

# Designed for Automation

## Compact Precision Weighing



### High Precision

Designed to meet the most demanding customer specifications. The WMS is a high speed high accuracy weigh module with a readability up to 0.1 mg



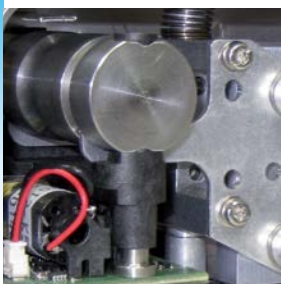
### Rugged Design

The 316L (1.4404) stainless steel housing with FDA-compliant seal and the rugged industrial plug connector with IP67 protection ensure high levels of reliability.



### Flexible Platforms

Customer specific adapters can easily be fixed to the square shaped weighing platform which is rigidly connected by means of a patented locking device to the weigh module.



### Functionality Test

The module can be checked at any time with the internal calibration weight. Adapters on weighing pan don't have to be removed for calibration if they weigh less than 50% of full load.



## WMS

### Precision Weigh Modules

Automated processes with their demanding standards and quality requirements ask more and more for high-resolution weigh modules.

These modules must be easily integrated into plants, machines and instruments.

The WMS precision weigh modules meet these customer demands simply and effectively.

## Model Specific Weighing Data

Type information	WMS104C	WMS404C	WMS1203C	WMS6002C
Nominal capacity (nominal load)	100 g	400 g	1200 g	6000 g
Maximum capacity	120 g	410 g	1220 g	6200 g
Maximum preload <sup>M1)</sup>	50 g	100 g	150 g	150 g
Readability	0.1 mg	0.1 mg	1 mg	10 mg
Internal adjustment	✓	✓	✓	✓

**Limit values** <sup>M2)</sup>

Repeatability ( $\sigma$ ) (nominal load) $\leq$ <sup>M3)</sup>	0.12 mg	0.1 mg	1 mg	10 mg
Linearity deviation $\leq$	0.25 mg	0.4 mg	3 mg	30 mg
Eccentric load deviation (test load) $\leq$	0.5 mg (50 g)	1 mg (200 g)	5 mg (500 g)	50 mg (2000 g)
Sensitivity temperature drift $\leq$ <sup>M4)</sup>	0.15 mg/°C	0.6 mg/°C	1.8 mg/°C	9 mg/°C

**Typical values** <sup>M5)</sup>

Repeatability ( $\sigma$ ) (nominal load) $\leq$	0.08 mg	0.08 mg	0.8 mg	6 mg
Settling time $\leq$	0.8 s	0.8 s	0.8 s	0.8 s

**Ambient conditions**

Compensated temperature range <sup>M6)</sup>	10 °C to 30 °C
Operating temperature range	5 °C to 40 °C
Storage temperature range	-20 °C to 70 °C
Relative air humidity range <sup>M6)</sup>	20% to 80%
Warm-up time after power-on <sup>M6)</sup>	30 minutes

Type information	WMS204	WMS803	WMS4002
Nominal capacity (nominal load)	200 g	800 g	4000 g
Maximum capacity	220 g	820 g	4200 g
Maximum preload <sup>M1)</sup>	100 g	150 g	150 g
Readability	0.1 mg	1 mg	10 mg
Internal adjustment	-	-	-

**Limit values** <sup>M2)</sup>

Repeatability ( $\sigma$ ) (nominal load) $\leq$ <sup>M3)</sup>	0.2 mg	1 mg	10 mg
Linearity deviation $\leq$	0.4 mg	3 mg	30 mg
Eccentric load deviation (test load) $\leq$	1 mg (100 g)	5 mg (500 g)	50 mg (2000 g)
Sensitivity temperature drift $\leq$ <sup>M4)</sup>	0.3 mg/°C	1.2 mg/°C	6 mg/°C

**Typical values** <sup>M5)</sup>

Repeatability ( $\sigma$ ) (nominal load) $\leq$	0.12 mg	0.8 mg	8 mg
Settling time $\leq$	0.8 s	0.8 s	0.8 s

