



70Xi Series Laboratory Analyzers

for Cold Flow Properties

from Phase Technology

Scientifically Designed for Workflow Optimization

- Best measured precision (repeatability and reproducibility) of any automatic or manual method
- Fastest speed of any automatic or manual method: test results in just 8-20 minutes
- Improved thermal management and more powerful cooling system; minimum sample temperature now below -88°C [-126°F]
- Unsurpassed detection of contamination in jet fuels
- Programmable user access levels streamlines workflow and prevents accidental changes
- Import and store any user documents (.doc, .pdf, .ppt and .pps) for customized operating procedures (SOP) or training
- Sample chamber now located lower and at front for easier, faster loading and cleaning and less risk of spilled sample
- Alert sounds when test is finished and ready for next run; audible keyboard “clicks”
- Connect any HP (or PCL compatible) printer
- New front panel power button and software-enabled shutdown
- Configurable desiccant replacement count
- Customizable reporting – test history, plot data and self-diagnostics can be displayed on-screen, printed, or transferred to computer for statistical analysis, presentations, email sharing, archival storage

Pour Point - Cloud Point - Freeze Point

Precision. Reliability. Trust.

Phase Technology's 70Xi significantly increases lab productivity and improves profitability by providing quick, precise results.

in the analyzer for quick access. Press just one button to perform a test!

ASTM Methods

Phase Technology users can be confident that their test results accurately meet and comply with ASTM International standards for pour, cloud and freeze point: ASTM D5949, D5773 and D5972.

Innovative Design – Intuitive Interface

Phase Technology leads the industry with the world's first and only automatic pour, cloud and freeze point analyzer – all in a single unit.

User-Friendly Productivity Features

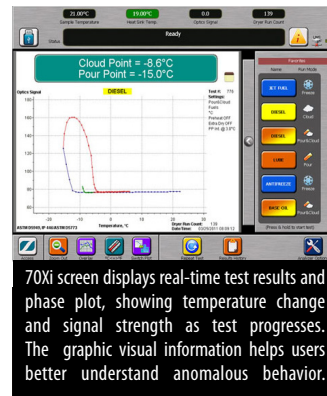
One-touch preset Favorites: Frequently-used test settings can be stored

Full-color, touch-sensitive, 15” high resolution screen: Easier to read and view. Multitasking capability eliminates need to flip between multiple windows. Overlay and compare multiple phase plots in different colors

Easy-to-use interface: New colorful graphic icon buttons for quicker navigation. Greater use of touch screen gestures.

USB and Ethernet connectivity: Quickly export analyzer data to a portable USB flash drive. Ethernet port available for connecting to LIMS or internal computer network.

Optimized for quality control: Automatic QC runs with instantaneous control charts. Retest sample option increases confidence in test result.



70Xi screen displays real-time test results and phase plot, showing temperature change and signal strength as test progresses. The graphic visual information helps users better understand anomalous behavior.

It's important for us to maintain consistent quality at every point of the refining process. That's why we use Phase Technology analyzers throughout our company in various locations. Our business depends upon the accuracy of the results. For reliability, Phase Technology is our instrument of choice. *Louis A. Delgado, Lab Manager, Valero Energy Corporation*



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70Xi Series Laboratory Analyzers

TEST METHODS	Pour Point	ASTM D5949 ASTM D97 (IP 15 /ISO 3016) equivalent or better	
	Cloud Point	ASTM D5773 (IP 446) ASTM D2500 (IP 219 /ISO 3015) equivalent	
	Freeze Point	ASTM D5972 (IP 435) ASTM D2386 (IP 16 /ISO 3013) equivalent	
STATED PRECISION: REPEATABILITY & REPRODUCIBILITY		Repeatability	Reproducibility
	Pour Point	1.6 °C	3.2 °C
	Cloud Point	1.3 °C	2.5 °C
	Freeze Point	0.5 °C	0.8 °C
BIAS	0 (relative to ASTM manual methods)		
CONTAMINATION DETECTION	99% (highest measured value in ASTM study)		
SAMPLE TEMPERATURE RANGE	-88 °C to 70 °C		
TEST RESOLUTION	0.1 °C		
TEST DURATION	Pour Point	8 to 30 minutes	
	Cloud Point	5 to 10 minutes	
	Freeze Point	8 to 10 minutes	
REQUIRED OPERATOR TIME	0.5 minutes		
SAMPLE SIZE	0.15 mL		
DETECTION METHOD	Patented Diffusive Light Scattering (DLS) technology		
COOLING SYSTEM	Integrated Peltier device cooling system		
DISPLAY	Full-color, touch-sensitive, 15" high resolution LCD touch screen		
OUTPUTS	(3) USB A ports for optional peripherals: flash drive, label printer, barcode scanner, keyboard, mouse; (1) USB B port (3) RS-232 serial ports for optional peripherals & networking: external computer, Phase Technology LTB diagnostic software; (1) dedicated Service port; (1) 10/100Base-T Ethernet (RJ45) port for networking: LIMS, local area network (LAN)		
TEMPERATURE MEASUREMENT	°C or °F (User selectable)		
ALERTS	Buzzer for alarms warnings and prompts (User selectable)		
INTERNAL MEMORY	Storage up to 5000 test runs		
AMBIENT OPERATING ROOM TEMPERATURE	10 to 30 °C (50 to 86 °F) Extremes not recommended		
DIMENSIONS (W x D x H)	Unit	Length x Width x Height 21.5 x 13.25 x 17.5 inches 54.6 x 33.7 x 44.5 cm	
	Boxed	29 x 23 x 19 inches 74 x 58 x 48 cm	
WEIGHT	Unit	53 lbs / 24 kg	
	Boxed	62 lbs / 28 kg	
UTILITY REQUIREMENTS	Electrical	90 – 260 VAC, 47 – 63 Hz 350 watts	
	External Cooler Bath	NONE	

Applications

Phase Technology 70Xi analyzers test a wide range of petroleum, biofuel and other products including:

- Diesel fuel
- Jet fuel
- Finished lubricants
- Base oil
- Bright stock
- Distillate fuel
- Gas oil
- Biofuels & biodiesels
- Black oil
- Crude oil
- Engine coolant (antifreeze)
- PAO & synthetic lubricants
- Engine & gear oils
- Automatic transmission fluids
- Food oils & fats
- Surfactants & gels

Options

Phase Technology 70Xi series analyzers give you complete flexibility – choose the test options you need for a customized solution. Available configurations include:

- PSA-70Xi Pour, Cloud & Freeze Point
- PPA-70Xi Pour Point
- CPA-70Xi Cloud Point
- FPA-70Xi Freeze Point
- PCA-70Xi Pour & Cloud Point
- PFA-70Xi Pour & Freeze Point
- FCA-70Xi Freeze & Cloud Point
- GPA-70Xi Single function specialty analyzer for gel, titer, antifreeze, or solid point

Additional options such as antifreeze, black and crude oils are available.

The Phase Technology 70Xi is also available with an integrated autosampler for fuels and lube oils.

Our Phase Technology analyzer is a real time-saver. The combination of automation and the easy-to-understand color touch-screen adds to our lab's overall efficiency.

Thomas C. Bell, Specialist – Manufacturing and Lab Support, Americas Technical Support, Global Lubricants, Chevron