



## Be confident your low sulphur fuel is reliable

- **SUPER FAST SPEED**  
Four fully automatic tests in less than 20 minutes
- **SELF CLEANING — NO SOLVENT REQUIRED**  
No messy clean up. Automatic flush cycle rinses and disposes of remaining sample
- **NO LIQUID BATH**  
Quiet, cool, self-contained thermoelectric cooler; no hazardous liquid bath medium
- **NO BREAKABLE GLASSWARE**  
Internal capillary system eliminates need for fragile glass viscosity tubes
- **ONE-TOUCH PRESET FAVORITES**  
Frequently-used test settings can be stored in the analyzer for quick access
- **OPTIMIZED FOR QUALITY CONTROL**  
Automatic QC runs with built-in control charts

Cloud Point - Pour Point - Viscosity - Density

## The solution for light marine distillate fuels

Phase Technology's MFA-70Xi is the world's only analyzer that is specifically designed to test four critical properties of marine fuel—viscosity (at +40° C), density, cloud point, and pour point. All in 20 minutes or less!

Simple and easy to use, the MFA-70Xi performs all four tests with the single push of a button. Sample is automatically loaded, without the need of a pipette. An optional 48-position autosampler offers greater throughput and improved automation if desired. The MFA-70Xi is completely self-cleaning; no solvent is required.

The MFA-70Xi was developed to meet the growing needs of the marine fuel industry as they test MGO distillate fuels. This includes DMX, DMA, DMZ, and DMB (also known as DFA, DFZ, DFB).

### Viscosity

ISO 8217:2017, requires that MGO operate at a minimum of 2mm<sup>2</sup>/s throughout the fuel and engine injection system. Because engine rooms can be warmer than 40° C, a fuel that just meets spec can quickly become out of spec when heated to warmer temperatures. Shippers need a technology that will let them know at what temperature the fuel will reach 2mm<sup>2</sup>/s, so they can make any necessary adjustments to operate without issues.



### Density

Density is a standard specification for all types of fuel. It affects ignition quality and provides assurance that the fuel being used reflects the correct weight-to-volume ratio.

### Cloud Point

When MGO is exposed to cold weather, fuel lines and filters can become clogged or blocked. Cloud point offers a more proactive measure of potential cold-flow issues, providing valuable time to take preventative action.

# MFA-70Xi Marine Fuel Analyzer

<b>TEST METHODS</b>	Cloud Point	ASTM D5773 (IP 446) ISO 3015 (ASTM D2500 /IP 219) equivalent or better	
	Pour Point	ASTM D5949 ISO 3016 (ASTM D97 /IP 15) equivalent or better	
	Kinematic Viscosity	ASTM D7945 @ 40 °C ISO 3104 (ASTM D445 / IP 71) equivalent or better	
	Density	ISO 12185 (ASTM D4052 /IP 365) @ 15 °C correlation	
<b>STATED PRECISION: REPEATABILITY &amp; REPRODUCIBILITY</b>		Repeatability	Reproducibility
	Cloud Point	1.3 °C	2.5 °C
	Pour Point	1.6 °C	3.2 °C
	Viscosity	0.50%	0.80%
	Density	0.0001 g/mL	0.0005 g/mL
<b>VISCOSITY RANGE</b>	From 0.5 to 12 cSt at +40° C		
<b>CLOUD &amp; POUR POINT RANGE</b>	-80 °C to 70 °C		
<b>SYSTEM CLEANING</b>	Automatic flush cycle; no solvent required		
<b>TEST DURATION</b>	Cloud point & density combined	5 to 10 minutes	
	Viscosity & density combined	10 minutes	
	Cloud, pour, viscosity & density combined	20 minutes	
<b>OPERATOR TIME</b>	0.25 minutes		
<b>SAMPLE SIZE</b>	20 mL including cleaning		
<b>DETECTION METHOD</b>	Patented Diffusive Light Scattering (DLS) technology for cloud and pour point; horizontal capillary with motive force for KV, oscillating U-tube for density		
<b>COOLING SYSTEM</b>	Integrated Peltier device cooling system		
<b>DISPLAY</b>	Full-color, touch-sensitive, 15" high resolution LCD touch screen		
<b>OUTPUTS</b>	(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)		
<b>TEMPERATURE MEASUREMENT</b>	°C or °F (User selectable)		
<b>ALERTS</b>	Buzzer for alarms warnings and prompts (User selectable)		
<b>INTERNAL MEMORY</b>	Storage up to 5000 test runs		
<b>AMBIENT OPERATING ROOM TEMPERATURE</b>	10 to 30 °C (50 to 86 °F) Extremes not recommended		
<b>DIMENSIONS (W x D x H)</b>	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	