

COMPACT HIGH PERFORMANCE
HELIUM LEAK DETECTORS
ASM 182 SERIES



The most powerful leak detectors on the market to meet demanding applications needs

The ASM 182 Series: a unique helium leak detection concept delivering high performance, offered in a compact version.



PERFORMANCE

- High helium leak detection sensitivity: $5 \cdot 10^{-12}$ atm.cc/s.
- Fast response time thanks to the very large helium pumping speed.
- High roughing capacity.
- Fast recovery time.

RUGGED DESIGN

- Alcatel modular design, using robust components, provides exceptional reliability in the most severe industrial applications or environments.
- Automatic protection integrates all safety controls to enable the instrument to withstand accidental air-inrushes and severe shocks due to the transportation or power failures or incorrect operations.
- Modular design provides easy access to internal components.

**The ASM 182 Series:
The solutions for all your needs**

RELIABILITY

- Repeatability of the test.
- Ease of maintenance.

FLEXIBILITY

- Customized solutions:
 - Dry or conventional versions.
 - Compact model: ASM 182 Series for limited footprint requirements.

An innovative concept offering the best solution to a wide range of applications

Always ahead of the competition in term of innovation, Alcatel strategy has always been to offer our customers the widest range of leak detectors equipped with the latest technology.

The ASM 182 Series delivers a perfect combination of performance with unique features and user-friendliness, thanks to:

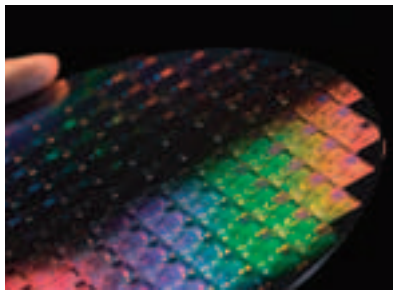
- high sensitivity cell with dual filaments
- latest electronic generation
- new operator interface.

The Adixen ASM 182 Series provides flexible solutions to meet all your leak detection needs.

- Easily integration in a production line to leak test parts 24 hours a day.

- Detecting leaks as small as the 10^{-11} atm.cc/s range.

- Leak testing parts of various volumes with a stand alone leak detector.
- Pinpointing very small leaks in large installations.



Applications

Semiconductor

Process chambers, load locks, vacuum system maintenance, gas panel and lines, mass flow controllers...

Automotive Industry

Air conditioning compressors, evaporators and lines, ABS valves and lines, air bags inflators and ignitors, fuel injectors, heat exchangers...

Medical and Pharmaceutical

Catheters, blood filters, pacemakers, hermetically sealed packaging, blister packs...

Aeronautics/Aerospace

Test of satellites, fuel tanks, window seal systems, engine injection valves, pumps, hydraulic components, oxygen lines...

Nuclear Physics/ Research & Development

Particle accelerator vacuum and beam lines, cryogenic lines vessels, vacuum valves and components, vacuum systems and instruments, accelerators and containers...

Refrigeration/Air conditioning

Compressors, evaporators, heat exchangers, lines, dryers, complete systems...

Instrumentation

RGA, gas analyzers, lasers, instrumentation analyzers, electronic microscopes...

Chemical and Mechanical

Reservoirs and storage vessels, distillation columns, filters, vapor generators, transfer lines, ovens, controlled environments, vacuum systems, storage tanks, heat exchangers, freeze dryers fire extinguishers...

Electrical

Lightbulb and tube manufacturing, photo-multiplier tubes, high voltage relays, circuit breakers and transformers, underground cables and distribution systems, maintenance of power plants...

All the Alcatel's detectors share the same advantages

Unmatched performance

High sensitivity

- The integration of Adixen's innovative magnetic deflection 180 degrees analyzer and unparalleled amplification system with a direct flow test mode delivers the highest sensitivity ($5 \cdot 10^{-12}$ atm.cc/s helium minimum detectable leak).
- The Adixen design analyzer cell offers excellent mass separation and unmatched stability and sensitivity.
- The analyzer cell smart design allows easy, fast and accurate automatic calibration.
- The unique Adixen concept dual filaments (single replacement) enhances the up-time of the analyzer cell.