**Ambient conditions**

Compensated temperature range <sup>M6)</sup>	10 °C to 30 °C
Operating temperature range	5 °C to 40 °C
Storage temperature range	-20 °C to 70 °C
Relative air humidity range <sup>M6)</sup>	20% to 80%
Warm-up time after power-on <sup>M6)</sup>	30 minutes

<sup>M1)</sup> Maximum preload on top of "preload reference" weighing pan to maintain maximum capacity. <sup>M2)</sup> Applicable for stationary conditions within compensated temperature and relative air humidity range. <sup>M3)</sup>  $\sigma$  = standard deviation (99.7% of weighing results within  $\pm 3 \sigma$ ).

<sup>M4)</sup> Weighing tests according to OIML R76 A.5.3 at stationary conditions. <sup>M5)</sup> Applicable for stable environmental conditions and optimal filter settings. <sup>M6)</sup> Condition to meet the specified limit values.

## General Data

### Electrical connection

Power supply	10–29 V DC
Electrical connection	Binder series 423 connector, 19 pins, male
Communication interface	RS232, full-duplex, 2.4 to 38.4 kBaud RS422 full-duplex, 2.4 to 38.4 kBaud, bus capable
Maximum weight update rate	92 values/s

### IP protection

Module during weighing	IP54
Module during cleaning <sup>62)</sup>	IP66

### Materials

Weighing pan/platform	Chrome plated aluminum or stainless steel (1.4404 / 316L) (all weighing pans are accessories)
Weigh module housing	Stainless steel (1.4404 / 316L)
Cable	SABIX®
Seals	FPM, FDA compliant
Typical service life of seals	2 years
Washdown bellows <sup>62)</sup>	NBR

### Air connection

Tube diameter internal/external	4 mm (5/32 inch)
Air pressure for washdown <sup>62)</sup>	1 bar(g) (14.5 psi(g))

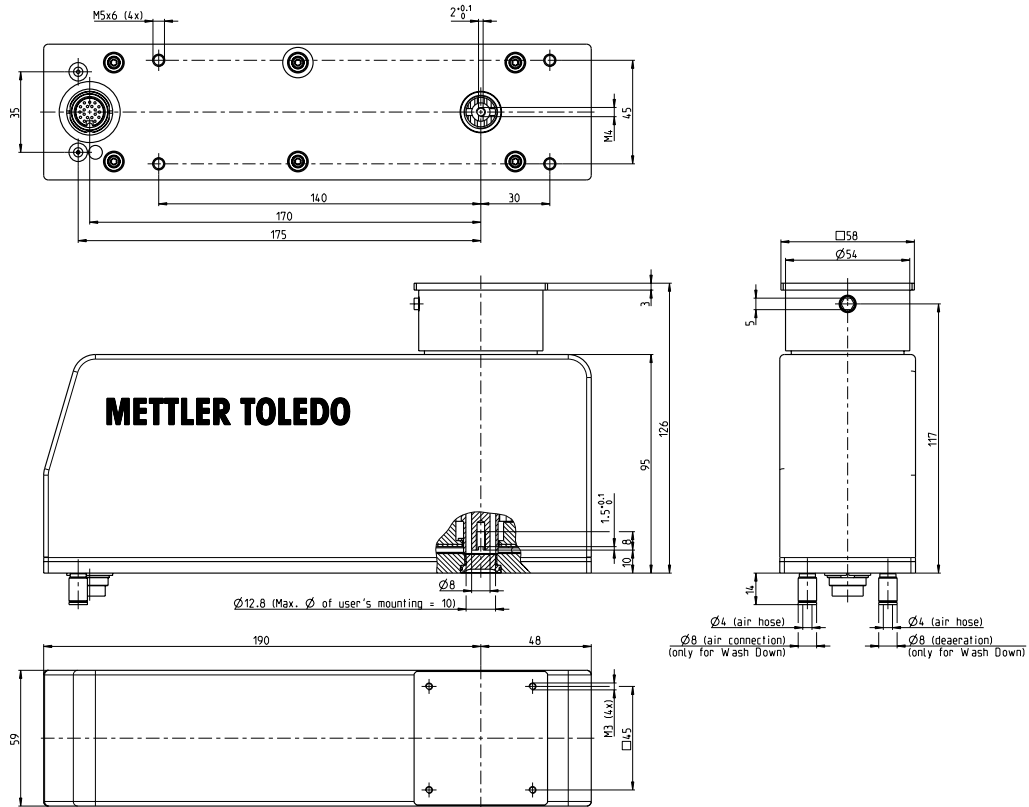
<sup>62)</sup> Only with optional washdown configuration.

