

CORROSION CHAMBERS. CONDENSATION HUMIDITY CHAMBER · SALT SPRAY



SC Serie

STANDARDS

ISO 6270 · ISO 9227 · ASTM B117 · ASTM D2247 · DIN 50017 · DIN 50021 · VDA 621-421 · JIS Z 2371

APPLICATION

NK by NEURTEK's corrosion test chambers are designed to reproduce, in an accelerated and controlled manner, the environmental conditions that cause the degradation of materials, coatings and components. They are available in two ranges covering the main internationally recognised corrosion test methods:

- **HC Series (NK- HC500 / NK- HC1000):** chambers for testing resistance to condensation. They generate a homogeneous saturated humidity environment through the continuous evaporation of water at the base of the chamber.
- **SC Series (NK- SC500 / NK- SC1000):** salt spray chambers for long-term corrosion testing (over 240 hours). They incorporate a peristaltic pump, a Venturi nozzle and an external 90-litre brine tank.

Both ranges share the same fibreglass-reinforced plastic (FRP) construction, a transparent domed cover with 360° visibility, an intuitive touch screen and a wheeled design with brakes to facilitate installation and movement. Backed by over 40 years' manufacturing experience..

GENERAL FEATURES

- Fibre-reinforced plastic (FRP) construction: durable, impact-resistant, chemical-resistant and corrosion-resistant.
- Transparent, domed cover with 360° visibility; remains open in a self-supporting position.
- Touchscreen with an intuitive interface for test configuration and monitoring.
- Wheels with brakes and forklift pockets: easy to install and move.
- All connections (electricity, water, air, drainage) centralised to simplify installation.
- Simple and reliable design, backed by over 40 years' manufacturing experience.
- NEURTEK's own technical service with 48-hour support across the Iberian Peninsula..

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TECHNICAL SPECIFICATIONS

Parameter	NK- HC500	NK- HC1000	NK- SC500	NK- SC1000
Chamber volume	500 L (17.6 ft³)	1.000 L (35.3 ft³)	500 L (17.6 ft³)	1.000 L (35.3 ft³)
Internal dimensions of the working space				
Width (a)	1,076 mm	1,553 mm	1,076 mm	1,553 mm
Depth (b)	683 mm	863 mm	683 mm	863 mm
Chamber height (c)	616 mm	620 mm	616 mm	620 mm
Ceiling height (d)	250 mm	304 mm	250 mm	304 mm
Overall height (e)	866 mm	970 mm	866 mm	970 mm
External dimensions of the chamber				
Width (f)	1,650 mm	2,127 mm	1,650 mm	2,127 mm
Depth (g)	934 mm	1,127 mm	934 mm	1,127 mm
Height (h)	1,102 mm	1,159 mm	1,102 mm	1,159 mm
Weight and load capacity				
Camera weight	125 kg	190 kg	125 kg	190 kg
Load capacity	80 kg	150 kg	80 kg	150 kg
Colour	Blanco	Blanco	Blanco	Blanco
Sample holders included				
No. of sample holders per chamber	5	7	5	7
Slots per sample holder	30	38	30 / 24 *	38 / 32 *
Max. plates per chamber	150	266	174	298
Temperature				
Chamber temperature (without insulation)	Ambiente a +55°C	Ambiente a +55°C	Ambiente a +35°C	Ambiente a +35°C
Chamber temperature (with insulation)	—	—	Ambiente a +50°C	Ambiente a +50°C
Humidifier temperature	—	—	Ambiente a +63°C	Ambiente a +63°C
Salt spray (SC Series only)				
Precipitation level (without insulation)	—	—	1,0 – 1,5 ml/h/80cm²	1,0 – 1,5 ml/h/80cm²
Precipitation level (with insulation)	—	—	1,0 – 2,5 ml/h/80cm²	1,0 – 2,5 ml/h/80cm²
External brine tank	—	—	90 L (23 US gal)	90 L (23 US gal)
Electrical connections				
Voltage	220–240 V / 50-60 Hz / 1 fase	220–240 V / 50-60 Hz / 1 fase	220–240 V / 50-60 Hz / 1 fase	220–240 V / 50-60 Hz / 1 fase
Maximum current	6 A	9 A	6 A	9 A

* In the SC chamber, a sample holder accommodates the atomiser and has 6 fewer slots. Other voltages available on request. Plate calculation based on nominal dimensions: 100 × 150 mm.

TECHNICAL SPECIFICATIONS

HC Series — Condensation Humidity

The HC500 and HC1000 chambers reproduce the condensation humidity conditions required by standards such as ISO 6270-2, DIN 50017, VDA 621-421, ASTM D2247 and BS 3900 Part F2, amongst others. Internal humidity is generated by the continuous evaporation of water from the base tray, which saturates the air inside the chamber. Samples, at a temperature below the dew point, develop condensation droplets on their surface.

- Precise, controlled temperature without the need for a fan, thanks to the optimised design for uniform saturation.
- Tray with automatic refilling, level sensor, temperature probe and safety thermostat.
- Fixed temperature programming or automatic cycle with defined times.
- Option to add the ASC-ACC48 cover to also carry out tests in accordance with ISO 6270-1 (HC500 model only)..

SC Series — Salt Spray

The SC500 and SC1000 chambers are specifically designed for long-term salt spray testing in accordance with ISO 9227, ASTM B117, ASTM G85-A5, DIN 50021 and JIS Z 2371. The peristaltic pump ensures a constant flow of brine to the Venturi-type atomising nozzle, made of PMMA with an integrated brine filter to prevent blockages.

