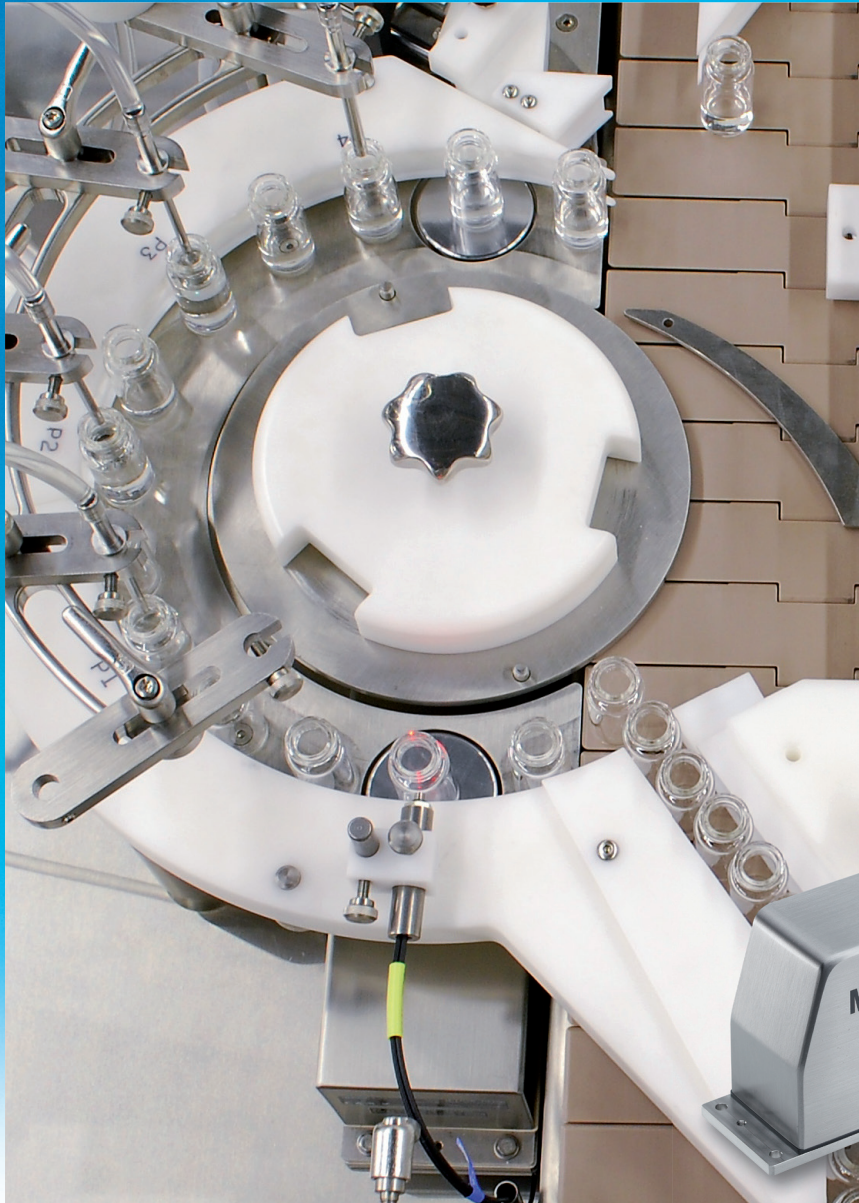


WMS Weigh Modules



WMS Weigh Modules

Fast

High-Resolution

Modular

A Compact Weighing Solution
for Automated Processes

METTLER TOLEDO

Weigh Modules in Automated Processes

Fast, Flexible and High-resolution

The versatile WMS weigh modules are high-resolution and can be integrated into your automated processes with ease. They perfectly complement your systems, machines and instruments and meet demanding standards and quality requirements.

Maximum Performance with Minimal Space Requirements

The compact design combines tried and tested features with the current findings and technologies in the field of high-resolution weigh modules. This is exactly the reason why the WMS weigh modules offer high levels of performance and resolution in limited spaces. This means:

- Large weighing ranges and intelligent solutions in the case of mechanical and electrical interfaces.
- Versatile and flexible connection to fieldbus systems.
- Little time required for installation and commissioning.

Process Reliability

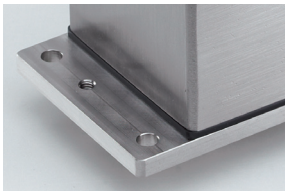
No compromises are made where process reliability is concerned: Thanks to the resolution of up to 4 million pixels and an update rate of 92 filtered and compensated weight values per second, you can track and control dosing processes in real time. Depending on the requirements placed upon process reliability and the degree of automation, you have the choice between

- Models with or without internal calibration.
- Filters which are optimized with speed or stability in mind.

Simple Integration

Control WMS weigh modules directly using a standardized record via an RS422 or RS232 interface. Thanks to METTLER TOLEDO fieldbus modules, direct connection to standardized fieldbus systems is extremely straightforward. Flexibility in the case of digital and mechanical interfaces is also taken care of:

- Digital inputs and outputs for implementing scale-specific process steps with minimum effort.
- A diverse range of weighing platforms for specific designs.
- Equipment for under-floor weighing with overload safety.



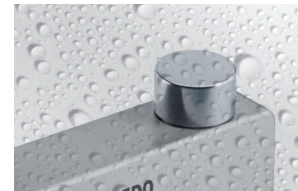
Robust

The robust, stainless steel design with a molded seal consisting of FDA-compliant materials and the integrated overload protection guarantee high levels of reliability, long service lives and easy handling.



