

HELIUM LEAK DETECTORS



High performance
dry leak detectors

ASM 182 TD+
ASM 192 T2D+

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High Performance Dry Leak Detectors

ASM 182 TD+ and ASM 192 T2D+

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

ASM 182 TD+ and ASM 192 T2D+ : a unique Helium leak detection concept delivering high performance and unmatched cleanliness, offered in a compact or console format.

New

Alcatel was the first to introduce a standard oil-free helium leak detector on the market, the ASM 180 TD. The success was immediate in the semiconductor industry. Its performance was very appreciated (high roughing capacity, high sensitivity, low cost of ownership...). Alcatel anticipated the need for new leak test requirements for larger chambers in the semiconductor market for the OEMs as well as the End Users. Once more, Alcatel has designed the most powerful and sensitive dry leak detectors on the market today: the ASM 182 TD+ and ASM 192 T2D+.



PERFORMANCE

- High helium leak detection sensitivity: 5.10^{-12} Atm.cc/s
- Fast response time thanks to the very large helium pumping speed (up to 20 l/s)
- High roughing capacity (up to 30 CFM)
- Fast recovery time.

RELIABILITY

- Repeatability of the test
- Ease of maintenance
- Rugged design

**THE ASM 182 TD+ AND ASM 192 T2D+
THE SOLUTIONS FOR ALL YOUR NEEDS**

FLEXIBILITY

- Customized solutions:
 - Compact model: ASM 182 TD+ for limited footprint requirements.
 - Console model: ASM 192 T2D+ for large-chamber leak test requirements.

CLEANLINESS

- 100 % hydrocarbon free
- The cleanest leak detectors on the market
- Clean-room compatible.

High Performance Dry Leak Detectors

ASM 182 TD+ and ASM 192 T2D+

An innovative concept offering the Best Solution to a wide range of applications

The 100 % hydrocarbon-free Alcatel dry leak detectors guarantee total cleanliness during the leak test of systems and components. The introduction of the ASM 182 TD+ and ASM 192 T2D+ demonstrate once more our commitment to performance in demanding industries such as: Semiconductor, Medical, Pharmaceutical, Electronics, Instrumentation and food packaging. Our dry leak detectors are versatile and accommodate different leak test methods:

- the hard vacuum (inboard testing for high sensitivity requirements)
- sniffing (outboard leak testing).

Semiconductor

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

Medical and pharmaceutical

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

Nuclear physics / research & development

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

Instrumentation

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



Electronics

hermetically sealed integrated circuits, liquid crystal displays, quartz displays, hybrid circuits, open-packages, opto-electronic components, fiber optics.

Packaging industry

Hermetic medical and pharmaceutical packaging, food containers, food and beverage cans, drums...



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Compact model: ASM 182 TD+

Compact version for leak testing applications where space is limited.

Recognized and proven technology

Compactness has always been synonymous with limited performance and poor layout of components. Alcatel has challenged this belief. Using its unique frictionless multi-stage dry pump model ACP 20, Alcatel designed an unmatched concept delivering high performance in a well laid-out system.

A compact dry frictionless Roots type pump for optimized performance

Given the small size of the dry pump, the leak detector can be operated in confined environment.

Transportability (option)

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



ASM 182 TD+

The most powerful console dry leak detector: ASM 192 T2D+

Console version with extended pumping speed capability or leak testing large chambers.

- Dry leak detector, with a booster turbomolecular pump of 100 l/s.
- 50 m³/h (30 CFM) roughing capacity (option): Unmatched oil-free dual roughing pumps operating in parallel at high pressure for contamination free leak detection of volumes up to 1,000 liters without auxiliary pump required.



ASM 192 T2D+

Note

These dry leak detectors are equipped with oil-free pumps for ultra-clean applications.



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Unmatched performance

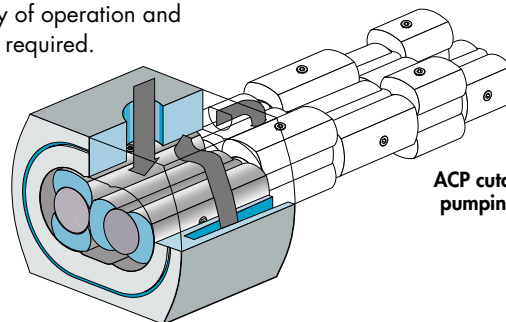
High sensitivity

- The integration of Alcatel's innovative magnetic deflection 180 degree 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 Alcatel design analyzer cell is recognized for its smart design offering unmatched stability, high sensitivity, and easy maintenance.
- The unique Alcatel analyzer cell concept with dual filaments (single replacement) enhances the up-time of the analyzer cell.



