

COLUMBIA UNIVERSITY
NEVIS LABS
PO BOX 137
IRVINGTON, NY 10533

Sender
ALCATEL VACUUM PRODUCTS
67 Sharp Street
HINGHAM, MA 02043

Attn : JEREMY DODD
Tel : 914-591-2821

QUOTATION

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N° 20046915 / Date 01.13.2005

Dear Mr. Dodd:

Per your request, we are pleased to provide you with the following quotation for your review.

ITEM	PART NUMBER DESCRIPTION	QTY	UNIT PRICE	TOTAL PRICE
10	D10R0S0PB710 ASM182TD+ 115 volts 60- Hz standard unit with transport cart	1	USD 34,860.00 10.00%-	USD 31,374.00

Alcatel Model ASM182TD+ automatic, high performance, compact helium leak detector. System incorporates a 130 L/S hybrid turbomolecular drag pump specifically designed for helium leak test purposes and an 15cfm integrated high vacuum oil free backing/roughing module. Ideally suited for repetitive or non-repetitive sequential testing for applications requiring high sensitivity, high roughing pumping capacity and ultra-clean operations.

Outstanding features and benefits include:

- . Fast start up of less than 3.5 minutes with automatic filament activation through a ramp for extended life and comprehensive auto calibration sequence.
- . High sensitivity of 5x10⁻¹² Atm cc/sec helium (according to AVS 2.1 and ISO 3530 standards) at full pumping speed.
- . 15 cfm frictionless vacuum displacement mechanical dry pump with 16cfm drag booster, assures consistent long life operation and eliminates particle generation at test port and exhaust.
- . High helium pumping speed of 4.4 L/S at inlet port for quick response and clean up time.
- . Advanced floating auto-zero assures that helium signal will never fall below zero.
- . Simplified triode plate within mass spectrometer for high vacuum measurement assures filament protection and

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	<p>maintenance free operation.</p> <p>Integrated helium calibrated leak with temperature and helium loss compensated auto calibration for accuracy and simplified operation.</p> <ul style="list-style-type: none"> . Wide continuous multi-color bargraph measuring range from 10⁻¹² to 10⁻² atm cc/sec (helium) with high resolution zoom and digital display for ease of interpretation. . Integrated multi-language voice synthesizer for additional user interface flexibility. . Independent access to primary and secondary filament for quick single filament replacement. . Four levels of user interface to address application and operator requirements. . Frequency modulated audio alarm adjustable from 0 to 90 dB to accommodate various environments. . Extended interface capability that includes; 5 dry contact outputs, 6 inputs, 1 volt per decade analog output and RS232 interface. . High inlet port test pressure up to 6 mbar (4500 microns) in full contra flow configuration for maximum performance. . Automatic crossover from gross leaks (contra flow) to fine leaks (conventional flow) for minimal operator intervention. . High-resolution 180-degree deflection mass spectrometer with patented VHS preamplifier (multi-channel electron multiplier) for maximum resolution, stability and repeatability. . High efficiency operation of 1.5kva for user location flexibility. . Low 27,000 RPM hybrid turbomolecular drag pump for added ruggedness and superior compression for maximum performance. . Minimal internal volume design and elastomers for reduced background contamination. . System is completely field serviceable including hybrid turbomolecular drag pump. . Testing volumes up to 200 liters without external pumping for maximum sensitivity. . System can be moved while in operation. <p>This system, as well as all other Alcatel helium leak detectors, is fully protected against power failure, air inrushes or incorrect operations. Comprehensive on-site training and spare maintenance kit on consumables is included.</p>			
20	SNC1E1T1 Long Distance Sniffer Probe	1	411.00 10.00%-	369.90

Amount excl. taxes :

31,743.90 USD

SALES TERMS AND CONDITIONS

LEAD TIME

8 Weeks ARO

SALES TERMS

FOB: Hingham, Mass

PAYMENT TERMS

Net 30 days

WARRANTY

One year all parts and labor

QUOTATION VALIDITY

02.13.2005

To order, please fax your PO to Alcatel Vacuum Products, Inc., Customer Service at 781-682-1297.

Thank you for your interest in our products. If you have any questions or require additional information, please feel free to contact me at 781-331-4200 x1232 or 781-910-4515.

Sincerely,

David Stockbridge
Regional Sales Manager

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