

DREW XP FO & LO TEST CABINET



DESCRIPTION

The DREW XP FO & LO TEST CABINET contains all of the components needed, including reagents, for onboard analysis of fuel and lube oil quality using the most important test parameters for identifying problems likely to impact operating costs. Refer to the Capabilities section of this sheet for details about the specific testing kits provided with the cabinet.

Providing accurate, timely information about specific chemical and physical characteristics of each bunkering, onboard testing is a cost-effective tool for maximizing the value of high-cost fuel and lubricating oil assets. Data from these tests during bunkering or while underway allow ship operators to make informed decisions without waiting for the results of shore-based laboratory analysis. Corrective measures can be taken immediately to maintain peak performance for engines and other machinery, while minimizing the risks and costs of damage from deteriorating fuel and lube oil quality.

Drew Marine onboard fuel and lube oil test kits are designed for marine engineers to accurately measure contaminant levels and important oil characteristics, and enable calculations to be performed that are essential for cost-effective fuel and lube oil management. Utilizing laboratory-standard methodology, these tests allow shipboard crew to deliver highly accurate results within minutes.

The DREW XP FO & LO TEST CABINET is ideally suited for outfitting newbuildings with essential fuel and lube oil testing capabilities in a fully self-contained unit. It also centralizes and streamlines test procedures for all vessels in service.

BENEFITS OF ONBOARD FUEL & LUBE OIL ANALYSIS

■ Fuel oil testing during bunkering

Fuel samples drawn at the start of bunkering can be quickly analyzed and the results compared against purchase specifications and fuel delivery receipts.

- If the tested fuel contains excessive water content or off-specification viscosity and density, bunkering can be suspended, or the bunkers segregated, so corrective action can be taken as needed to avoid operating problems.
- Other test parameters can alert operators to potential storage, handling and combustion problems for prompt remediation of the fuel or appropriate engineering adjustments.



DREW XP FO & LO TEST CABINET
(PCN 1AB6170)

- To assist in filing claims against suppliers for off-spec fuels, samples taken during bunkering should also be submitted for shore-based laboratory confirmation and documentation. In combination, onboard tests and shore-side documentation can also help avoid the substantial costs in time, handling and legal procedures for de-bunkering in cases of significantly off-spec fuels.

■ Fuel oil testing while underway

Fuel quality and characteristics can change onboard for many reasons, including: incompatibility when mixed with other fuels during transfers or during fuel switch-over, stratification or settling in tanks; and heating and cooling effects.

- Using samples taken selectively from the fuel oil storage and service systems, onboard testing enables operators to pinpoint sources of trouble as soon as they are observed.
- Testing can also be used pro-actively to monitor, predict, and remedy fuel quality related issues before they cause bigger problems.

■ Lube oil testing

Lube oils used in modern high-performance engines consist of refined base oils with complex additive packages formulated for reliable performance in the harsh marine environment. Since lube oil breakdowns or lubrication systems failures can have catastrophic consequences, monitoring lube oil condition in every lube oil system onboard is critical to the well-being



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of vessels and crew.

- Onboard testing provides both flexibility and control for ship engineers charged with lube oil condition monitoring. In place of a fixed schedule for shore-based laboratory analysis, onboard test results showing contaminants or poor quality can be used to trigger submittals of samples as needed for confirmation, further evaluation or quantification.
- Onboard testing can also be useful for supporting efforts to prolong the service life of expensive lube oils. Increasing the frequency of testing allows operators to monitor lube oil condition more closely when warranted, and take immediate remediation measures to prevent lube oil breakdown.

The test cabinet itself is rugged for hard service and wallmountable for convenient access. The DREW XP FO & LO TEST CABINET contains test kits, other instruments, and operating procedure manuals for analyzing fuel and lube oil based on the parameters shown below. Separate data sheets are available for specific test kits where indicated — please refer to them for technical information about those tests.

Refer also to the Drew Marine Laboratory Analysis technical data sheet entitled “Fuel Analysis Program” for an overview of test parameters, as well as application and procedures for shore-based fuel analysis available from Drew Marine.

Test Parameter	Fuel Oil	Lube Oil	Related Product Data Sheets
Density	■	■	DREW XP Density Meter
Viscosity	■	■	DREW XP Viscosity Meter
Water (up to 20.0%)	■	■	DREW XP H ₂ O Test Kit
Sea Water Contamination	■	■	DREW XP SW Contamination Tester
Pour Point	■	■	
Total Base Number (BN)		■	DREW XP TBN Test Kit
Insolubles		■	DREW XP Insolubles Tester
Compatibility	■		DREW XP Compatibility Tester
Calculated Carbon Aromaticity Index (CCAI)	■		DREW XP Density & Viscosity Meters

CAPABILITIES

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OPTIONAL TEST KIT ADD-ONS

The following test kits are also available for expanding the range of testing parameters to meet specific operator needs. For assistance in selecting which additional test kits to include in your cabinet, contact your nearest Drew Marine representative.

Test Parameter	Fuel Oil	Lube Oil	Related Product Data Sheets
Viscosity (2.5 to 999 cSt @40/50°C)	■	■	VISCOMAR Viscosity Meter
Total Acid Number (AN)	■	■	DREW XP Total Acid Number Tester
Viscosity Evaluation		■	DREW XP Viscosity Evaluator Kit
Iron (hydraulic/ cylinder drain oil/ grease)		■	DREW XP Wear Debris Meter
Iron (non-magnetic)		■	DREW XP Wear Corrosion Tester
Cat Fines (aluminum + silicon)	■		DREWCAT Fines Tester



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CONTENTS AND ORDERING INFORMATION

The DREW XP FO & LO TEST CABINET (PCN 1AB6170) contains the following components. For reordering, refer to the DREW XP FO & LO TEST CABINET Operating Manual for Product Code Numbers (PCNs) for all test kits and components in the cabinet.

DESCRIPTION	QTY.
Compatibility Test Unit	1
Density Meter Unit	1
SW Contamination Tester	1
Viscosity Meter Unit	1
DREW XP-LOF Test Cell (H ₂ O & TBN)	1
DREW XP-DEN Hydrometer BR 0.80-1.01	1
DREW XP-DEN Hydrometer HR 0.90-1.01	1
DREW XP-DEN Hydrometer LR 0.85-0.95	1
DREW XP-VIS Balls, Seals & Fuses	1
DREW XP-VIS Power Supply	1
DREW XP-VIS Strainer	1
Power Cable, 2M, EU& US	2
Reagent H ₂ O-Paste Pack	1
Reagent TBN Pack	1
Test Beaker, 100 ML	2
Test Cell Agitator, 3 CT.	1
Test Cleaning Rod	1
Test Gloves, 100 CT.	1
Test Paper, Chromatography	2
Test Scissors, SS	1
Test Stirring Rod, Acetate	3
Test Syringe, 5ML	4
Test Thermometer, Digital	1
Test Tweezers	2



Contact your Drew Marine representative for more information

Drew Marine maintains Safety Data Sheets on all of its products. These documents contain health and safety information for the development of appropriate product handling procedures to protect your employees. Safety Data Sheets should be read and understood by all of your supervisory personnel and employees before using Drew Marine products.



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