Fast roughing capacity

- 2 well proven technologies:
 - for most of the industrial leak detection applications, the 2 stages helium stable rotary vane pump.
 - for clean environments, a unique and extremely effective concept including a frictionless roots pump technology with a MDP (molecular drag pump).
- The low rotational speed of the MDP and the Turbo pumps (27000 rpm) yield at least 3 years of operation free (8 hours shift).

Response time

Fast response time means high helium pumping speed at the inlet of the unit. The ASM 182 Series deliver a helium pumping speed of 4 l/s, making easier and faster to locate leaks on systems.



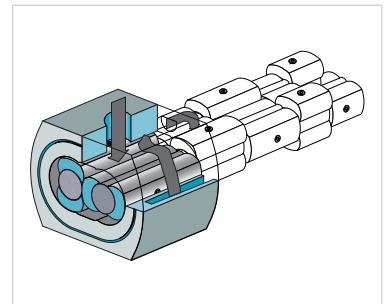
Rotary vane pump

Efficient and low ultimate pressure, ensure by forced lubrication from oil pump.



Compact dry pump

The ACP 28 multistage roots frictionless pump technology guarantees a high level of cleanliness, reliability and longevity.



ACP Dry Root Pump cutaway: the Adixen multistage frictionless pump Roots technology.

Control panel and remote control incorporating state of the art electronics

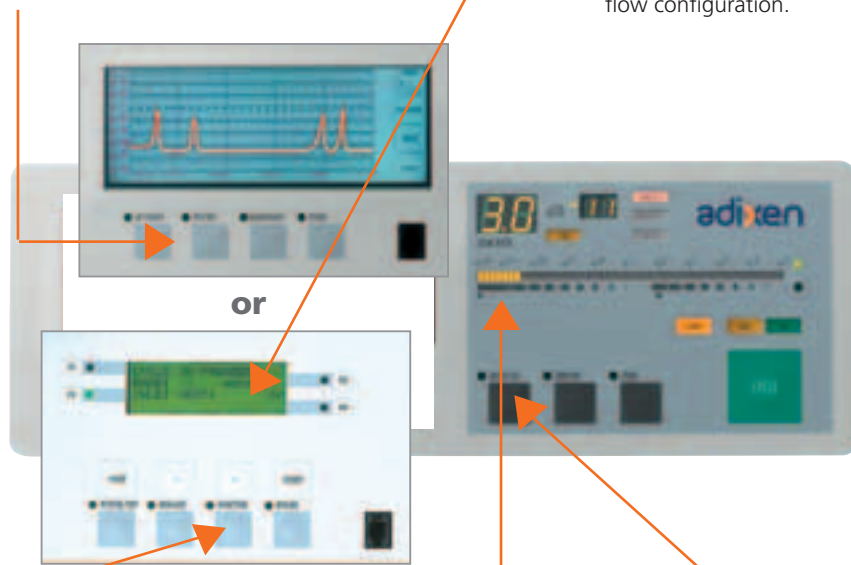
Settings and maintenance

- Comprehensive display panel includes: operator interface level, settings, maintenance information (preventive and corrective maintenance). All of which is password-protected.
- Parameters can be quickly and easily modified via a simple menu.
- The control panel can be customized to provide 4 levels of operator interface to respond to any needs.

NEW

Color Graph Display

- Touch screen panel
- Dynamic internal lay-out
- Record and download function



Signal correction

- Automatic correction processed by the detector through an external calibration to compensate for split flow test configuration.
- Ability to manually adjust the correction factor to display direct readout of the helium signal for split flow configuration.

Auto-calibration

- Auto-calibration with built-in temperature compensated calibrated leak and age compensation.
- Auto-calibration during the start-up sequence and the ability to activate it periodically.
- All pertinent information related to the auto-calibration process and its settings.

Display

- The helium signal is displayed in two different ways: bargraph display to highlight the fast evolution of the signal and digital display to get high resolution and a direct readout.
- Variable pitch audio alarm proportional to the Helium signal amplitude for easy location of leaks, available in any test mode.

