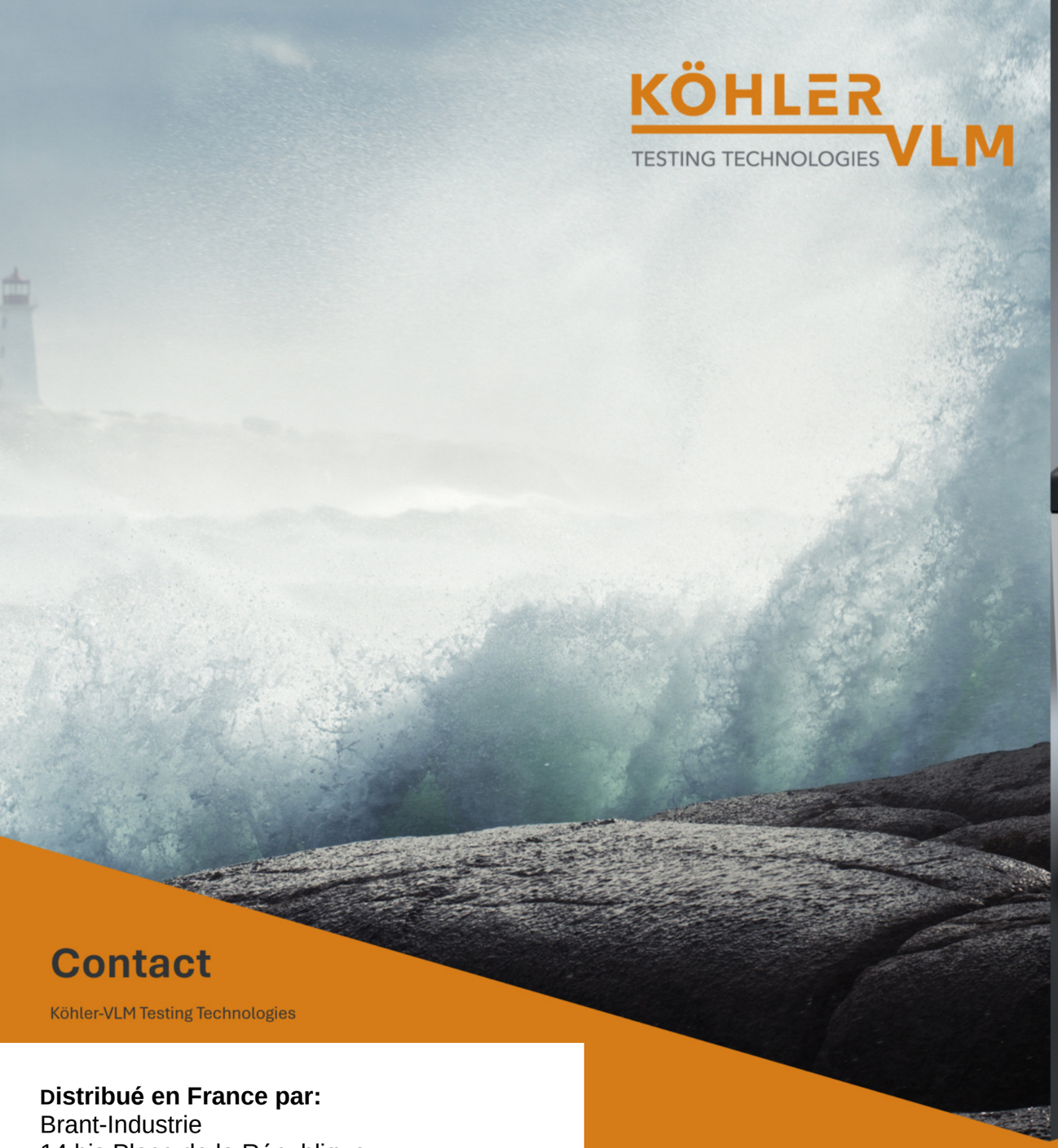
KÖHLER
TESTING TECHNOLOGIES VLM



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BRANT
Matériels pour le Laboratoire et l'Industrie
INDUSTRIE

CORROSION IN SIGHT
QUALITY INSIDE

KÖHLER
TESTING TECHNOLOGIES VLM

Our new Corrosion testing systems
Combined expertise – powerful performance

CORROSION IN SIGHT
QUALITY INSIDE

Together into the future

With more than 70 years of experience in environmental simulation, we are passionate about developing and designing corrosion testing equipment.

