APEX SOURCE TESTING EQUIPMENT INSTRUMENTS

XC-5000

AutoKinetic Source Sampling System



The XC-5000 Automated Isokinetic Source Sampling System is designed specifically for performing EPA Method 5 sampling and associated isokinetic method requirements by automating data acquisition, sample flow adjustments, leak checks, calculations, temperature control and calibrations. Data is easily transferred to a Microsoft Windows-based PC through ethernet interface

The Next Evolution in Particulate Sampling

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XC-5000 Autokinetic Sampling Console

The Apex Instruments XC-5000 AutoKinetic System is designed for conducting US EPA Method 5 and associated isokinetic methods.

Take the worry out of isokinetic sampling and the human error out of manual data entries and calculations.

The XC-5000 Series is compatible with most existing Method 5 stack sampling components.

Report preparation is streamlined with accurate data, downloadable to files for easy report preparation and submission to the regulatory agency.

Bright LED screen displays port, point, time, vacuum and other information readable in most lighting conditions.



Features and Benefits:

- Automates isokinetic sampling and data storage
- Improves precision and provides quality measurements
- Windows-based interface guides operator through the sampling process
- Calculates traverse points, ideal nozzle diameter, K-Factor and isokinetic rate
- Accepts standard Apex Instruments sample train components (probes, nozzles, heated filter boxes, impinger boxes, umbilical, etc.)
- Software assisted pre-leak and post leak checks
- Optional automatic pause function
- Alerts operator to move probe at point and/or point change
- Stores sampling profiles and data
- English or metric units
- Multilingual language editor
- Sunlight readable LED display

Specifications:

Dry Gas Meter: Precision DGM. 0.7 liter per revolution. Internal Digital Encoder. 1cc Resolution. Max Capacity: ~35 lpm

Temperature Control: Integrated temperature control via the Control and Data Acquisition Board. Probe and Oven controlled through Solid State Relays.

Thermocouple Display: 7 Temperatures displayed simultaneously on the PC User Interface, °F or °C, Probe, Stack, Oven, Filter, Exit, AUX and DGM

Digital Pressure Transducers: For H and P (Bi-Directional), Barometric.

Pitot:	P +/- 2.5”	0.01” Resolution	+/- 63mm 0.1mm Resolution
Orifice:	H 0” - 5”	0.01” Resolution	0 - 127mm 0.1mm Resolution
Barometric:	17.7 in Hg - 32.5 in Hg	0.01 in Hg Resolution	
	450mm Hg - 825mm Hg	0.1 mm Hg Resolution	
Vacuum:	0 - 30in Hg	0 to 101 kPa	2% Accuracy

Umbilical Connections:

Electrical:	4 conductor circular connector with grounded shell
Sample Line:	Stainless Steel, ½” Quick Connectors
Pitot Line:	Stainless Steel, 1/4” Quick Connectors (Optional 3/8”)
External Pump:	Stainless Steel, 3/8” Quick Connectors
Thermocouples:	Type-K, Standard Size

Communication: Ethernet

Dimensions: Height 23” x Weight 21” x Depth 12” (58cm x 53cm x 30.5cm)

Weight: 39lbs. (17.7kg)

Analog Input Modules: 2 Independent 4 Channel Analog Input Modules for logging External Data
Configurable External Data: 4-20ma, 0-10VDC, 1-5VDC

Alarm Output and External Pause: Dry Contact

Console Power Requirements: 240V 50Hz (Optional: 120V) 60Hz 15 Amp Maximum

Annual Calibration Required. Part Number: DGMC-XX-XX

Simplify Your Particulate Sampling Routine Tasks

AutoKinetic Software

The AutoKinetic proprietary software is designed to be intuitive and user-friendly.