Fast roughing capacity

The well-proven ACP 20 multistage dry Roots frictionless pump technology guarantees a high level of cleanliness, reliability and longevity. The dry Roots concept delivers and maintains performance from the first day of operation and over the next 5 years (8 hour shifts) without any maintenance required.



ACP cutaway: basic pumping principles

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Rugged design

- Alcatel's 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 transportation or power failures.



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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.

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.

You can't miss a leak thanks to the:

- dynamic green/red bargraph
- audio alarm with variable pitch
- vocal synthesizer



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ASM 182 TD+ and ASM 192 T2D+

Control panel of the ASM 182 TD+



A very comprehensive remote control is offered as an option for the ASM 182 TD+ and available as standard for the ASM 192 T2D+.

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.



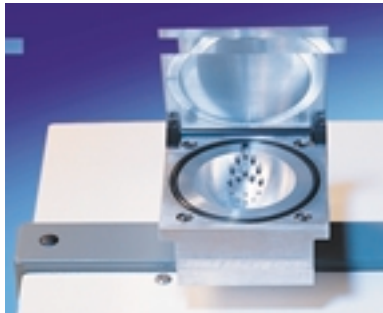
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Options and Accessories

Options

- 3 masses
- Gas line bullet test
- Metal seals or elastometer seals
- Clean room compatible cover
- Test chambers



Test chamber



Long distance sniffer



Transport cart

Accessories

HELIUM LEAK DETECTORS

Description	PART NUMBER
Long distance sniffer probe with a 5 meter tube (16 ft)	797925
Transport cart (for the ASM 182 TD+ only)	072654
Remote control with a 5 meter cable (offered as a standard for the ASM 192 T2D+)	072487
Foot pedal for cycle command (1.5 meters / 5 feet)	100913

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Technical Specifications

Specifications	
Features	Required performances
Measurement range	5.10⁻¹² to 10⁻¹ mbar.l/s
Maximum test pressure in large leak mode	6 mbar or more
Maximum test pressure in normal mode	2.10² mbar
Helium pumping speed at inlet port	
• ASM 182 TD+	4.4 l/s
• ASM 192 T2D+	20 l/s
Roughing capacity	
• ASM 182 TD+	25 m³
• ASM 192 T2D+	50 m³
Response time on calibrated leak at inlet port	< 0.5 s

Sniffing mode	
Measurement range in sniffing mode	1.10⁻⁷ to 1 mbar.l/s
Helium signal response time with 5 m long probe	< 0.3 s

Integrated functions	
Auto-calibration (with built-in temperature compensated calibrated leak)	
Auto-zero (with floating zero method to ensure that the signal never goes negative)	
Automatic signal correction (external calibration or manually adjustable correction factor)	
Full automation of test cycle including:	
- cycle sequence	
- memorization of the last test	
- test result display	
Audio management	
Audio alarm with variable pitch (up to 90 dBA) / Vocal synthesizer	

Dimensions	
Dimension	
• Compact ASM 182 TD+	600 x 450 x 460 mm (23.6 x 17.7 x 18.1 inches)
• Console ASM 192 T2D+	600 x 730 x 885 mm (23.6 x 28.7 x 34.8 inches)
Weight	
• Compact ASM 182 TD+	96 kg (212 lbs)
• Console ASM 192 T2D+	185 kg (407 lbs)

Customization of the detector	
Several languages of utilization	
Wide measurement units	



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ASM 182 TD+ and ASM 192 T2D+

Ordering information ASM 182 TD+

D1 0 0 0 0 0 0 0 0

	Leak Detector
	ASM 182 TD+
Code	D1

	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 bloc) 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	

	Detection option		Gas line "bullet test" (G). This option allows to leak test long gas lines with very small diameter. Using a ultra clean purge gas such as nitrogen as a carrier 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. Compatible with a connecting accessory for the extraction of cooling air through an airtight tube.
	Painted	UCT	
Code	P	C	

	Language and unit			
	French	English	German	Japan
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 cable type
Code	1	2	3	4	5	7

For example
You need ...