## Scope of Delivery

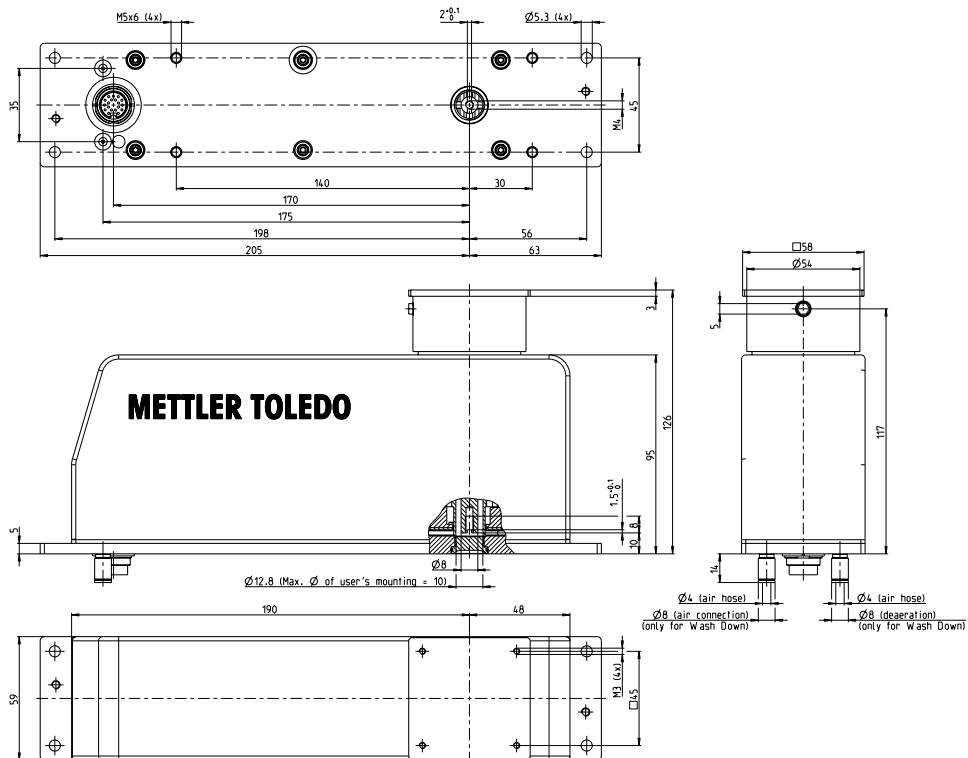
Item	Description	Item number
WMS	Weigh module (without weighing pan)	
Production certificate		
Declaration of conformity		
User manual		

Drawings (mm)