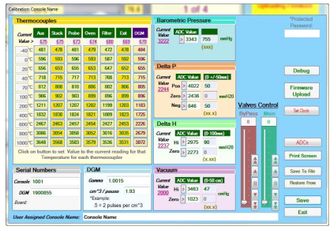
The stepwise functionality of the windows-based program guides the user through the creation of a complete test profile ensuring all test parameters are met and while assuring data integrity.

The software also allows for quick and easy data export for report generation.

Connect via ethernet to Windows 7 or higher Operating Systems



Calibration Table

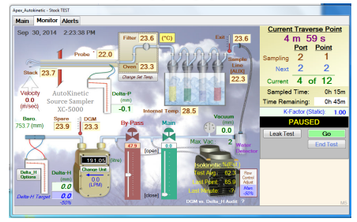


Method 1 Stack Parameter Calculator

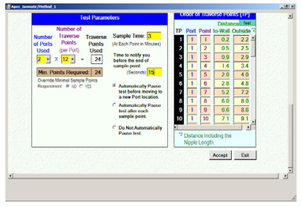


XC-5000 Monitor Screen

The XC-5000 AutoKinetic software provides a step-by-step user-friendly program from initial setup to final report generation in English or metric units of measure.



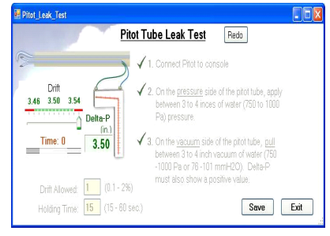
Method 1 Test Parameters



Pitot Leak Test

Real time information displayed on the PC through the dynamic monitor screen.

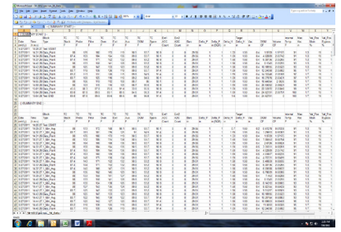
Exported data may be reviewed in a spreadsheet format and generated in a report format for submission to regulatory agency.



Includes calculations for Methods 1, 2, 3, Nozzle Size, K-Factor and Percent Isokinetic.

The calibration table and sampling profiles are stored for future access. Simple alarm setup allows operator to control critical testing parameters. Pre-leaks and post leak checks are software assisted.

Exported Data



Recommended Method 5 System Components

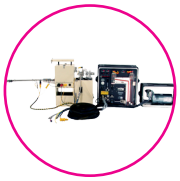
The XC-5000 Method 5 AutoKinetic Source Sampling System is complimented with an exceptional array of optional equipment creates a versatile package to meet the needs of both the single-site user and multi-source professional user to sample a wide range of pollutants.

Sample metals, halides and halogens, polychlorinated biphenyls (PCBs), dioxins/furans, polycyclic aromatic hydrocarbons (PAH's), particle size distributions and an ever-increasing group of pollutants by adaptations of basic test methods.

Method kits are available for the most popular methods. Choose the meter console, the sample pump and purchase the accessories

Method 5
Particulate Emissions from Stationary Sources

Withdraw particulate matter (PM) isokinetically from a stationary source and collect PM on a glass fiber filter maintained at a constant temperature. The particulate matter mass is determined gravimetrically after the removal of uncombined water.