Thanks to our expertise and close cooperation with our customers, we have been able to develop a new generation of devices that combines all the positive features of Köhler and VLM.

Using state-of-the-art manufacturing processes, we have succeeded in developing a consistently harmonious overall system that leaves nothing to be desired.

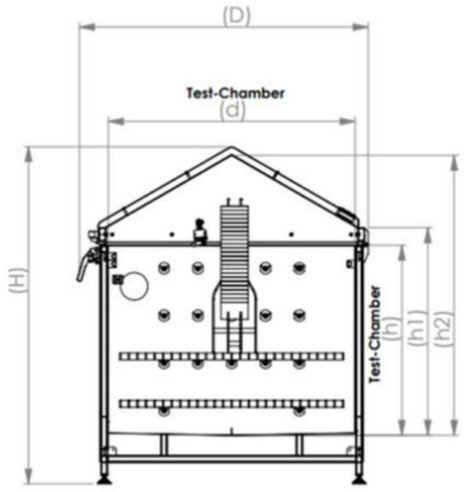
- Test chamber made of special stainless steel for optimum heat transfer
- WAGO control with graphical visualization on a 10.1" touchscreen, Linux-based
- Dual-material nozzle made of PVDF, adjustable to any position thanks to magnetic holder
- Energy savings through innovative heating technology
- Multiple positioning options for a wide variety of products
- Visible glass humidifier for easy monitoring and maintenance

Technical data sheet **KV-T**

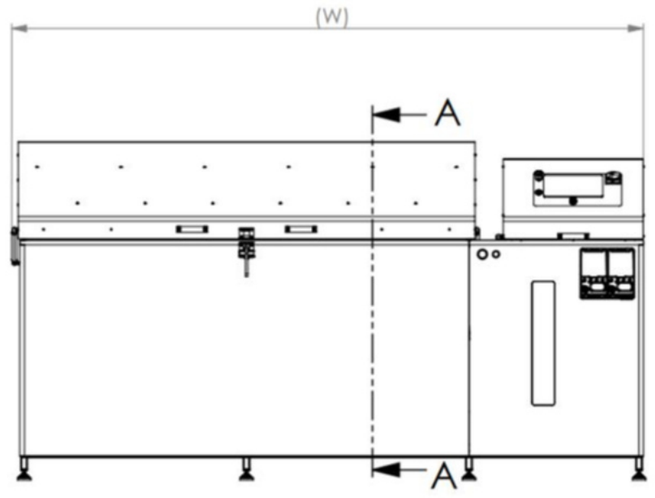
KÖHLER TESTING TECHNOLOGIES VLM

Special features:

- Test chamber made of special stainless steel for optimal heat transfer
- WAGO control system with graphical visualization on a 10.1" touchscreen, Linux-based
- Dual-material nozzle made of PVDF, adjustable to any position thanks to magnetic mounting
- Energy savings through innovative heating technology
- Multiple positioning options for a wide variety of products
- Visible glass humidifier for easy inspection and maintenance



A-A



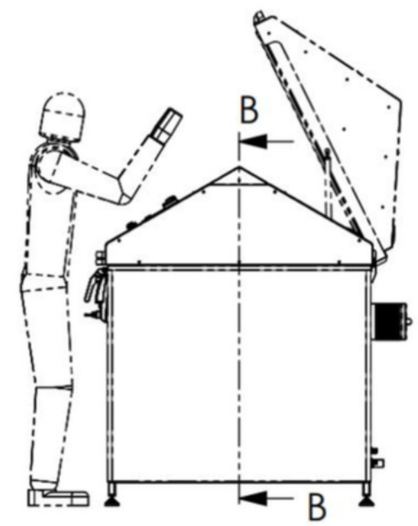
The top-loading version is suitable for the following test standards in the basic configuration:

