

70Xe

S E R I E S

Combination Flow Properties Analyzer

Models – GPA-AF, GPA



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1. SYSTEM DESCRIPTION

The World's First Integrated Analyzer Platform for Jet Fuel and Diesels Testing

Laboratories are being asked to support a broader range of fuels, tighter timelines, and evolving standards, while maintaining efficiency and uptime. Building on the proven foundation of the 70Xi, the 70Xe Series meets these demands with expanded capability, greater flexibility, and a next-generation platform built for the future of fuel testing.

The 70Xe Series Analyzers represent the next evolution in fuel property testing. Designed to consolidate critical flow and cold property measurements into a single, integrated platform, the 70Xe enables faster testing, higher precision, and more efficient use of laboratory space. From conventional fuels to next-generation renewable and sustainable fuels, the 70Xe platform is built to meet today's and tomorrow's testing demands.

The GPA-70Xe-AF conforms to the international test method ASTM D6660, the only automatic method that is approved by ASTM International. This method is included in ASTM coolant specifications for light and heavy-duty vehicles such as ASTM D3306, D4985, and D6210. Major automotive manufacturer specifications GM6277M and Ford WSE-M97B44-B also include ASTM D6660. D6660 is also approved for antifreeze in sprinkler system in UL 2901, in heat transfer fluids for HVAC systems in ASTM D8039, and mentioned for liquid fertilizers in ISO 23381.

Key User Benefits

Unequaled Performance in Precision and Speed

- Industry accepted proprietary automatic test methods allowing short test times and highly precise results

New Models and Capabilities

- New cooling system extending low temperature limit to -100°C and below

Unbeatable Uptime & Reliability

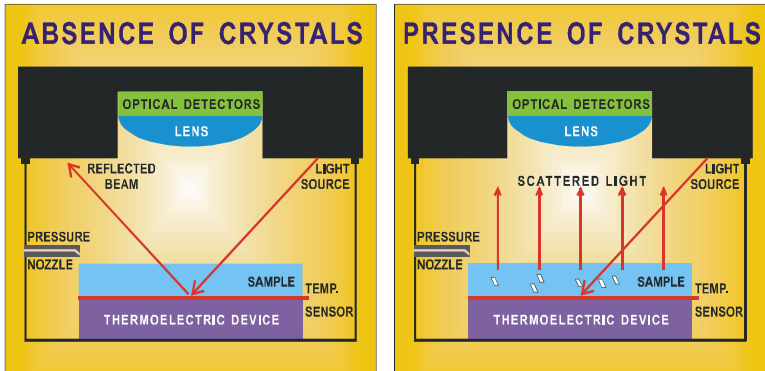
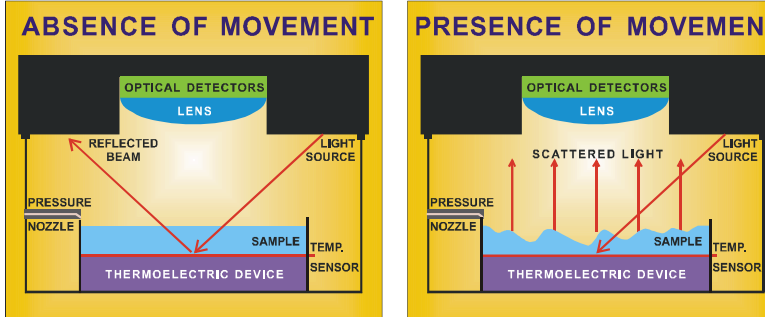
- New modular design for enhanced serviceability
- Onsite calibration feature enabling easier servicing and maintenance
- Self-diagnostics including system check and leak tests
- Compatible with PACe for lab monitoring.

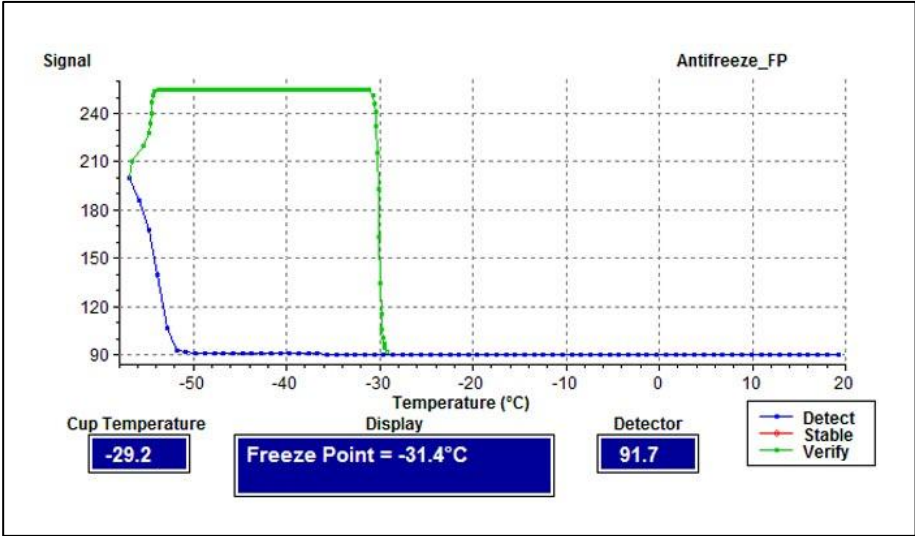
2. TECHNICAL REQUIREMENTS & SPECIFICATIONS

