



# Leak testing services

Individual services in leak testing  
technology for your applications

# Leak testing services

## Our services at a glance

### **Feasibility / cycle-time studies**

In the course of a feasibility study we gain an understanding of the technical requirements of your product. This enables us to develop and apply a leak test procedure in industrial tightness control. This applies for new products prior to the market introduction or existing products with the need for cycle-time optimization. We work out an individual optimum solution for you to meet tightness requirements and respective regulations in detail.

### **Feasibility study for Container Closure Integrity Testing (CCIT)**

Quality and effectiveness of drugs depends significantly on their proper packaging to maintain sterility throughout their lifetime. With a feasibility study we gain an understanding of your packaging and the CCIT capabilities. With our three CCIT-technologies we will confirm achievable detection limit and cycle time on your packaging.

### **Contract leak testing**

When investment in leak testing instruments is not an economically meaningful expense, we are your choice by offering contract leak testing as a service.

### **Residual gas analysis**

Residual gas analysis in vacuum systems and tightness control with a wide range of tracer gases like air components or electrolytes. The results are transferred to you in a detailed report.



## We provide you the following solutions

Pfeiffer Vacuum is providing complete vacuum solutions. We offer products and technical assistance over the entire process. Further, we offer test procedure development and test implementation. In close cooperation with our customers, we create customized solutions for your product. If you have components or final products, which should be leak tested, we can provide you feasibility studies or cycle-time studies as an all-in-one service in our application laboratory.

- Assistance in determining your leak rate requirements and conversion into a test recipe
- Technical support in selecting the optimal and safest leak detection solution for your application
- Wide range of solutions: Leak detection using tracer gas or air with special solutions for hermetically sealed products
- Integrated all-in-one solutions, including consulting and a network of partners for automated systems



Automotive



Pharmaceutical packaging



IP protection class



Refrigeration and air conditioning

We cover **15 different test methods** according to DIN EN 1779 / DIN EN ISO 20485 and we meet the requirements inside the USP 1207 with our 4 technologies.

## Air leak testing

**Fast and reliable leak testing with air for packaging and electronics as well as for industrial and medical applications**

## Tracer gas leak testing

**Highest sensitivity and fast leak testing for high end applications such as automotive, medical & semiconductor industry**

## Pfeiffer Vacuum products



E-PDQ



ASM 340

## Test methods per technology

**D1:** Pressure decay test, manually via gauge

**D2:** Pressure rise test, manually via gauge

**D3:** Pressure change test, bell pressure change, with overpressure, manually via gauge

**D3:** Pressure change test, bell pressure change, with vacuum, manually via gauge

**D4:** Flow measurement, **outside/in;** from higher pressure to vacuum; Mass Extraction / **inside/out;** from higher pressure to atmospheric; Micro-Flow

**A1–A3:** Helium leak testing, **A1** total vacuum technique, **A2** partial vacuum technique, **A3** local vacuum technique,

**B2:** Vacuum box

**B3:** Pressure technique by accumulation

**B4:** Sniffing test

**B5:** Pressurization – evacuation test, “bombing test”

**B6:** Sealed objects by external vacuum technique, integral vacuum test

**B7:** Carrier gas technique

Hint: **A1, B2, C3, D4...** = Abbreviation for test methods according to DIN EN 1779 / DIN EN ISO 20485

**Multi gas analysis/  
Optical emission  
spectroscopy**

**Integrity testing for highly  
demanding pharmaceutical  
packages and advanced  
sealed devices**



AMI 1000

**Quadrupole  
mass spectrometry**

**Residual gas analysis  
in vacuum systems and  
tightness control with a  
wide range of tracer gases  
like air components or  
electrolytes**



PrismaPro

**B6:** Sealed objects by external  
vacuum technique, integral  
vacuum test

Detection of e. g. Air,  
Nitrogen, Argon, Helium,  
and many other gases

**B6:** Sealed objects by external  
vacuum technique, integral  
vacuum test

Detection of any gases  
(1–200 u)

**Examples of test methods**



Integral test of parts  
under vacuum in helium



Integral test of helium  
filled parts in vacuum



Sniffing test



Micro-Flow (over pressure test)

# VACUUM SOLUTIONS FROM A SINGLE SOURCE

Pfeiffer Vacuum stands for innovative and custom vacuum solutions worldwide, technological perfection, competent advice and reliable service.

## COMPLETE RANGE OF PRODUCTS

From a single component to complex systems: We are the only supplier of vacuum technology that provides a complete product portfolio.

## COMPETENCE IN THEORY AND PRACTICE

Benefit from our know-how and our portfolio of training opportunities!

We support you with your plant layout and provide first-class on-site service worldwide.

Are you looking for a  
perfect vacuum solution?  
Please contact us:

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