Auto-zero function

- The advanced floating auto-zero function allows the operator to conveniently improve the sensitivity of the detector when the helium signal measurement becomes more difficult due to a high background level.
- The advanced floating auto-zero is based on a specific algorithm which eliminates the display of erroneous results and guarantees the detection of any size leak.
- All these functions are directly accessible by depressing one single switch.
- A very helpful function to increase the sensitivity of the test in inboard as well as outboard leak test modes.



A very comprehensive remote control is offered as an accessory.

Conventional versions



ASM 182 T

The most powerful compact leak detector on the market and most popular in the industry for mass production of small parts. Ideally designed for easy integration in production lines, this unit can also be used for small production of parts as well as the leak test of large volumes.

Equipped with a 20 m³/h (15 cfm) roughing/backing pump, a 130 l/s hybrid turbo pump and the Adixen 180 degrees magnetic deflection mass spectrometer, the ASM 182 T delivers unmatched performance, repeatability and reliability where and when you need it most.

Dry versions

ASM 182 TD+

Compactness has always been synonymous with limited performance and poor lay out of components. Adixen has challenged this belief.

Using its unique frictionless multistage dry pump model ACP 28, Adixen designed an unmatched concept delivering high performance in a well layout system.

The ASM 182 TD+ is a self-contained unit which can be installed on a cart for easy manoeuvrability.



Options

3 masses

In addition to the Helium (H4), Helium (H3) and Hydrogen can also be detected.

The 180 degrees magnetic deflection analyzer cell delivers an exceptional selectivity between masses.

Metal seals

The leak detector comes with elastomer seals. For specific requirements, such as high sensitivity or when using the leak detector in a high helium environment, the unit can be equipped with metal seals to prevent helium background due to permeation through the elastomer seals.

Cart

Stainless steel cart equipped with four large full swivel wheels with brakes.

New tactil interface operator

User friendly color touch screen graphic display, with colorful screen and graphs delivers two modes of operation basic and advanced to meet any customer needs.

Language

4 different languages are available for the operator convenience (L.C.D. display and voice synthesizer messages):
English - French - German - Japanese.

Test chambers

High production leak testing of various sealed parts items can be speeded up by optimizing dead volumes.

To meet this requirement, three test chambers are available:

- Hemispherical test chamber Ø 72 mm (2.3/4"), Depth 31 mm (1.1/4").
- Cylindrical test chamber Ø 85 mm (3.11/32"), Depth 68 mm (2.3/4").
- Cylindrical test chamber Ø 160 mm (6.1/4"), Depth 100 mm (4").

These chambers are provided with automatic cycle start.

Accessories

Description	PART NUMBER
Long distance sniffer probe with a 5 meters tube (16 ft)	SNC1E1T1
Dedicated long distance sniffer probe	*
10 m/30 ft long distance sniffer extension	090216
Helium spray gun "elite"	109951
Helium spray gun	112535
Foot pedal for cycle command 1,5 m/5 feet	100913
Transport Cart ASM 182	111196



Long distance sniffer probe



Helium spray gun

Remote control

Description	PART NUMBER
Unit: mbar.l/s - Front face in English	106688
Unit: Torr.l/s - Front face in English	108881
Unit: Pa.m ³ /s - Front face in English	108880
Unit: Pa.m ³ /s - Front face in Japanese	106690



Measurement units

The multi-color remote control offers the choice from 3 different measurement units:

- mbar.l/s and mbar.
- Pa.m³/s and hPa.
- Torr.l/s and Torr.

* For accessories, see "Accessories for helium leak detectors".

Ordering information ASM 182 T

D2 **0** **P** **0**

Leak detector	
ASM 182 T	
Code	D2

Masses			3 Masses (3). This option allows the leak detector to detect masses 2, 3 and 4.
Helium		3 masses	
Code	0	3	

Seals for the vacuum module and analyzer cell			The leak detector can be provided with : Elastomer seals (for the high vacuum as well as the inlet block) as standard (R) or with metal seals for specific applications (M). The elastomer seal is the standard configuration.
Elastomer seals		Metal seals	
Code	R	M	

Interface operator		
Standard		Tactil
Code	S	T

Test chamber				
None		Small Model chamber	Medium Model chamber	Large Model chamber
Code	0	1	2	3

Language				
French		English	German	Japanese
Code	A	B	C	E

Voltage		
110/130 V 50/60 Hz		200/240 V 50/60 Hz
Code	7	8

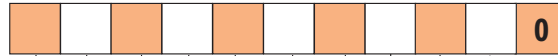
Cable Type						
USA		France / Germany	UK	Italy	Switzerland	Without plug
Code	1	2	3	4	5	7

For example
You need ...

