ACTIVE IMPLANTABLE MEDICAL DEVICE TESTING

# Atmospheric Pressure Cycling Test System

## KP3105

## Controlled pressure exposure for implant testing

The KP3105 applies programmed pressure cycles and holds to active implantable medical devices. A transparent liquid chamber allows observation of the test setup, and the control software records pressure over time.



SYSTEM OVERVIEW

| ≥304 kPa | ≥40 cycles | ≤2 min | ≥1 h |
|---|---|---|---|
| Absolute pressure High-pressure capability | High-pressure cycling capability | High-pressure ramp time Each direction | Pressure hold at 150 ± 7.5 kPa absolute |

### Devices under test

Cochlear implants, auditory brainstem implants, cardiac pacemakers and other active implantable devices with pressure exposure requirements.

### Referenced standards

Pressure test procedures from ISO 14708-1, -2 and -7. Also relevant to GB 16174.1-2024 and GB 16174.2-2024, subject to the applicable national requirements.

TEST METHOD REFERENCE

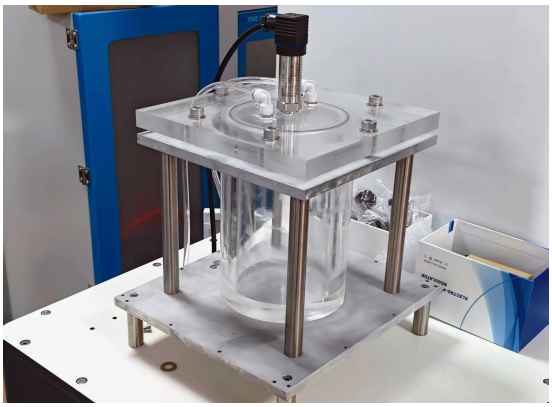
# Pressure exposure profiles

Use the applicable standard and DUT documentation to select the exposure profile. The table lists test-method conditions separately from the equipment specifications on page 3.

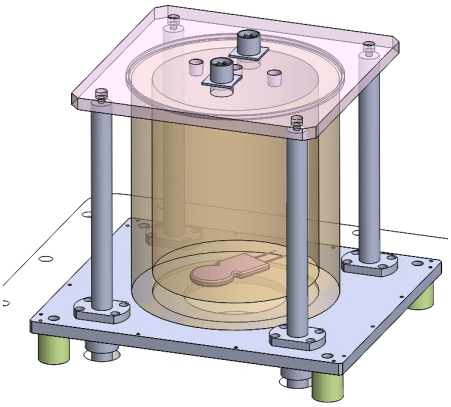
| Standard / clause | Pressure target | Cycles | Ramp and dwell |
|---|---|---|---|
| **ISO 14708-7:2019 Clause 25.1 · Low pressure** | 50 kPa absolute | 25 | Each ramp ≤3 min<br>Dwell ≥3 min |
| **ISO 14708-7:2019 Clause 25.1 · High pressure** | ≥304 kPa absolute | 40 | Each ramp ≤2 min<br>Dwell ≥2 min |
| **ISO 14708-1:2014 Clause 25.1 · Pressure holds** | 70 ± 3.5 kPa and<br>150 ± 7.5 kPa absolute | — | Hold each pressure ≥1 h |
| **ISO 14708-2:2019 Clause 25.2 · Pacemakers** | Ambient to 1.5 × the pressure documented by the DUT manufacturer | 20 | Pressure change ≥100 kPa/min<br>Maximum pressure held ≥1 min |

**Pressure reference.** Targets are absolute where indicated. For the pacemaker test, confirm the pressure reference and required maximum pressure against the DUT documentation and equipment configuration.

## Chamber and specimen setup



01 Transparent chamber, product photograph



02 Chamber and specimen support, design view

Mount the specimen in a suitable fixture and use the medium specified by the test procedure. The documented configuration uses water. For saline or other media, confirm chamber compatibility and specimen containment.

Secure the chamber before running the programmed ramps, holds or cycles. Review the pressure-time record, fully depressurize the chamber and evaluate the specimen as required by the applicable procedure.

EQUIPMENT AND CONFIGURATION

# Technical specifications

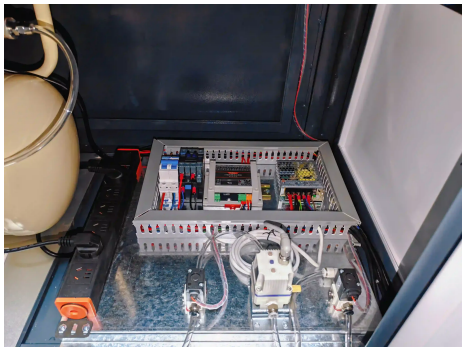
KP3105 · Programmable atmospheric pressure cycling test system

| Parameter | KP3105 specification |
|---|---|
| **High-pressure profile** | ≥304 kPa absolute; ≥40 cycles; dwell ≥2 min; ramp-up and ramp-down each ≤2 min |
| **Pressure change rate** | ≥152 kPa/min listed for the high-pressure profile. Confirm the pressure interval and rate for the selected configuration. |
| **Absolute-pressure hold** | 150 kPa ±7.5 kPa for ≥1 h |
| **Test modes** | High- and low-pressure cycling, holding, ramping and user-defined profiles. Confirm the low-pressure setpoint and timing for the required configuration. |
| **Chamber and medium** | Transparent liquid chamber with specimen positioning support; effective volume ≥500 mL. Water in the documented configuration. |
| **Pressure control** | Program-controlled loading, holding, release and cycling |
| **Software and data** | Profile setup, live pressure-time curve, cycle progress, test and gas-circuit status, data recording and Excel report export. USB / LAN data transfer depends on configuration. |

## Control software and internal components




English control interface. Displayed values are illustrative.



Internal assembly. Layout varies by configuration.

### Request a configuration review

Send the standard edition and clause, DUT dimensions, absolute-pressure targets, ramp and dwell times, cycle count, test medium, fixture needs and report format.

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