Qty	Part Number	Description
1	XC-5000-V	Automated Isokinetic Method 5 Meter Console includes DGM with Optical Encoder, Barometric Pressure Transducer, Internal Flash Memory, Type K Thermocouples, PID Valve Control System, Microprocessor Technology, Standard or Metric Units, 220V (110V option)
1	XE-0523-V	External Pump Assembly, Double Diaphragm Pump, SS Quick Connects, 5 FT Power Cord & Hoses, 240V (120V option), Black UHMW Polyethylene Case
1	SB-2M-V	Miniature Heated Filter Oven with 2 Access Doors & Probe Clamp, 240V (120V option)
1	SBR-10	Riser for SB-2M, Impinger Box Adapter, 10 IN Riser with Insulated Reservoir
1	SB-3	Impinger Box / Insulated Coolant Reservoir, Holds 4 Impingers
1	PS-3H-V	3 FT Method 5 Probe Sheath with Tube Heater , 240V (120V option)
1	PS-6H-V	6 FT Method 5 Probe Sheath with Tube Heater , 240V (120V option)
1	PS-9H-V	9 FT Method 5 Probe Sheath with Tube Heater , 240V (120V option)
1	PL-3S	3 FT SS Probe Liner, 5/8" o.d. with #28 Grooved Ball
1	PL-6S	6 FT SS Probe Liner, 5/8" o.d. with #28 Grooved Ball
1	PL-9S	9 FT SS Probe Liner, 5/8" o.d. with #28 Grooved Ball
3	PLN-3G	3 FT Glass Probe Liner, 5/8" o.d. with Unground #28 Grooved Ball
3	PLN-6G	6 FT Glass Probe Liner, 5/8" o.d. with Unground #28 Grooved Ball
3	PLN-9G	9 FT Glass Probe Liner, 5/8" o.d. with Unground #28 Grooved Ball
1	US-30-10	30 FT Split Umbilical Cable, Method 5, with 1/4" Pitot QCs, Stainless Steel Quick Connects
1	US-60-10	60 FT Split Umbilical Cable, Method 5, with 1/4" Pitot QCs, Stainless Steel Quick Connects
1	USL-15-SST	15 FT Unheated Sample Line, PTFE with SS over braid, #28 Socket Elbow Fitting Both Ends, Includes TCA-06F
1	SB-8	Modular Sample Frame with Probe Clamp & Impinger Box Slides
1	GA-107-12	Sample Line Adapter (for SB-2M), Includes Bracket and 1/2" ID Sample Line Clamp
1	GA-100	Umbilical Adapter (Gooseneck), #28 Socket with Thermocouple, Mounting Bracket, 1/2" Male QC
1	NS-SET	Set of 7 Stainless Steel Nozzles - Sizes 4,6,8,10,12,14,&16, Includes Case and Four 5/8" Tube Nuts
1	NG-SET	Set of 7 Glass Nozzles - Sizes 4,6,8,10,12,14&16, Includes Case & Three 5/8" Glass Filled PFA Ferrules
1	GN-DGS	Basic Method 5 Glassware Set with Unground Joints & 3" Filter Assembly
1	GF-3TPG	82mm PTFE Coated Glass Fiber Filters - Hydrophobic, Low Absorption of Acid Gases such as SOX, or NOX, 50/box (MFS PG60)
1	GF-3	3" Glass Fiber Filters, 100/box (Whatman 934AH-82.6mm)
1	PBX-S	Modular Probe Brush Extension Kit, Nylon Brushes with Stainless Steel Extensions
1	NB-SET	Nozzle Brush Set (sizes 3, 5, & 8) in Carrying Tube
2	P1000-6	Monorail , 6 feet, with Chain, L-Bracket & Hardware
2	P1000-9	Monorail , 9 feet, with Chain, L-Bracket & Hardware
2	P2751	Swivel Frame Trolley with Eye-bolt, 12" Chain & Quick Link
1	TX-XC5	Transport Case, XC500 Series
1	M5CO-SET	Calibration Orifice Set, 5 Calibrated Critical Orifices & Spreadsheet Diskette for Method 5

Method 17
Particulate Emissions by In-Stack Filtration

Add an in-stack filter assembly and longer pitot tip to a Method 5 system. The Method 17 accessories are convenient for sampling particulate matter in-situ.