Test Methods

Freeze Point	[For GPA-70Xe-AF model] ASTM D6660 compliant ASTM D1177 equivalent
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Operation

Analytical principle	Freezing point and cloud point are detected using diffusive light scattering technology through an optical system:  Pour point is detected by applying a pulse of compressed gas onto the sample surface. The disturbances in the sample are then captured by the optical sensors:  At the conclusion of each test, the phase plot will be displayed and saved to show the sample behavior throughout the test. The following is an example freezing point phase plot:
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Cooling System	Integrated Peltier device cooling system; no external cooling bath needed
User interface	Large 13.3" full-color, touch-sensitive, high resolution LCD touch screen
Operator Time	< 1 minute
Detection Technology	
Cold Properties	Patented Diffusive Light Scattering (DLS)
Sample Temperature Range	
Manual Injection	-100 °C to +70 °C
Sample Volume	
Manual Injection	0.15 mL
System Cleaning	
Manual Injection	Manual cleaning
Test Duration	
Freezing Point	As fast as 10 minutes
Cloud Point	As fast as 5 minutes
Pour Point	As fast as 20 minutes

Interface Specifications

Display	Full-color, touch-sensitive, 13.3" high resolution LCD touch screen
Outputs	3 x USB-A port for peripherals: flash drive, printer, barcode scanner 1 x Autosampler port for power & communication 1 x RJ45 Ethernet port for network 1 x RS-232 serial port for LIMS output

Environmental Conditions

Operating temperature	10 °C to 30 °C (50 °F to 86 °F) ; recommended 15 °C to 25 °C (59 °F to 77 °F);
Humidity	Relative humidity up to 80% at 35°C (95°F)
Altitude	Atmospheric pressure: Constant
Storage temperature	-20 °C to 50 °C (-4 °F to 122 °F)
Storage Humidity	Less than 95%RH (no condensation)

Power Requirements

Voltage	Mains Voltage: 100-240 V +/- 10% switchable
Frequency	50-60 Hz
Power	450 W

Physical Specs

Dimensions (HDW)	380 mm (W) X 600 mm (D) X 500 mm (H)
Weight	39 kg (85 lbs)

3. SYSTEM CONFIGURATION

Ordering No.	Description	
GPA-70Xe-AF	GPA-70Xe-AF: freezing point analyzer for glycol-based engine coolants (antifreeze)	

	Sample Introduction: Manual Pipette	
	Sample Types: Glycol-based Engine Coolant (Antifreeze)	

	Accessories included:	
	000-50-0608	Power Cord
	*See COTSWAB to reorder	Cotton Swabs (quantity 400)
	PPP-150M	Pipette, Positive Piston, 150ul
	*See PTIP-150M5 PTIP-150MD to reorder	Gilson CP-250 capillaries & pistons (box/96)
		Quick Start Guide
		Calibration Certificate
		1 Year warranty

GPA-70Xe	GPA-70Xe: general analyzer for non-petroleum applications	

	Sample Introduction: Manual Pipette	
	Sample Types: Non-Petroleum Products	

	Accessories included:	
	000-50-0608	Power Cord
	*See DRD-601P DRD-605P DRD-610P to reorder	Dryer desiccant (single pack) for analyzer purging system
	*See COTSWAB to reorder	Cotton Swabs (quantity 400)
	PPP-150M	Pipette, Positive Piston, 150ul
	*See PTIP-150M5 PTIP-150MD to reorder	Gilson CP-250 capillaries & pistons (box/96)
		Quick Start Guide
		Calibration Certificate
		1 Year warranty