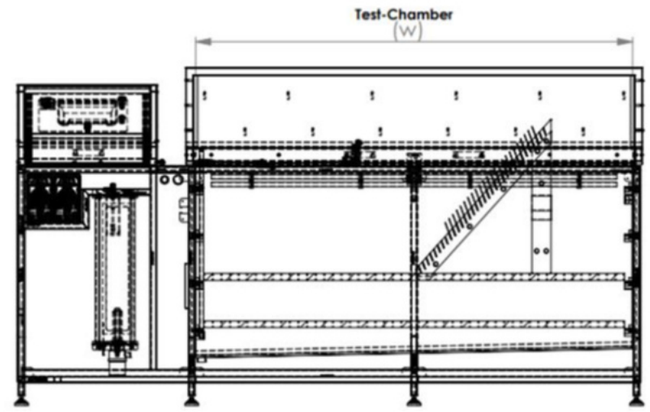
- ✓ DIN EN ISO 9227 NSS/ASS
- ✓ DIN EN 60068-2-11
- ✓ ASTM B 117

The following extensions to the test standards are possible:

- ✓ DIN EN ISO 6270-2 CH, AHT, AT
- ✓ DIN EN ISO 11997-1, Cycle B (VDA 621-415)
- ✓ VW PV 1210

KV-T			1000	2000	3000
Test chamber	Width [mm]	(w)	940	1940	2940
	Depth [mm]	(d)	1095	1095	1095
	Height [mm] (Test space edge)	(h)	840	840	840
	Height [mm] (roof slope)	(h1)	940	940	940
	Height [mm] (Gable)	(h2)	1285	1285	1285
Outside	Width [mm]	(W)	1800	2800	3800
	Depth [mm]	(D)	1250	1250	1250
	Height [mm]	(H)	1505	1505	1505
Basic equipment for salt spray	Dosing pumps		1	2	2
	Precipitation amount (adjustable)		0.5 – 3.0 ml/h		
	Spray pressure (adjustable)		0.5–3.0 bar		
	Spray nozzles		Adjustable two-component nozzle made of PVDF		
	Brine storage tank		130l	210l	210l
Weight [kg]			400	500	600
Test chamber material			Stainless steel		
Basic construction material			Stainless steel		
Maximum chamber temperature			80°C		





B-B

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Testing Technologies

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KÖHLER AUTOMOBILTECHNIK

KÖHLER VLM
TESTING TECHNOLOGIES

ABOUT OUR COMPANY

Professional solutions for standardized and customized applications

Köhler-VLM is an innovative company specializing in state-of-the-art solutions in corrosion testing technology. With in-depth expertise, precise measurement technology, and high quality standards, Köhler-VLM has been supporting companies in a wide range of industries for many years - from the automotive industry to aviation and materials research.

Our focus is on the development, manufacture, and sale of high-precision corrosion testing systems that comply with international standards and ensure reproducible, reliable test results. Our range of services extends from salt spray chambers to condensation and climate change tests to customized special solutions.

Our strengths at a glance:

- Technological expertise: Köhler-VLM combines decades of experience with continuous research and development.
- Reliable testing standards: Our testing systems comply with a wide range of testing standards.
- Customized solutions: We tailor our systems precisely to your testing requirements—whether you need a single device or a complete laboratory.
- Service and support: From commissioning to maintenance – our experienced service team is always at your side.

Typical areas of application:

- Materials testing and quality assurance
- Long-term durability analyses
- Research and development
- Product optimization during development

Mission

Our goal is to use advanced testing technology to make the service life and safety of products measurable—and thus make a decisive contribution to the quality assurance and innovative strength of our customers.

KÖHLER VLM
TESTING TECHNOLOGIES

Technical

(Depending on configuration)

Temperature	Room temperature to +50°C (± 0.5K over time)
Humidity range	40 rH to 60 rH (± 5 rH over time)
Power supply	16A, 230V/50Hz
Compressed air connection	Connection: Compressed air quick coupling Pressure: 6 to 8 bar Consumption: 2.5 Nm^3/h to 3 Nm^3/h *(Note: all salt spray standards require oil-free and particle-free compressed air)*
Water connection (demineralized water)	Connection: .3/4" AG Pressure: 2.0 to 5.0 bar Quality: fully desalinated water (conductivity >= 20µS/cm) *(Note: DE water is required for replenishing the air humidifier)* *(Note: For devices with the extension equipment for cyclic corrosion tests, deionized water is also used for the flushing device and for automatically refilling the test chamber floor during condensation tests)*
Fog outlet	Pipe connection d=125 mm
Condensate drain	Pipe connection d=32 mm
Brine supply	External 130/210l tank A container suitable for the device is already included in the basic equipment. *(Note: The volume of the storage tank varies depending on the design and configuration of the system)*
Cable feed-through	Cable feed-through d=125 mm