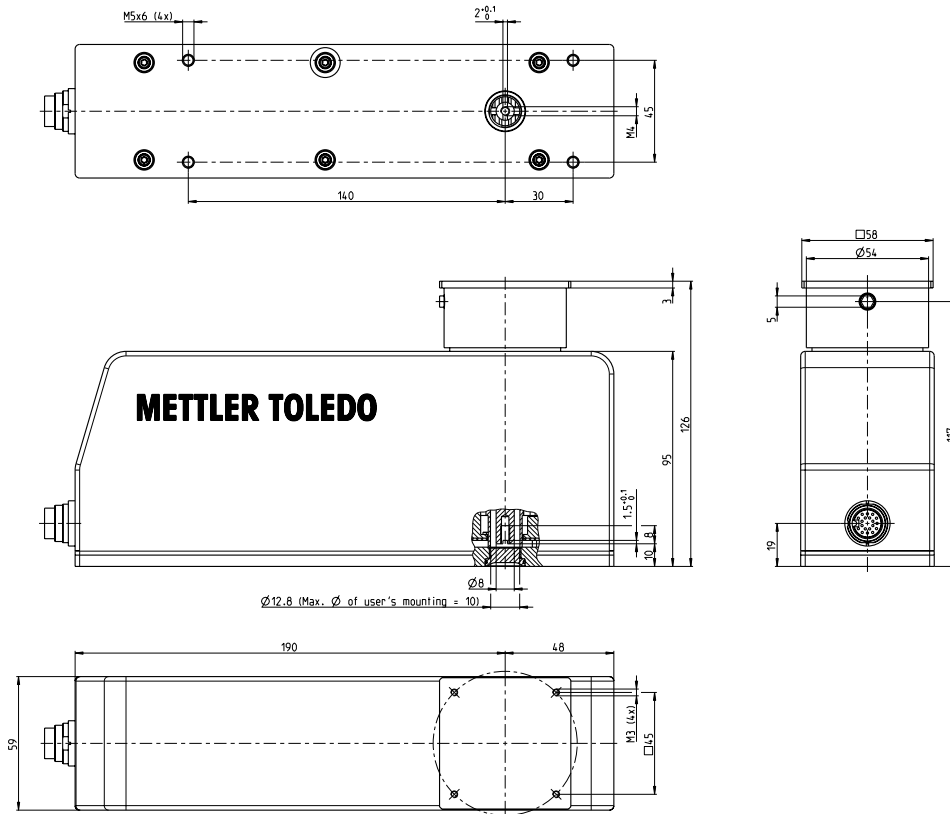
Short base plate and adapter weighing pan with bottom connector



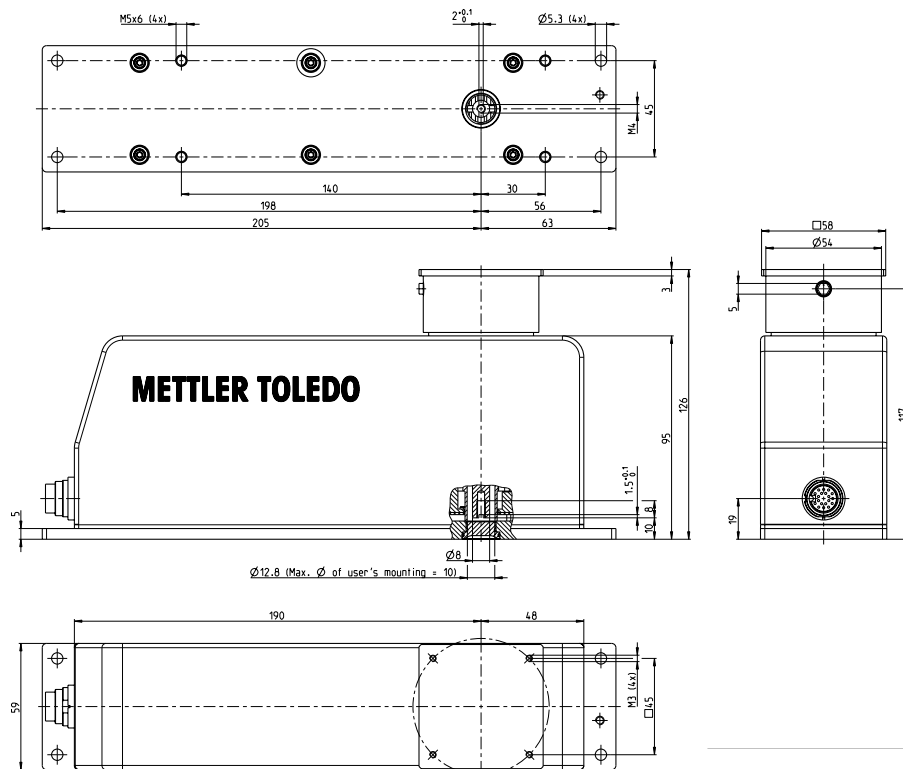
Long base plate and adapter weighing pan with bottom connector