ASM 182 T	D2
Helium	0
Elastomer seals	R
Tactil	T
Large chamber	3
English	B
110/130 V	7
USA	1

= **D2 0 R T 0 3 P B 7 1 0**

Ordering information ASM 182 TD+



	Leak detector without cart	Leak detector with cart
	ASM 182 TD+	ASM 182 TD+
Code	D1	D7

	Masses	
	Helium	3 masses
Code	0	3

	Seals for the vacuum module and analyzer cell		The leak detector can be provided with : Elastomer seals (for the high vacuum as well as the inlet block) as standard (R) or with metal seals for specific applications (M) . The elastomer seal is the standard configuration.
	Elastomer seals	Metal seals	
Code	R	M	

	Interface operator	
	Standard	Tactil
Code	S	T

	Detection option		Gas line "bullet test" (G) . This option allows to leak test long gas lines with very small diameter. Using an ultra clean purge gas such as nitrogen as a corrigier gas, the line is maintained in a viscous regime to allow fast response time.
	Standard	With gas line	
Code	S	G	

	Test chamber			
	None	Small Model chamber	Medium Model chamber	Large Model chamber
Code	0	1	2	3

	Cover		U.C.T. - Ultra Clean Technology (C) . Front and rear covers and frame in stainless steel.
	Painted	UCT	
Code	P	C	

	Language			
	French	English	German	Japanese
Code	A	B	C	E

	Voltage	
	110/130 V 50/60 Hz	200/240 V 50/60 Hz
Code	7	8

	Cable Type					
	USA	France/Germany	UK	Italy	Switzerland	Without plug
Code	1	2	3	4	5	7

For example
You need ...

- ASM 182 TD+ without cart **D1**
- Helium **0**
- Metal seals **M**
- Tactil **T**
- Standard **S**
- Small chamber **1**
- UCT **C**
- English **B**
- 200/240 V **8**
- UK **3**



**China**

Alcatel Vacuum
Technology Shanghai
Tel: (8621) 5027 0628
Fax: (8621) 3895 3815

France (Headquarters)

Alcatel Vacuum
Technology France
Tel: 33 (0)4 50 65 77 77
Fax: 33 (0)4 50 65 77 89

Germany

Alcatel Hochvakuum
Technik GmbH
Tel: (49) 9342 96 10 0
Fax: (49) 9342 96 10 30

Italy

Alcatel Vacuum
Systems S.p.A.
Tel: (39) 039 686 3855
Fax: (39) 039 667 125

India

Alcatel Vacuum
Technology India
Tel: (91) 124 4737777
Fax: (91) 124 4737799

Japan

Alcatel-Lucent Japan Ltd
Tel: (81) 3 6431 7130
Fax: (81) 45 544 0049

Korea

Alcatel Vacuum
Technology Korea
Tel: (82) 31 206 6277
Fax: (82) 31 204 6279

Netherlands

Alcatel Vacuum
Technology Netherlands
Tel: (31) 345 478 400
Fax: (31) 345 531 076

Singapore

Alcatel-Lucent Singapore
Tel: (65) 6254 0828
Fax: (65) 6254 7018

Sweden

Adixen Scandinavia
Tel: (46) 13 35 59 00
Fax: (46) 13 35 59 01

Taiwan

Alcatel Vacuum
Technology Taiwan
Tel: (886) 3 5599 230
Fax: (886) 3 5599 231

United Kingdom

Alcatel Vacuum
Technology (U.K.) Ltd
Tel: (44) 1 506 418 000
Fax: (44) 1 506 418 002

USA

Alcatel Vacuum
Products
Tel: (1) 781 331 4200
Fax: (1) 781 331 4230

Alcatel Vacuum Technology France
98, avenue de Brogny - BP 2069 - 74009 ANNECY CEDEX - FRANCE - Tel.: 33 (0)4 50 65 77 77 - Fax: 33 (0)4 50 65 77 89
www.adixen.com