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On-site services

Indoor installation	For servicing, the system must have a clearance of 60 cm on all sides **Ambient temperature: approx. 23°C** **Ambient humidity: approx. 50%**
Mist outlet	Lay the exhaust air duct with a constant gradient to prevent water pockets from forming due to condensation Exhaust air connection: 125 mm
Condensate drain	Condensate drain near the floor, max. height 150 mm Drain connection: 32 mm
Compressed air connection	Compressed air connection: 6 to 8 bar *(The compressed air must be free of dirt, oil, and other contaminants. Reference value for permissible residual contamination from the superseded DIN 50 021: maximum 0.2 mg/m³ in the form of oil and dust (< 5 µm))*
Water connection (demineralized water)	Water connection/supply with demineralized water: 2.0 to 5.0 bar
Mains connection without climate control function	Cekon CEE 16A
Mains connection with climate control function	Cekon CEE 16/32A

Basic equipment

The basic equipment of the corrosion testing device includes the following:

Cable gland

Cable gland	Ø125mm

Brine supply

Hose		5m brine hose
Filter		1 brine filter
Brine tank	**KV-T** 1000	130 l tank
	KV-T 2000	210 l tank
	KV-T 3000	210 l tank

Support bars

KV-T 1000	2 pieces 900x25Ø
KV-T 2000	2 pieces 1900x25Ø
KV-T 3000	2 pieces 2900x25Ø

Note: The maximum load capacity is 35 kg per rod!

GRP grid

KV-T 1000	2 pieces 1080x430mm
KV-T 2000	4 pieces 1080x430mm
KV-T 3000	6 pieces 1080x430mm

Note: Minimal deviations in dimensions are possible!

SaliCORR (NaCl)

KV-T 1000	5 kg PE bag
KV-T 2000	10 kg PE bucket
KV-T 3000	10 kg PE bucket

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KV-T series testing devices

Item number	Description	Enables test standard
KV.720.010.000	KV-T 1000 SAL Salt spray chest 1000l	ISO 9227 NSS/ AASS
KV.720.020.000	KV-T 2000 SAL Salt spray chest 2000l	ISO 9227 NSS/ AASS
KV.720.030.000	KV-T 3000 SAL Salt spray chest 3000l	ISO 9227 NSS/ AASS
KV.720.010.001	KV-T 1000 CON Condensation water chest 1000l	ISO 6270-2 CH
KV.720.020.001	KV-T 2000 CON Condensation water chest 1000l	ISO 6270-2 CH
KV.720.030.001	KV-T 3000 CON Condensation water chest 1000l	ISO 6270-2 CH
KV.720.010.002	KV-T 1000 CON Condensation water chest 1000l	ISO 6270-2 CH, AHT, AT
KV.720.020.002	KV-T 2000 CON Condensation water chest 2000l	ISO 6270-2 CH, AHT, AT
KV.720.030.002	KV-T 3000 CON Condensation water chest 3000l	ISO 6270-2 CH, AHT, AT
KV.720.010.003	KV-T 1000 CCT Corrosion cycle test chest 1000l	VDA 621-415
KV.720.020.003	KV-T 2000 CCT Corrosion cycle test chest 2000l	VDA 621-415
KV.720.030.003	KV-T 3000 CCT Corrosion cycle test chest 3000l	VDA 621-415

Options

(possible configurations)