Method 17 Additional Accessories

3	SFA-2590	Method 17 SS In-Stack Filter Unit
1	GFA-2590	Glass Fiber Thimble, 25X90mm Tapered, 10/box
1	PLS-6S-QCF6	Method 17 6 ft SS Probe Liner with 3/8" Male QC
1	USL-15-QST	15 ft Unheated Sample Line, PTFE with SS Overbraid
1	UA-3J	Power Box Adapter, 3 Receptacles
1	SB-8	Sample Frame w/ Probe Clamp & Impinger Box Slides
1	SN-5C	Stainless Steel Impinger Assembly (4)
1	MPT-6-320-OFF	Extended Pitot Tip for SFA-190, SFA-300 and SFA-2590, Offset

Method 23
Dioxins / Furans

Add a water-cooled glass condenser, XAD absorbent module,knockout impinger and recirculatory pump to the Method 5 system.

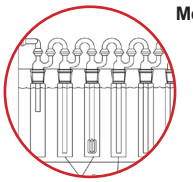


Method 23 Additional Accessories

1	SB-4	Impinger Box / Insulated Coolant Reservoir, Holds 8 Impingers
2	GNM-HC	Horizontal Condenser, #28 Socket both ends, Water Jacket Hose Barbs
2	GN-9AKS	Knock-Out Impinger Assembly, Unground
8	GNM-T	XAD Trap, #28 Unground Socket & O-Ring Ball, Water Jacket Hose Barbs
4	TL-7/5	Surgical Tubing, 3/8 IN (2 FT.)
1	MM5-P220	Submersible Coolant Pump, 220V (120V option)
1	PBC-6	6 ft Extendible Aluminum Probe Brush with PB-5/8 Nylon Brush
1	NTG-10U	5/8" Glass-Filled Teflon Union with Nuts and Ferrules
1	PBT-5/8	Teflon Probe Brush, 5/8" Diameter, 4" Length, 8-32 Thread
1	PBX-8T	8 FT Flexible TFE Probe Brush Extension, Brush Not Included
1	T-TFE24	Teflon Tape, High Density, 1.5" x 520" per roll

Method 29
Metal Emissions (Multiple Metals)

Add the SB-4 impinger case, glass nozzles, probe liners and non-metallic union to a Method 5 train and knock-out impinger.

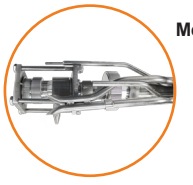


Method 29 Additional Accessories

1	SB-4	Impinger Box / Insulated Coolant Reservoir, Holds 8 Impingers
1	GN-9AK	Knock-Out Impinger, Short Stem, 500ml, Unground O-Ring Joints
1	GF-3QH	3" Quartz Fiber Filters, 100/box (MFS QR100 82 mm)
1	PBT-5/8	Teflon Probe Brush, 5/8" Diameter, 4" Length, 8-32 Thread
1	PBX-10T	10 FT Flexible TFE Probe Brush Extension, Brush Not Included
1	NBT-1/2	Nozzle Brush, Teflon, ½"
1	NTG-10U	5/8" Glass-Filled Teflon Union with Nuts and Ferrules
1	T-TFE24	Teflon Tape, High Density, 1.5" x 520" per roll
1	NG-SET	Set of 7 Glass Nozzles - Sizes 4,6,8,10,12,14&16, Includes Case & Three 5/8" Glass Filled PFA Ferrules

Method 201A
Particle Sizing

Add cyclones to a Method 5 system.



Method PM10 / 201A Additional Accessories

1	PM2.5-10K	PM 2.5/10 Cyclone Kit, Includes PM10 Kit, PM2.5 Cyclone Body, Adapters, Pitot & Case
1	UA-3J	Power Box Adapter, Includes 1/2 IN Mounting Clamp and 4 Pin Amphenol to 3 Receptacle
1	MPT-6-421OFF	Extended Pitot Tip for PM10/2.5 Sampling, Tube Diameter 3/8 IN, Length 421mm, Offset
1	GF-47Q	47mm Quartz Fiber Filters, 25/box (Pallflex 47mm).
1	PM2-K	PM2.5 Cyclone Set, 12 Nozzles, (PM2-NS), Filter (SFA-47), Cyclone Body, Manual and Case.