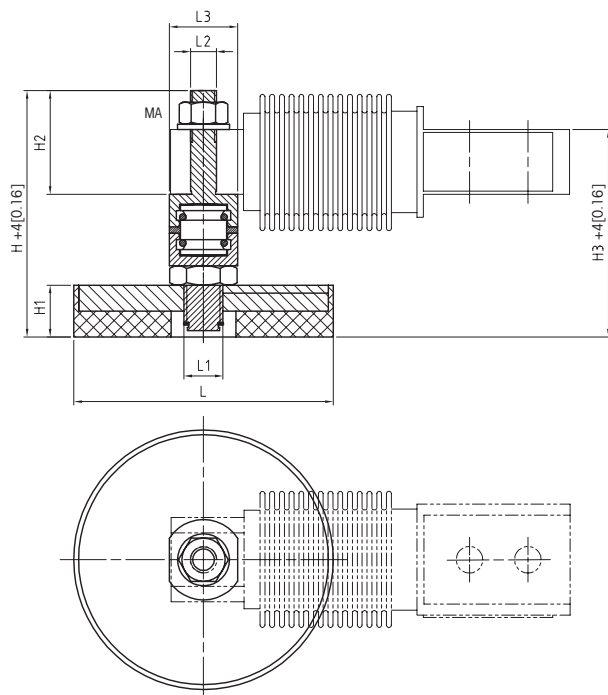
	L	L1	L2	L3	H	H1	H2	H3	H4	S <sub>max</sub> <sup>1</sup>	F <sub>s max</sub> <sup>2</sup>	F <sub>t</sub> <sup>3</sup>	MA
5-300 kg	ø74 [ø2.91]	M12	17 [0.67]	M8	87 [3.43]	56 [2.20]	40 [1.57]	76 [2.99]	14 [0.55]	±3 [±0.12]	450 N	500 N	20 Nm [14.5 lb-ft]
500 kg	ø74 [ø2.91]	M12	17 [0.67]	M10	87 [3.43]	56 [2.20]	40 [1.57]	76 [2.99]	14 [0.55]	±3 [±0.12]	450 N	500 N	20 Nm [14.5 lb-ft]

1) Max lateral displacement

2) Max lateral force at S<sub>max</sub>

3) Max Tension Force

## MTB Foot Kit FTK mm [in]



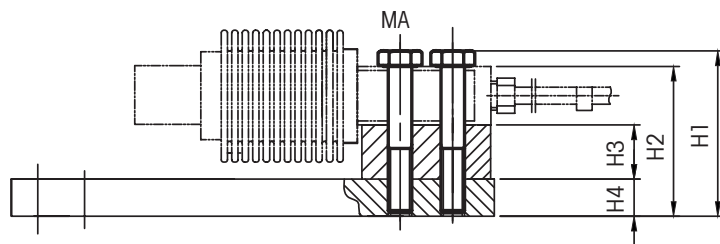
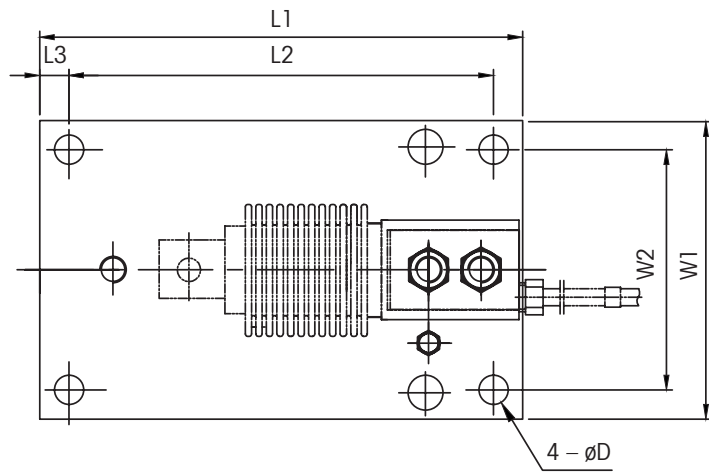
Materials: Stainless steel, NBR 70

### Capacity

### Dimensions and Locations

	L	L1	L2	L3	H	H1	H2	H3	MA
5-300 kg	ø80 [ø3.15]	M12	M8	21 [0.83]	76 [2.99]	16 [0.63]	32 [1.26]	64 [2.52]	20 Nm [14.5 ft-lb]
500 kg	ø80 [ø3.15]	M12	M10	21 [0.83]	76 [2.99]	16 [0.63]	32 [1.26]	64 [2.52]	20 Nm [14.5 ft-lb]

# MTB Base Plate Kit BPK mm [in]



Materials: Stainless steel

## Capacity

## Dimensions and Locations

	L1	L2	L3	W1	W2	H1	H2	H3	H4	D	MA <sup>cs1</sup>	MA <sup>ss2</sup>
5-300 kg	165	145	10	102	82	56.5	51.2	18.5	12.7	10	17Nm	17Nm
	[6.5]	[5.7]	[0.]	[4.0]	[3.2]	[2.22]	[2.02]	[0.73]	[0.5]	[0.4]	[12.5lb-ft]	[12.5lb-ft]

1 Torque carbon steel version

2 Torque stainless steel version

## MTB Load Cell Order Information

Order Information		Item No., Load Cell		Item No., Options				
Rated Capacity	Class	Cable, Material / Length		Expansion Kit EK	Spacer	Base Plate Kit BPK, 304	Expansion+Vibr Kit EVK	Foot Kit FTK
		PVC / 3 m (9.8 ft)	PVC / 5 m (16.4 ft)					
5kg / 11lb	0.05%	<b>71209934</b>	72208033	<b>30265375</b>	<b>30265376</b>	<b>30265368</b>	<b>72208678</b>	<b>72208680</b>
10kg / 22lb	C3 / III S n:3 / III M n:5	<b>71209642</b>	72208034					
20kg / 44lb	C3 / III S n:3 / III M n:5	<b>71201556</b>	72208035					
30kg / 66lb	C6	<b>30212721</b>	30226939					
50kg / 110lb	C3 / III S n:3 / III M n:5	<b>71201557</b>	72208036					
	C6	<b>30212722</b>	30226940					
100kg / 220lb	C3 / III S n:3 / III M n:5	<b>71201558</b>	72208037					
	C6	<b>30212723</b>	30226941					
200kg / 441lb	C3 / III S n:3 / III M n:5	<b>71201559</b>	72208038					
	C6	<b>31212724</b>	30226942					
300kg / 661lb	C3 / III S n:3 / III M n:5	<b>71201560</b>	72208039					
	C6	<b>30212725</b>	30226943					
500kg / 1102lb	C3 / III S n:3 / III M n:5	<b>71209472</b>	72208040	-	-	-	<b>72208679</b>	<b>72208681</b>

**Bolded entries are stocked**

## MTB Load Cell Cable Colours

Colour	Function
Green	+ Excitation
Black	- Excitation
White	+ Signal
Red	- Signal
Yellow	+ Sense
Blue	- Sense
Yellow (Long)	Shield

## Global Approvals

The MTB 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.



## Weighing Electronics

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



## METTLER TOLEDO Service

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



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Subject to technical changes  
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For more information