Short base plate and adapter weighing pan with rear connector

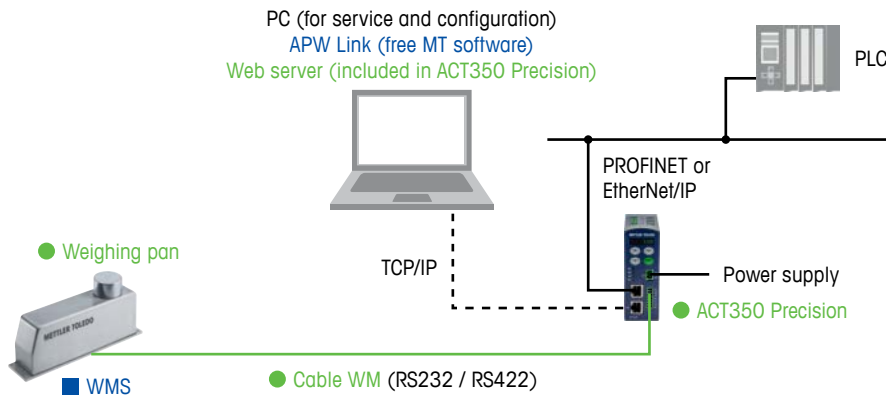


Long base plate and adapter weighing pan with rear connector

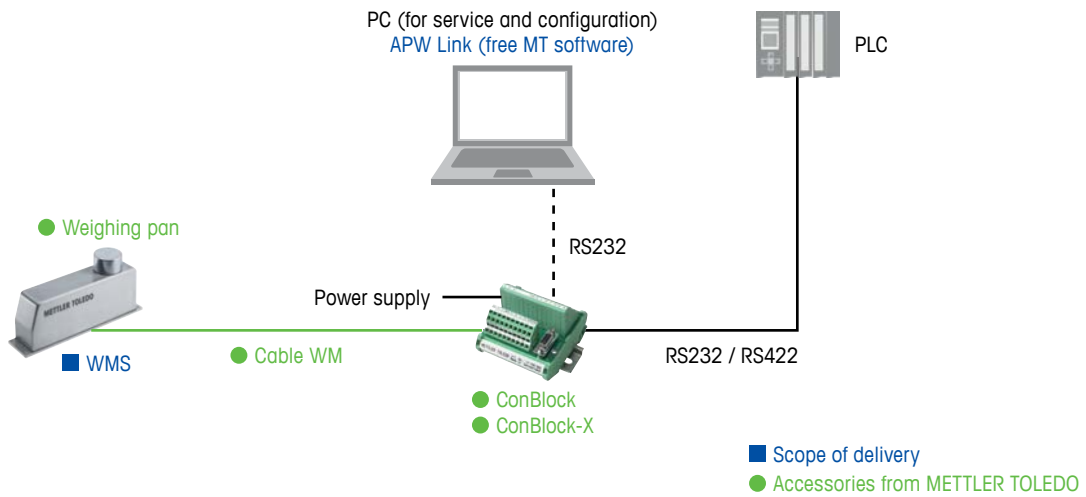


## Typical Configurations

### Automation network configuration



### Serial interface configuration



## Accessories

Item	Description	Item number	Picture
Weighing pan <sup>A1)</sup> (preload reference for models < 800 g weighing range)	Ø = 54 mm, without threaded holes, chrome plated aluminum	300 077 32	
Adapter weighing pan (ball catch connector) <sup>A1)</sup>	Square 58 x 58 mm, with threaded holes, chrome plated aluminum	303 943 20	
Adapter weighing pan (ball catch connector) <sup>A1)</sup> <sup>A3)</sup>	Square 58 x 58 mm, with threaded holes, 1.4404 / 316L	303 943 21	
Adapter weighing pan (pin connector) <sup>A2)</sup> (preload reference for models > 800 g weighing range)	Square 58 x 58 mm, with threaded holes, chrome plated aluminum	300 077 31	
Adapter weighing pan (pin connector) <sup>A2)</sup> <sup>A3)</sup>	Square 58 x 58 mm, with threaded holes, 1.4404 / 316L	300 905 67	
Extension arm adapter	Needed for extension arm mounting (1.4404 / 316L)	300 959 46	
Extension arm	80 mm, chrome plated aluminum	300 693 47	
Extension arm	55 mm, chrome plated aluminum	300 693 48	
Cover for upper weighing interface	Needed if "weighing below" interface is used (14404 / 316L)	300 059 24	
ConBlock	Connection module	111 520 00	
ConBlock-X	Connection module IP66 (cat. 3) (for zone 2/22 ; div. 2)	303 740 66	
Cable WM 180M/5	Connection cable weigh module (180°/5 m)	111 388 60	
Cable WM 180M/10	Connection cable weigh module (180°/10 m)	111 388 61	
Cable WM 90M/5	Connection cable weigh module (90°/5 m)	111 388 62	
Cable WM 90M/10	Connection cable weigh module (90°/10 m)	111 388 63	