- Heating is provided by heating blankets on the tank walls to ensure uniform heat distribution.
- Compressed air humidifier with level sensors and a safety thermostat.
- External 90-litre brine tank, easier to fill and clean than an integral tank.
- Operates with the base filled with water (greater thermal stability) or dry.
- Optional thermal insulation blanket for the lid available for greater efficiency and higher maximum temperature
- Options ASC-ACC53/1 (SC500) and ASC-ACC53/2 (SC1000) for Prohesion testing in accordance with ASTM G85-A5.

INSTALLATION REQUIREMENTS

- **Electricity:** 220–240 V single-phase, current consumption 6–9 A. Other voltages available on request (ASC-ACC33 transformer for 110 V).
- **Water:** distilled or deionised. Pressure: 0.5–5 bar. Built-in male connector Ø 12.5 mm.
- **Compressed air (SC Series only):** dry, clean, oil-free — Grade 2, 3 microns. Pressure: 4–6 bar. Connector Ø 12.5 mm. Expected consumption: 102 L/min standard.
- **Gas outlet and drainage:** one pipe connection to Patm (saline gases, SC Series only) and one waste water drain. Outlet Ø 40 mm.
- **Mobility:** integrated forklift truck attachments. Wheels with brakes.

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APPLICABLE STANDARDS

- **ISO 6270-1 / ISO 6270-2:** Paints and varnishes — Determination of resistance to moisture (condensation). HC Series.
- **DIN 50017 (KK, KFW, KTW):** Condensation tests — Test conditions and requirements. HC Series.
- **VDA 621-421:** Corrosion resistance tests for organic coatings on vehicles. HC series.
- **ASTM D2247:** Standard Practice for Testing Water Resistance of Coatings in 100% Relative Humidity. HC Series.
- **BS 3900 Part F2:** Methods of Test for Paints — Resistance to Humidity. HC Series.
- **ISO 9227:** Corrosion testing in artificial atmospheres — Salt spray test. SC series.
- **ASTM B117:** Standard Practice for Operating Salt Spray (Fog) Apparatus. SC Series.
- **ASTM G85-A5:** Standard Practice for Modified Salt Spray (Fog) Testing — Prohesion. SC Series (option ASC-ACC53).
- **DIN 50021:** Corrosion testing — Salt spray test (replaced by ISO 9227). SC series.
- **JIS Z 2371:** Methods of Salt Spray Testing. SC Series.

ACCESSORIES

Chambers (HC and SC)

Code	Description
ASC-ACC15/8 (500 L) ASC-ACC15/9 (1000 L)	Internal loading base — a removable horizontal platform covering the base of the chamber. Allows large and/or heavy samples to be accommodated.
ASC-ACC16/7 (500 L) ASC-ACC16/8 (1000 L)	Sample holders for additional plates — additional slotted sample holders.
ASC-ACC17/6 (500 L) ASC-ACC17/7 (1000 L)	Additional sample holders — for hanging samples or as a support on which to place them.
ASC-ACC18/4 (500 L) ASC-ACC18/5 (1000 L)	Additional hook-style sample holders.
ASC-ACC33	Single-phase 110 V electrical transformer — adapts the chamber to operate on a 110 V supply.
ASC-ACC56	Chamber raising — support kit to increase the height when the drain is not at a sufficient level.
ASC-ACC22 (SC) ASC-ACC23 (HC)	Installation kit — trap for drain connection, 3 m drain pipe, couplings and 3 m compressed air hose with clamps.



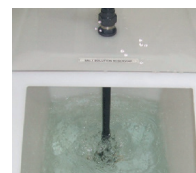
Optional calibration	Code	Description
✓	SER-CE552	ENAC-accredited isothermal calibration at 1 point (-80°C and +550°C) with 5 probes

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Salt spray chambers (SC Series)

Code	Description
0501506	Rainfall measurement kit — 80 cm ² in-ground sensor and 0–50 ml graduated measuring cylinder for controlling the precipitation rate.
HI-96821	Digital salinity refractometer — direct reading of % NaCl in water (0–28 %) with a single drop of saline solution.
ASC-ACC45/1 ASC-ACC45/2	Ceiling insulation blanket — improves thermal efficiency, increases the maximum temperature and extends the salt spray test range.
HI-HS98199-2	Multiparameter pH/EC — includes digital pH (HI-829113) and EC (HI-763093) probes, calibration solutions, PC software, micro USB cable, batteries, certificate and carrying case.
ASC-ACC55	Additional saline solution tank — 90 L in addition to the standard tank.
ASC-ACC02/1 ASC-ACC02/2 ASC-ACC02/3	Translucent brine reserve tank with graduated scale, lid and wheels. Capacities: 80 L / 115 L / 160 L.
ASC-ACC04/1	Air compressor — provides a continuous flow of oilfree compressed air.
DAF-FEA50 DAF-FE300	Demineraliser — high-purity water for the humidifier, the humidity generation system and brine preparation.
WE-64864210 WE-64864211	Brine agitator — external 200- or 500-litre tank for brine preparation and agitation.
ASC-ACC53/1 (SC500) ASC-ACC53/2 (SC1000)	ASTM G85-A5 Prohesion option — kit for carrying out Prohesion tests with intermittent spray cycles and humid air.



Optional calibration	Code	Description
✓	SER-CE552	ENAC-accredited calibration of isothermal medium at 1 point (-80°C and + 550°C) with 5 probes