OMNIS Sample Robot

High throughput automation state of the art

PEOPLE
YOU
CAN
TRUST

Metrohm means … Spectroscopy!

Metrohm

A game changer

Breaking the limits of all existing automation solutions for titration: The OMNIS Sample Robot allows you to increase sample throughput to new levels.

FROM 18 TO 175 SAMPLES

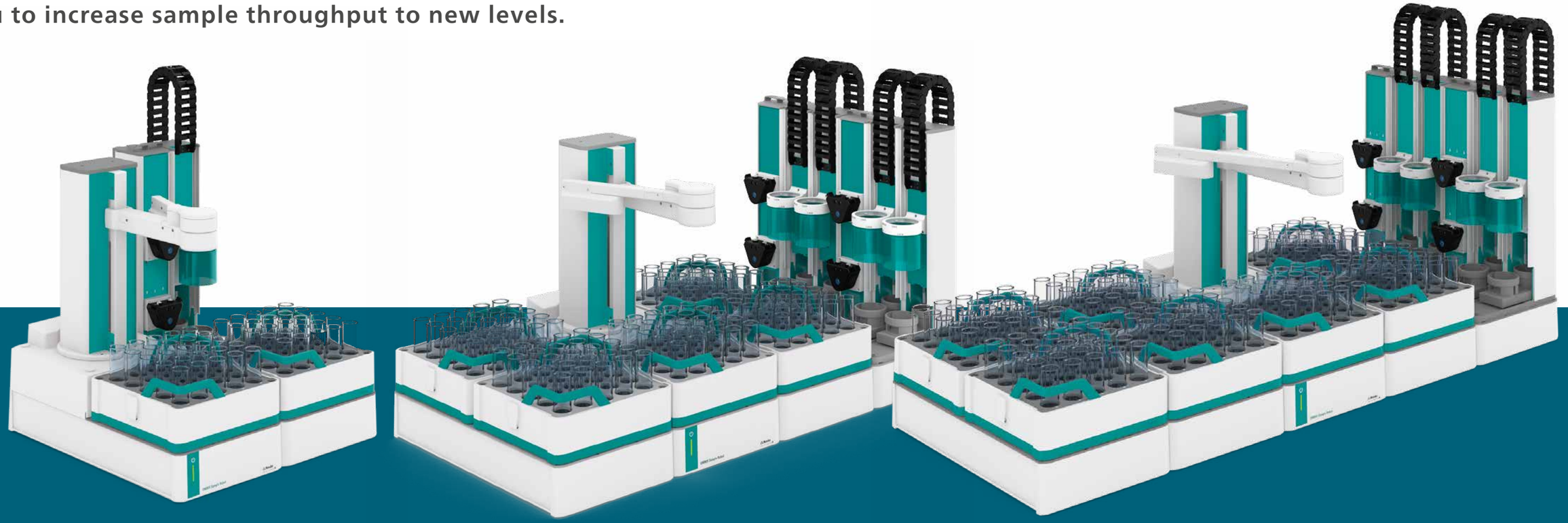
Find the right size to match your current demand and/or scale up anytime later.

HAZLE-FREE SAMPLE HANDLING

When your OMNIS Sample Robot has finished analyzing the samples on a particular rack, simply exchange it while the system keeps working – uninterrupted.

FASTER ANALYSES

Save up to 70 % on time-per analysis by four titrations in parallel compared to performing the same application with a sequential sample changer.