Item number	Description
KV.855.000.100	**Normal climate module 23°C/50% relative humidity** for VW PV 1210, DIN EN ISO 11997-1 Cycle B
KV.855.000.110	**Humidity sensor for measurement data acquisition** During the ventilation phase, the humidity sensor is moved into the test chamber. The measured data is recorded, but the relative humidity is not controlled. This function is included in the "Standard climate module 23°C/50% relative humidity" option.
KV.855.011.200 KV.855.012.200 KV.855.013.200	**Temperature extension** Increase in temperature to 80°C in the condensation phase KV-T 1000 KV-T 2000 KV-T 3000
KV.855.011.130 KV.855.012.130 KV.855.013.130	**Test room cleaning** A rotary nozzle is installed in the test room for cleaning purposes, which flushes it with deionized water or tap water at set intervals. KV-T 1000 KV-T 2000 KV-T 3000
KV.855.000.120	**Level measurement brine tank** The brine tank is equipped with float switches. This allows the current fill level (full/half/empty) to be displayed on the touch panel.
KV.855.000.121	**Automatic switching of brine tanks** An additional brine tank with level measurement is integrated. As soon as a low level is reached in the first tank, the system automatically switches to tank 2. The "Brine tank level measurement" option must be activated for this to work.
KV.855.000.130	**System for pH measurement** A pH sensor in the supply line to the spray nozzle continuously records the values. These are automatically recorded and displayed on the touch panel.
KV.855.000.131	**Conductivity measurement system** A conductivity sensor in the deionized water supply line continuously records the values. These are automatically logged and displayed on the touch panel.
KV.855.000.200	**Working contacts** Provision of 4 potential-free and programmable working contacts for customer-specific applications • 4 normally open contacts (NO) • Connection via external plug • Max. switching voltage: AC 250 V, DC 30 V; DC 110 V at 0.4 A • Max. switching current: 2 A
KV.855.000.210	**Emergency stop** An emergency stop switch is integrated into the control panel. Activating this switch immediately and completely shuts down the system to ensure maximum operational safety.

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Accessories

Item number	Description
	Support rods Sample storage rod VA Ø25mm covered with heat-shrink tubing/end caps
KV.855.111.000	KV-T 1000 Ø25mmx2mm (maximum load capacity 35 kg)
KV.855.112.000	KV-T 2000 Ø25mmx2mm (maximum load capacity 35 kg)
KV.855.113.000	KV-T 3000 Ø25mmx2mm (maximum load capacity 35 kg)
KV.855.111.001	KV-T 1000 Ø25mmx3mm (maximum load capacity 50 kg)
KV.855.112.001	KV-T 2000 Ø25mmx3mm (maximum load capacity 50 kg)
KV.855.113.001	KV-T 3000 Ø25mmx3mm (maximum load capacity 50 kg)
	GRP protective grille GRP design: halogen-free, silicone-free, recyclable Bar height: 13 or 30 mm Bar width: conical 6 - 8 mm Grid: 38/38 mm Color: gray
KV.855.110.000	GRP grid 1080x430x13mm
KV.855.110.001	GRP grid 1080x430x30mm
	Test plate holder for holding test plates, 150 x 70 mm
KV.855.100.030	Horizontal sample holder with V-slots
KV.855.100.031	Diagonal sample holder
	Sodium chloride SaliCORR® SaliCORR® Sodium chloride, NaCl Special grade for corrosion testing for 100 kg 5% NaCl solution with quality certificate
V.852.600.5000	5 kg (PE bag) *in accordance with ISO 9227*
V.852.600.9010	10 kg (PE bucket) *in accordance with ISO 9227*
V.852.600.9020	20 kg (PE bucket) *according to ISO 9227*
V.852.600.9025	25 kg (PE bucket) *according to ISO 9227*
V.852.610.5000	5 kg (PE bag) *in accordance with ISO 9227, ASTM B 117, EN 60068-2-11*
V.852.610.9010	10 kg (PE bucket) *according to ISO 9227, ASTM B 117, EN 60068-2-11*
V.852.610.9020	20 kg (PE bucket) *in accordance with ISO 9227, ASTM B 117, EN 60068-2-11*
V.852.610.9025	25 kg (PE bucket) *according to ISO 9227, ASTM B 117, EN 60068-2-11*
V.852.615.5000	5 kg (PE bag) *according to ISO 6353-2, DIN EN ISO 9227:2017, ASTM B117, EN 60068-2-11, RSA 36-00-802CH/09, Nissan MO158*
V.852.615.9010	10 kg (PE bucket) *according to ISO 6353-2, DIN EN ISO 9227:2017, ASTM B117, EN 60068-2-11, RSA 36-00-802CH/09, Nissan MO158*
V.852.615.9020	20 kg (PE bucket) *according to ISO 6353-2, DIN EN ISO 9227:2017, ASTM B117, EN 60068-2-11, RSA 36-00-802CH/09, Nissan MO158*
V.852.615.9025	25 kg (PE bucket) *in accordance with ISO 6353-2, DIN EN ISO 9227:2017, ASTM B117, EN 60068-2-11, RSA 36-00-802CH/09, Nissan MO158*

