

Automated Dosing

QUANTOS
Automated Weighing & Dosing



Automated Powder Dosing
for Small Sample Sizes
Fast, Safe and Economical

QUANTOS
Pays for Itself

METTLER TOLEDO

QUANTOS Pays for Itself

Intelligent Budgetting

From this point on the spatula is obsolete. METTLER TOLEDO revolutionizes your laboratory: QUANTOS – the quantum leap in the laboratory – replaces the spatula and automates dosing of small quantities of free-flowing substances.

QUANTOS offers maximum safety for handling highly active or hazardous substances. QUANTOS doses small sample quantities in a closed system. Thus you and your sample are always safe.

The highly compact dosing instrument offers measuring performance of 220g at 0.005mg readout accuracy; performance that is unique worldwide. This level of accuracy permits the typical minimum weight of 10mg in accordance with USP. You dose small quantities without exceeding tolerances.

Scale down for the correct concentration of your solution lower substance quantities can be used than were necessary before – this means less risk, less waste and higher yield of your valuable substances.

Speed



Up to 20 times faster than manual processes: QUANTOS doses 1mg to 250mg in 15 to 60 seconds

Safety



QUANTOS protects you – hazardous substances remain sealed. Aerosol formation is kept to a minimum.

Savings



Thanks to a novel METTLER TOLEDO dosing technology lower substance quantities are required to achieve the same result.



QUANTOS – certainly higher efficiency!

Fast and Safe

Save from the First Day on

QUANTOS is your ideal partner for sample preparation for analytical methods, such as HPLC. Use QUANTOS to significantly increase efficiency in your laboratory relative to conventional balances. QUANTOS is an investment that brings a return within a short time. Calculate for yourself; compare QUANTOS with the spatula.

Our example

Annual number of samples	11'250
Substance quantity per sample	25mg
Substance costs per 1mg	1 €
Labor costs per hour	50 €

QUANTOS		Manual Dosing with spatula		
30 Seconds per sample	0.42 € Labor time costs per sample	120 Seconds per sample	1.67 € Labor time costs per sample	A complicated task To manually dose samples, accurately and precisely, to a target weight is time consuming and tiring.
0% invalid values per year	0 €	2.5 % invalid values per year	8'196 € of the 11'250 dosings, 281 are erroneous	Invalid values Over-shooting tolerances often occurs during manual dosing.
2% accuracy per sample 0.5mg overfill on 25mg dose	0.50 € Cost of overfill	10% accuracy per sample 2.5mg overfill on 25mg dose	2.50 € Cost of overfill	Waste of substances Over-filling often occurs during manual dosing and valuable substances are lost.

Novel METTLER TOLEDO dosing technology

Automatic dosing of small sample quantities in a closed system reduces negative environmental influences.

QUANTOS reduces air circulation, caused by constant opening of draft shields, static charging, and aerosol formation. User know-how no longer plays a role; everything functions automatically at the touch of a button, precise and correct. The quality of results becomes more reliable. Thanks to QUANTOS you can optimize your process and address issues such as the necessity for double samples or high substance quantities.

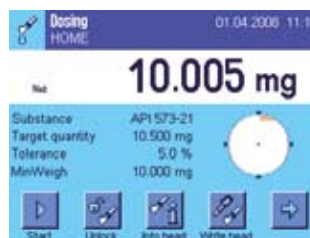


Dispense with double samples?

Even the most skillful hands never achieve this level of precision: QUANTOS doses to 0.5mg – with 0.005mg readout accuracy. The intelligent dosing head with built-in radio frequency identification (RFID) immediately saves all data. Thus even the first sample is within your tolerance limits.

Lower substance quantities?

Thanks to the low minimum weight (10mg according to USP) under certain conditions you can adapt your SOP. A lower minimum weight permits the preparation of less quantity of solution at the same concentration.






Workplace safety

QUANTOS offers maximum safety for handling highly potent or harmful substances, thanks to automated dosing in a closed system. You and your sample are always safe. A priceless benefit!



Your annual savings

Your advantages thanks to QUANTOS			Annual savings
	Speed <ul style="list-style-type: none">faster time to market thanks to speed up of processless exposure of personnel to harmful substancessubstance itself is less exposed to the environment	4 x lower labor costs	14'062 €¹⁾
	Safety <ul style="list-style-type: none">keep to process deadlinesno unexpected additional costs due to OoS results	All samples are valid, no repeats required	8'196 €²⁾
	Savings <ul style="list-style-type: none">less total amount of substance required for the same number of analysesGreen Chemistry = smaller sample sizes possible	8% less substance is required to achieve the same results	22'500 €³⁾

Your annual gross savings	= 44'758 €
Your annual consumable costs 150 x QH075-B Dosing heads	- 18'750 €⁴⁾
Your annual net investment costs	- 9'828 €⁵⁾
Your annual net savings (in 1st and 2nd year)	16'180 €
Your annual net savings from 3rd year	26'008 €
Your net savings in 5 years	110'383 €

Calculation:

1) $(1.67€ - 0.42€) \times 11'250 \text{ Samples} = 14'062€$

2) $281 \text{ Samples} \times (27.50€ + 1.67€) = 8'196€$

3) $(2.50€ - 0.50€) \times 11'250 \text{ Samples} = 22'500€$

4) Price of QH075-B Dosing head: 125€

5) Investment amortized within 2 years; Net investment = Price difference between QB1 dosing system and an XP205 analytical balance with integrated anti static kit

With QUANTOS you can optimize your process, economize on sample size, do less damage to the environment and protect your workforce

QUANTOS QB1

Dosing Instrument



- Highly compact dosing instrument with measuring performance of 220g x 0.005mg; performance that is unique worldwide.
- Typical minimum weight of 10mg in accordance with USP can be achieved.
- Safe and simple operation with touch-screen convenience. Trilingual, color-coded with individually configurable profiles
- Full conformity thanks to integrated warning functions
- Motorized front doors, dimensioned for use in the glove box
- Can also be used as an analytical balance for manual weighing

Technical data*

Balance

Maximum capacity	220g
Max. capacity of the fine range	81g
Readability	0.01mg
Readability in the fine range	0.005mg
Repeatability (1 – 250mg) with 0...20g preload	0.003mg
Repeatability (1 – 250mg) with 0...80g preload	0.004mg
Typical minimum weight according to USP (0.1%)	10mg
Typical minimum weight (1%, 2sd)	1mg

Dosing

Dosable substances	80 – 90% ¹⁾
Dosing repeatability for typical sample sizes (50 mg)	< 2%
Dosing speed (50 mg)	20...30s
Min. dosing capacity	1mg
Max. dosing capacity	250mg

* Provisional information. 04/01/2008. Subject to technical changes.

¹⁾ Representative values from > 200 tested active pharmaceutical ingredients and biotech substances

Standard equipment

SmartScreen, color display for safe and simple operation

SmartSens, sensor for touchless operation.

UserManagement for assigning access rights.

MinWeigh warns when you are under range of the minimum weight.

LevelControl warns you when the dosing instrument is not level.

BalanceCheck, automatically prompts for variation with external weights.

ProFACT, automatic temperature-controlled and/or time-controlled adjustment and linearization

Specific dosing and balance applications with user prompting.

RFID identification for unique identification of substances from the QH075-B dosing head.

Individual printouts can be defined with up to 4 ids.

- Work height: 178 mm. Suitable for volumetric flasks to 200 ml.
- Integrated Ethernet interface with external Ethernet / RS232 converter with 4 RS232 interfaces
- All wind protection doors are motorised
- Draft shields can be completely dismantled for easy cleaning
- Terminal can be placed separate from the dosing instrument
- Protective cover for the terminal

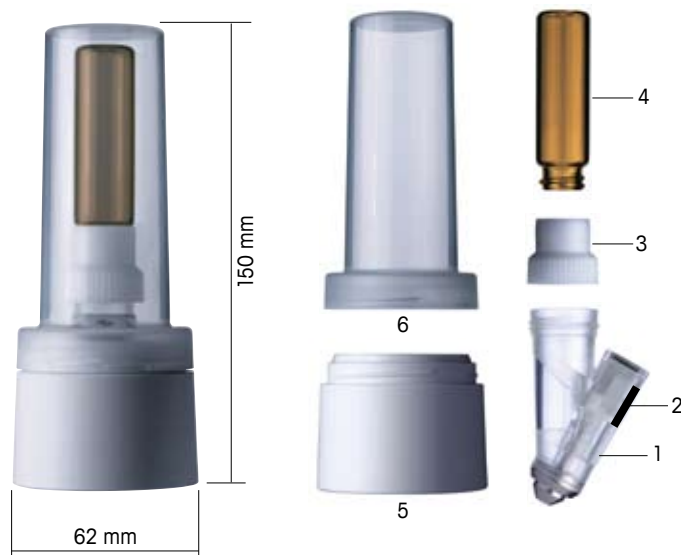
QB1 Antistatic kit

The ionizer, which can be fully integrated in the QB1 dosing instrument, generates positively and negatively charged ions. These ions immediately eliminate electrostatic charging.

QUANTOS QH075-B

Dosing Head

- Disposable dosing head with impact-resistant and water-tight transport container
- Precise dosing of free-flowing substances
- Stirrer for homogeneous samples
- For a maximum of 75 dosing operations to prevent the risk of contamination
- With integrated Radio Frequency Identification (RFID) chip all information is saved and trackable



Standard equipment

1. Dosing head of TPX and stainless steel (1.4305/1.4310)
2. RFID chip saves all information (substance ID, quantity, date, etc.) – for 75 error-free, traceable doses.
3. POM converter for accommodating all conventional glass bottles with GL18 thread
4. 16ml silica glass bottles, UV-resistant
5. Stand for safe placement of the head on the laboratory table
6. Protective lid for safe transport

Technical Data

Max. number of doses	75
Dosing repeatability	<2% at 50mg
Capacity	16ml

Scope of delivery

The QH075-B is available in a 10-pack.

Water-tight



Each head is water-tight. No additional moisture can be absorbed.

Impact-resistant



Protects your valuable sample.

All information can be tracked



A head with substance, all information (substance ID, quantity, date etc.) for 75 error-free, traceable doses is saved in the RFID and can be called up via the QB1 touch screen display.