4. ADD-ONS AND OPTIONS

Ordering No.	Description	
TCS-70X	Phase Behavior Analysis Software for customized algorithm research	
LLP-70A	Label printer for 70Xi/70Xe series analyzers	
LABEL-SL	70Xi/70Xe series label printer labels (paper labels, size 1 1/8"x 3 1/2", 2 rolls/box)	
BSC-70X	Barcode reader to enter sample number	
1200-009-000	USB Color Printer	

5. SOFTWARE

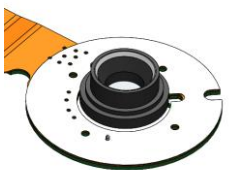
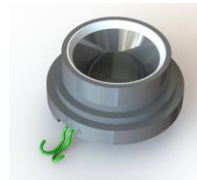
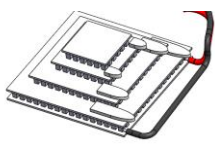
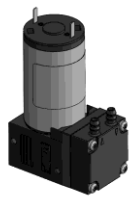
PACe

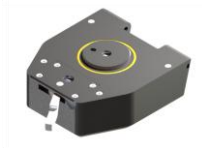
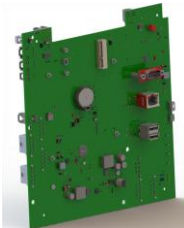
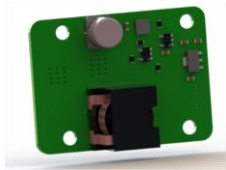
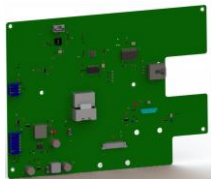
Ordering No.	Description
108832	PACe – Digital Ecosystem, Base Version 1 year subscription
108832-2	PACe – Digital Ecosystem, Upgrade Instrument Insights 1 year subscription
INSTALL-PACe	Installation and setup of PACe
	Options & Accessories
108840	PACe Installation Kit A No IRIS - US - 1 Gateway up to 5 Instruments
108841	PACe Installation Kit B No IRIS - US - 2 Gateways up to 10 Instruments
108842	PACe Installation Kit C No IRIS - US - 3 Gateways up to 15 Instruments
108843	PACe Installation Kit AE No IRIS - EU, EMEA, APAC, SA - 1 Gateway up to 5 Instruments
108844	PACe Installation Kit BE No IRIS - EU, EMEA, APAC, SA - 2 Gateways up to 10 Instruments
108845	PACe Installation Kit CE No IRIS - EU, EMEA, APAC, SA - 3 Gateways up to 15 Instruments
108846	PACe Installation Kit D - With IRIS - US
108847	PACe Installation Kit E - With IRIS - EU, EMEA, APAC, SA

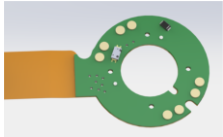
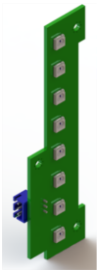
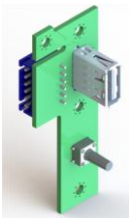
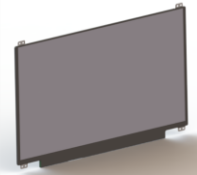
6. CONSUMABLE PARTS

Ordering No.°	Description	Image
DRD-601P	[For GPA-70Xe model] Dryer desiccant (single pack) for analyzer purging system.	
DRD-605P	[For GPA-70Xe model] Dryer desiccant (5-pack) and one dust filter ring for analyzer purging system.	
DRD-610P	[For GPA-70Xe model] Dryer desiccant (10-pack) and two dust filter rings for analyzer purging system.	
PFILM-70Xe	Screen protector for 70Xe Series touch screen (in package of 5)	
LABEL-SL	70Xi/70Xe series label printer labels (paper labels, size 1 1/8"x 3 1/2", 2 rolls/box)	
LABEL-SL5	70Xi/70Xe series label printer labels (paper labels, size 1 1/8"x 3 1/2", 2 rolls/box, 5 boxes)	
COTSWAB	Swabs, Cotton, Package of 4,000	
PTIP-150M5	Pipette Tips, for PPP-150M Pipette, Package of 960	
PTIP-150MD	Pipette Tips, PPP-150M, Package of 1,920	

7. SPARE PARTS

Ordering No.°	Description	Image
000-05-1042	[For GPA-70Xe model] Dryer Bottle Tubing Replacement Kit (Cs)	
101-02-6745	[For GPA-70Xe model] Dryer Bottle O-Ring Replacement Kit	
000-05-0445	[For GPA-70Xe model] Dryer Bottle Assembly	
101-02-6714	Lid O-Ring Replacement Kit	
000-05-7141	70Xe - Manual Sample Cup Replacement Kit (for Field Service)	
000-05-7142	70Xe - Manual Sample Cup Replacement Kit (for Depot Service)	
000-05-7146	70Xe - Chamber TEC Replacement Kit	
000-05-7147	[For GPA-70Xe model] 70Xe - Purge Pump Replacement Kit	
000-30-8724	70Xe - Electrical Fuse	