Cable WM 90H/10	Connection cable weigh module (90°/10 m)	111 388 64	
Cable WM 90B/10	Connection cable weigh module (90°/10 m)	111 388 65	

<sup>A1)</sup> Only available for WMS104 / 204 / 404 versions. <sup>A2)</sup> Not recommended for WMS104 / 204 / 404 versions. <sup>A3)</sup> Weighing range will be reduced by approx. 100 g in combination with WMS104 / 204 / 404 versions.

## Order Information

Module		With internal adjustment		Without internal adjustment	
		Long base plate	Short base plate	Long base plate	Short base plate
Labyrinth	Bottom connector	WMS104C-L 300 084 90	WMS104C-L/10 300 084 93	WMS204-L 111 495 00	WMS204-L/10 111 495 10
		WMS404C-L 111 521 00	WMS404C-L/10 111 521 10	WMS803-L 111 497 00	WMS803-L/10 111 497 10
		WMS1203C-L 111 522 00	WMS1203C-L/10 111 522 10	WMS4002-L 111 498 00	WMS4002-L/10 111 498 10
		WMS6002C-L 111 523 00	WMS6002C-L/10 111 523 10		
	Rear connector	WMS104C-L/01 300 084 92	WMS104C-L/11 300 084 95	WMS204-L/01 111 495 04	WMS204-L/11 111 495 14
		WMS404C-L/01 111 521 04	WMS404C-L/11 111 521 14	WMS803-L/01 111 497 04	WMS803-L/11 111 497 14
		WMS1203C-L/01 111 522 04	WMS1203C-L/11 111 522 14	WMS4002-L/01 111 498 04	WMS4002-L/11 111 498 14
		WMS6002C-L/01 111 523 04	WMS6002C-L/11 111 523 14		
Washdown	Bottom connector	WMS104C-W 300 084 91	WMS104C-W/10 300 084 94	WMS204-W 111 495 01	WMS204-W/10 111 495 11
		WMS404C-W 111 521 01	WMS404C-W/10 111 521 11	WMS803-W 111 497 01	WMS803-W/10 111 497 11
		WMS1203C-W 111 522 01	WMS1203C-W/10 111 522 11	WMS4002-W 111 498 01	WMS4002-W 111 498 01
		WMS6002C-W 111 523 01	WMS6002C-W/10 111 523 11		

### METTLER TOLEDO Group

Industrial Division

Local contact: [www.mt.com/contacts](http://www.mt.com/contacts)



Subject to technical changes

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