Item	Description
	Rain gauges 2 pieces per unit
KV.855.100.041	100 ml
	Rain gauge holder Magnetic measuring cup holder for determining precipitation. Can be combined with item number KV.855.100.041 (Precipitation measuring cups are not included with this item) *Note: on request, the distance to the wall can be adjusted to >100 mm*
KV.855.100.010	Measuring cup holder, corner
KV.855.100.011	Measuring cup holder, center
	Test plates CR 4 steel test specimens in accordance with VDA 239-100 (ISO 3574) for determining the corrosiveness of salt spray testers in accordance with DIN EN ISO 9227 Dimensions: 150 x 70 mm Thickness 1 mm ±0.2 mm, corrosion-protected, sealed in VCI film Intended for use within 3 months of delivery! Pack of 5
V.852.000.502	Without hole
V.852.000.502B	With hole D=7 mm in the center of one narrow side
	Compressed air maintenance unit Compressed air maintenance unit for particle- and oil-free compressed air Consisting of: Filter regulator 1000 l or 3500 l/min (0.5-10 bar with display (0-16 bar) Filter 5 µm and fine filter 0.01µm
V.852.210.100	Filter regulator 1000 l/min
V.852.210.130	Filter regulator 3500 l/min
	Hydrometer
2592621	For measuring and monitoring brine concentration. Density can be read on the scale.
	Digital refractometer
2593232	For easy measurement and monitoring of brine concentration. Text display shows: density and salt content of the solution.

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Would you like a pinch of salt?

Those who know it swear by it:

SaliCORR® Sodium Chloride for Corrosion Testing

- High purity, with quality certificate
- Free-flowing, guaranteed without anti-caking agents
- Ready-to-use packages with precise weighing

Available in the following quality grades:

SaliCORR® Sodium Chloride
NaCl Special grade for corrosion testing in accordance with ISO 9227

SaliCORR® ASTM Sodium Chloride
NaCl, special grade for corrosion testing in accordance with ISO 9227, ASTM B 117, EN 60068-2-11

SaliCORR® SP Sodium Chloride
NaCl, special grade for corrosion testing in accordance with ISO 6353-2, DIN EN ISO 9227:2017, ASTM B117, EN 60068-2-11, RSA 36-00-802CH/09, Nissan MO158

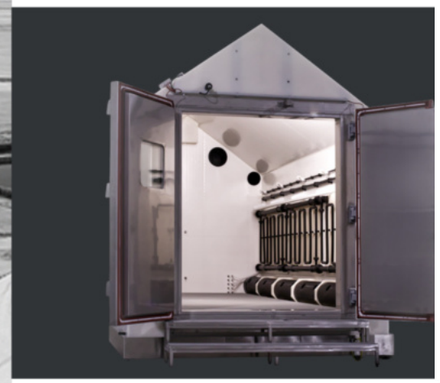
Available in the following packaging sizes:

- PE bag 5 kg
- PE bucket 10 kg
- PE bucket 20 kg
- PE bucket 25 kg

Not found what you're looking for?

No problem!

We offer additional salt spray systems and laboratory supplies.



DeepFreeze – Everything in one system

Our DeepFreeze series offers a range of solutions that comply with the DIN EN ISO 11997-3 (DIN 55635; VDA 233-102) standard.
From chests for top loading and cabinets for front loading to walk-in and drive-in custom chambers, anything is possible:

- Chest with 1000 l
- Cabinet with 500 l to 2000 l
- Custom chamber up to 100 m^3

Battery test – tomorrow's technology today

Quality assurance for batteries in electric vehicles, for example, is becoming increasingly important.
The safety of people and the environment plays a crucial role here. To ensure long-term safety, batteries must be tested under a wide range of weather conditions.

We offer a corrosion testing system for battery tests, which allows us to implement various testing standards. Thanks to precisely coordinated safety measures and close consultation with our customers, we can find a solution for all customer requirements. All existing hazard levels (HL) 0-7 can be implemented.

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