000-05-7100	70Xe - Cold Properties Cooling System	
000-05-7014	[For GPA-70Xe model] 70Xe - PPC Module (for Models with No Viscosity)	
000-05-7152	70Xe - Manual Lid Assembly Replacement Kit	
000-05-7154	70Xe - Computing Assembly Replacement Kit	
000-06-6007	70Xe - TEC Board	
000-06-6008	70Xe - Universal Board	
000-06-6010	70Xe - Display Board	

000-06-6020	70Xe - Chamber Board	
000-05-7156	70Xe - Sample Cup Board Assembly Replacement Kit	
000-06-6011	70Xe - Light Strip Board	
000-06-6026	70Xe - USB Switch Board	
000-05-7157	70Xe - LCD with Cable Replacement Kit	
000-05-7038	70Xe - 13.3" Touchscreen Assembly	
000-05-7039	70Xe - LCD and Touchscreen Assembly	

000-05-7040	70Xe - Complete Display Assembly with LCD, Touchscreen and Boards	
000-05-9989	70Xe - Power Supply Assembly	
000-40-0012	70Xe - Lower Chamber and Viscosity Box Leak Check Fitting (10-32 to 1/8")	
000-05-7158	70Xe - Back Panel Fan Replacement Kit	
000-05-7101	70Xe - Chamber Fan Blower Assembly	
SERVICE		
 CAUTION! The spare parts mentioned in this list must be replaced by PAC authorized service technicians. For any replacement only genuine PAC parts must be used.		

8. REFERENCE STANDARDS

Part number	Description	Quantity	
PTEG1	Reference material with certificate, ethylene glycol (antifreeze) ASTM D6660 Freezing Point (~ -20°C)	Approx. 25 mL	
PTEG2	Reference material with certificate, ethylene glycol (antifreeze) ASTM D6660 Freezing Point (~ -30°C)	Approx. 25 mL	

9. 1-year and 2-year Spares & Consumables Parts List

Model	Spares & Consumables Parts List		
GPA-70Xe-AF	1-year:		
	Part Number	Description	Quantity
	COTSWAB	Swabs, Cotton, Package of 4,000	1
	PTIP-150MD	Pipette Tips, PPP-150M, Package of 1,920	1
	PFILM-70Xe	Screen protector for 70Xe Series touch screen (in package of 5)	1
	101-02-6714	Lid O-Ring Replacement Kit	1
	2-year:		
	Part Number	Description	Quantity
	COTSWAB	Swabs, Cotton, Package of 4,000	2
	PTIP-150MD	Pipette Tips, PPP-150M, Package of 1,920	2
	PFILM-70Xe	Screen protector for 70Xe Series touch screen (in package of 5)	2
	101-02-6714	Lid O-Ring Replacement Kit	2
	000-05-7146	70Xe - Chamber TEC Replacement Kit	1
GPA-70Xe	1-year:		
	Part Number	Description	Quantity
	COTSWAB	Swabs, Cotton, Package of 4,000	1
	PTIP-150MD	Pipette Tips, PPP-150M, Package of 1,920	1
	DRD-610P	Dryer desiccant (10-pack) and two dust filter rings for analyzer purging system.	1
	PFILM-70Xe	Screen protector for 70Xe Series touch screen (in package of 5)	1
	101-02-6745	Dryer Bottle O-Ring Replacement Kit	1
	101-02-6714	Lid O-Ring Replacement Kit	1
	000-05-7147	70Xe - Purge Pump Replacement Kit	1
	2-year:		
	Part Number	Description	Quantity
	COTSWAB	Swabs, Cotton, Package of 4,000	2
	PTIP-150MD	Pipette Tips, PPP-150M, Package of 1,920	2
	DRD-610P	Dryer desiccant (10-pack) and two dust filter rings for analyzer purging system.	2
	PFILM-70Xe	Screen protector for 70Xe Series touch screen (in package of 5)	2
	101-02-6745	Dryer Bottle O-Ring Replacement Kit	2

	101-02-6714	Lid O-Ring Replacement Kit	2
	000-05-7147	70Xe - Purge Pump Replacement Kit	2
	000-05-7146	70Xe - Chamber TEC Replacement Kit	1