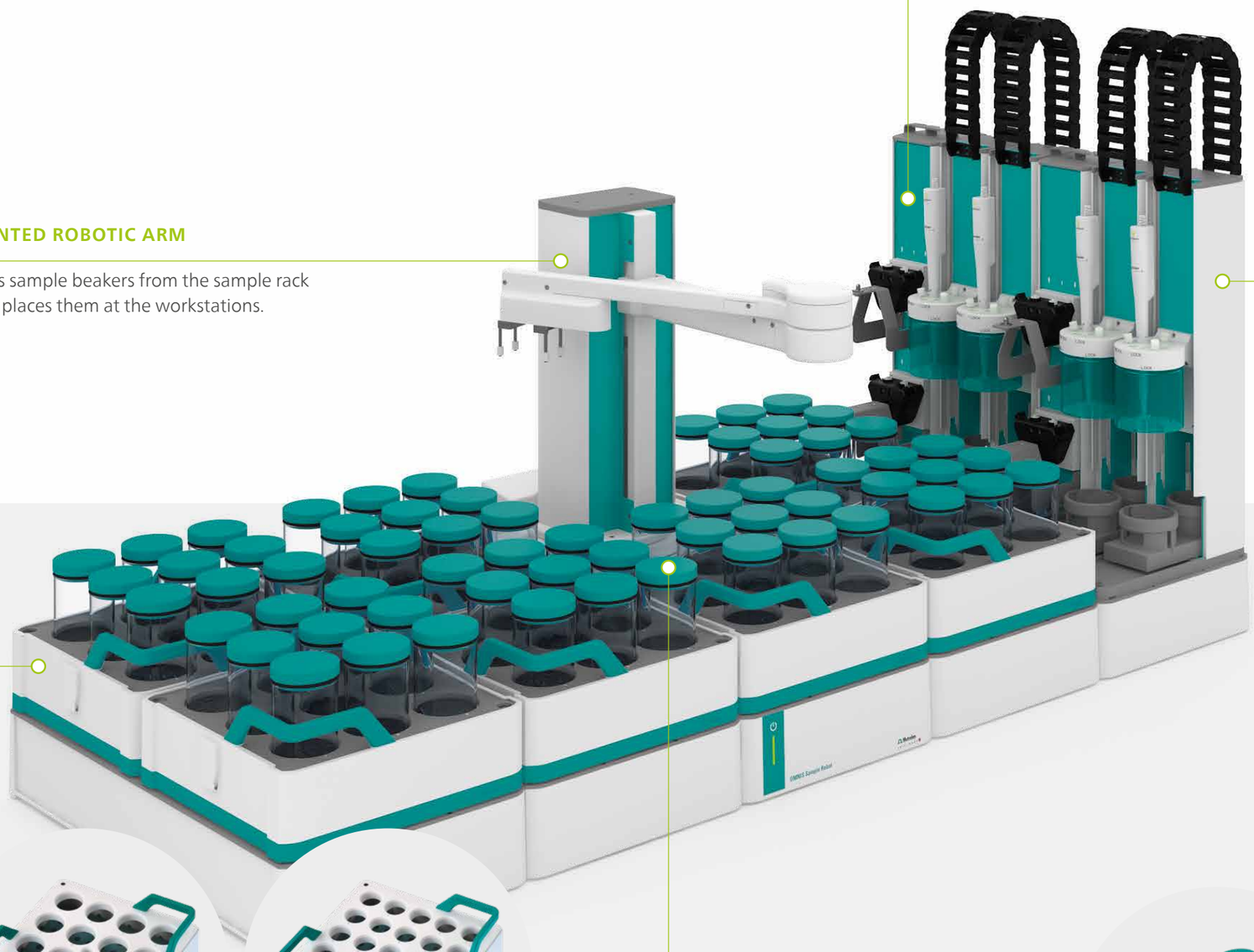


THE KEY FIGURES	SAMPLE ROBOT S	SAMPLE ROBOT M	SAMPLE ROBOT L
Dimensions (Height x depth x width)	758 x 604 x 559 mm	758 x 563 x 1161 mm	758 x 563 x 1441 mm
Number of sample racks	2	5	7
Max. number of workstations	2	4	4
Max. number of pumps	4	8	8
250 mL beakers	18	45	63
200 mL beakers	18	45	63
150 mL beakers	18	45	63
120 mL beakers	32	80	112
75 mL beakers	50	125	175

Unparalleled flexibility

JOINTED ROBOTIC ARM

Picks sample beakers from the sample rack and places them at the workstations.



PUMP MODULES

for either two or four peristaltic pumps for automated addition of auxiliary solutions, cleaning of the electrode between titrations and removal of the titrated solution to the waste canister.