ASM 182 TD+	D1
Metal seals	M
Standard	S
SM chamber	1
UCT	C
English	B
200/240 V - 50/60 Hz	8
UK	3

= D1 0 M 0 S 1 C B 8 3 0

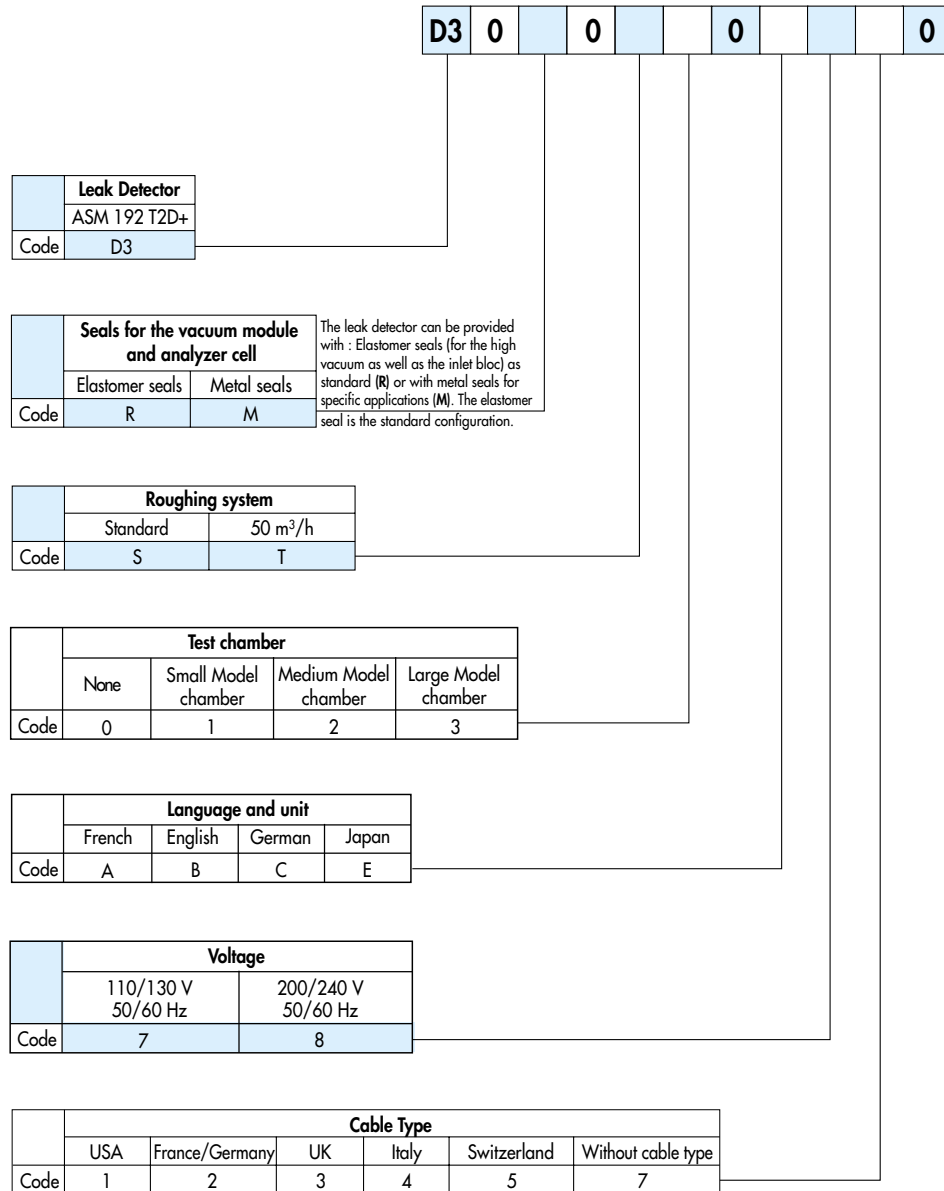


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Ordering information

ASM 192 T2D+



HELIUM LEAK DETECTORS

For example
You need ...

ASM 192 T2D+ **D3**
 Elastomer seals **R**
 Roughing 50 m³/h **T**
 LM chamber **3**
 German **C**
 200/240V -
 50/60 Hz **8**
 Germany **2**

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D3	0	R	0	T	3	0	C	8	2	0
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