Flexible

Attachments can be secured to the square weighing platform with ease. The patented locking device connects the platform to the weighing module in a fast manner without play.



Clean

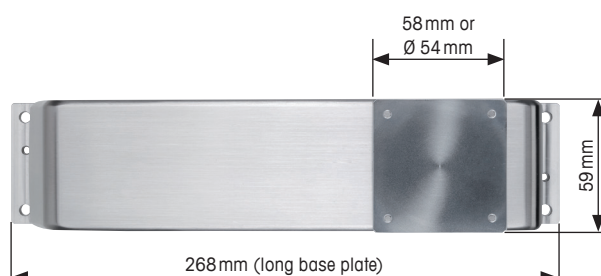
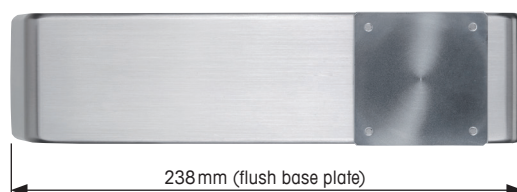
The tried and tested double labyrinth design offers a high degree of protection against the penetration of dirt particles. With the optional wash down functionality, even IP66 protection is achieved.

Technical Data*

	Without internal adjustment		With internal adjustment
Nominal	WMS204	WMS403	WMS404C
Maximum load [g]	210	400	400
Readability [mg]	0.1	1	0.1
Measuring characteristics valid for ambient conditions			
Operating temperature range	+10...30°C		
Permitted ambient temperature	+5...40°C		
Max. limits			
Repeatability [mg]	0.2	1	0.1
Linearity [mg]	±0.4	±2	±0.3
Cornerload deviation [mg]	±1	±1	±1
Sensitivity deviation	$5 \times 10^{-6} R_{nt}$	$5 \times 10^{-6} R_{nt}$	$5 \times 10^{-6} R_{nt}$
Temperature drift of sensitivity	$1.5 \times 10^{-6} / ^\circ\text{C} R_{nt}$	$1.5 \times 10^{-6} / ^\circ\text{C} R_{nt}$	$1.5 \times 10^{-6} / ^\circ\text{C} R_{nt}$
Stability of sensitivity	$2.5 \times 10^{-6} / a R_{nt}$	$2.5 \times 10^{-6} / a R_{nt}$	$2.5 \times 10^{-6} / a R_{nt}$
Typical values			
Repeatability	$0.12\text{mg} + 1.5 \times 10^{-7} R_{gr}$	$0.5\text{mg} + 5 \times 10^{-7} R_{gr}$	$0.06\text{mg} + 5 \times 10^{-8} R_{gr}$
Differential non-linearity	$\sqrt{6} \times 10^{-12} g R_{nt}$	$\sqrt{2} \times 10^{-10} g R_{nt}$	$\sqrt{3} \times 10^{-12} g R_{nt}$
Differential cornerload deviation	$4 \times 10^{-7} R_{nt}$	$1.5 \times 10^{-6} R_{nt}$	$2 \times 10^{-7} R_{nt}$
Sensitivity deviation	$1 \times 10^{-6} R_{nt}$	$2.5 \times 10^{-6} R_{nt}$	$6 \times 10^{-7} R_{nt}$
Minimum initial weight (acc. to USP)	$360\text{mg} + 4.5 \times 10^{-4} R_{gr}$	$1.5\text{g} + 1.5 \times 10^{-3} R_{gr}$	$180\text{mg} + 1.5 \times 10^{-4} R_{gr}$
Minimum initial weight (1%, 2 sd)	$24\text{mg} + 3 \times 10^{-5} R_{gr}$	$100\text{mg} + 1 \times 10^{-4} R_{gr}$	$12\text{mg} + 1 \times 10^{-5} R_{gr}$
Dynamic			
Typical stabilization time [s]	<0.4	<0.4	<0.4
Update rate of the interface	max 92 Upd/s		
General data			
Resolution [pixels]	2 000 000	400 000	4 000 000
Dimensions of weighing platform [mm]	Ø 54 oder 58x58		
Weight [kg]	2.8		
Dimensions (LxWxH) [mm]	268x59x126 or 238x59x126		
Protection	IP54; IP66 in wash down configuration		
Data interface	Direct RS232 and RS422 connection; digital I/Os		
Digital inputs/outputs	3x digital inputs; 3x digital outputs		
Supply voltage	12–24VDC, 0.3A		
Designs	Labyrinth IP54 or WashDown IP66		

* preliminary data, subject to changes

R_{gr} = Gross weight
 R_{nt} = Net weight (initial weight)
sd = Standard deviation
a = Year (annum)



With internal adjustment

	Base plate long (with upward or downward securing)	Base plate flush (with upward securing)
Labyrinth	WMS404C-L 11 152 100	WMS404C-L/10 11 152 110
"Wash-Down"	WMS404C-W 11 152 101	WMS404C-W/10 11 152 111

Without internal adjustment

Labyrinth	WMS204-L 11 149 500	WMS204-L/10 11 149 510
	WMS403-L 11 149 600	WMS403-L/10 11 149 610
"Wash-Down"	WMS204-W 11 149 501	WMS204-W/10 11 149 511
	WMS403-W 11 149 601	WMS403-W/10 11 149 611

Accessories



Round weighing platform
($\varnothing = 54$ mm)
11 152 020



Square weighing platform
(58x58 mm)
11 152 021



WMS ConBlock 11 152 000
For economical installation and fast service access.



PROFIBUS



PROFINET



DeviceNet



EtherNet/IP

www.mt.com/WMS

For further information

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