WORKSTATIONS WITH MAGNETIC OR ROD STIRRER

Combine up to four different applications on one Sample Robot or simply increase throughput by having the same application performed at each of the four workstations. Each workstation can be configured individually

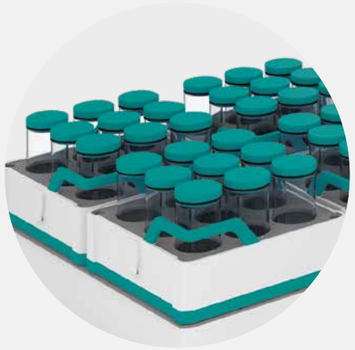
SAMPLE RACKS

OMNIS automatically identifies individual sample racks wherever they are placed on the OMNIS Sample Robot. Also unique: you can place sample racks with different beaker sizes on the same system!

Standard Sample Racks for 250 mL beakers (3x3), 120m mL beakers (4x4) and 75 mL beakers (5x5)

DIS-COVER LIDS

Protect your sample from ambient air or reduce solvent vapors in your lab environment. The lids close the beakers airtight so you can even do automated volumetric Karl-Fischer titrations!

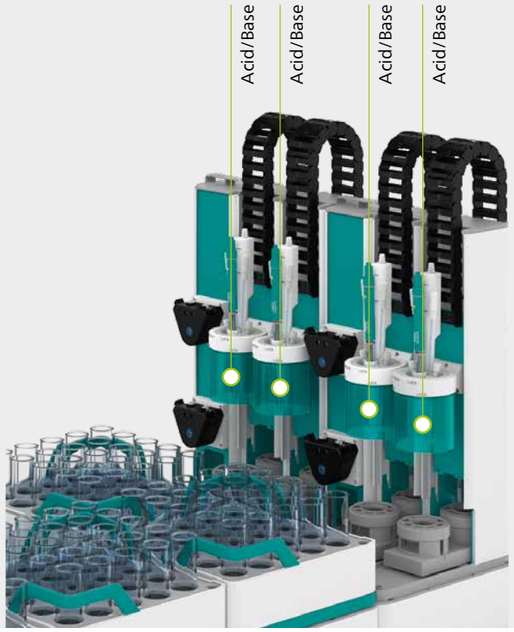


Maximize sample throughput with parallel applications

EXAMPLE ONE: FOUR TIMES THE SAME APPLICATION IN PARALLEL

Each of the four workstation is geared for the same titration application. The OMNIS Software automatically organizes the transport of the next sample beaker to the next available workstation.

Work-stations in parallel	Time on work-station	Total for 100 samples	Time gain	Samples in 24h
1	5 min	09:49 h		244
2	5 min	09:49 h	48.5%	475
3	5 min	09:49 h	62.9%	663
4	5 min	09:49 h	71.6%	862



EXAMPLE TWO: WATER ANALYSIS

Three of the four workstations are geared for conductivity measurement, pH/alkalinity titration and for water hardness, respectively. Once conductivity measurement in the first sample is finished, the sample is moved to the next workstation for pH/alkalinity titration. While this titration is being performed, the next sample is already taken to conductivity measurement, and so on.

No. of samples	Duration	Time gain
1	12 min	–
63 in "regular" series	12.5 h	–
63 in "parallel" series	4.5 h	64%

More efficient – fully integrated sample preparation

1

DIRECTLY ANALYZE SOLID OR SEMI-SOLID SAMPLES BY ADDING A HOMOGENIZER TO A WORKSTATION

Just weigh in the sample into the beaker. All required solvents or auxiliary solutions are then added automatically prior to homogenization.

2

USE THE PIPETTING EQUIPMENT FOR AUTOMATED SAMPLING OR ALIQUOTING OF LIQUID SAMPLES

Technical specifications

SAMPLE ROBOT – DIMENSIONS AND WEIGHT

Instrumet	**Dimensions** Height x Depth x Width	**Approx. weight** depending on configuration
Sample Robot S	758 mm x 604 mm x 559 mm	28 – 35 kg
Sample Robot M	758 mm x 563 mm x 1161 mm	36 – 58 kg
Sample Robot L	758 mm x 563 mm x 1441 mm	41 – 66 kg

STANDARD RACKS AND BEAKER DIMENSIONS

Sample rack	**No. of beakers per rack**	**Beaker size (mL)**	**Beaker specfication**
602041010	9	250	Glass or PP
602041020	9	200	Drinking water cup
602041030	16	120	Glass or PP
602041040	25	75	Glass
602041050	9	150	Standard lab beakers without spout

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