

Onboard Water Test Solutions



Pollution Prevention
On-board Water Hygiene
Cooling and Boiler Water Testing

Water Quality Analysis Made Simple.



Cooling and Boiler Water Test Kits

Engine cooling systems contain carefully blended additives that prevent scale deposits and corrosion of engine waterways. It is very important that the concentration of the additive is maintained at the correct level for optimum protection.

Low and medium pressure steam boilers are also treated with special corrosion and scale inhibitors. It is vitally important to maintain precise levels of these additives to ensure correct and efficient steam generation. Failure to regularly maintain and monitor treatments will inevitably end in system failure and expensive corrective maintenance.

Kittiwake supply treatment test kits for engine cooling water and steam boiler water. The kits are very simple to operate and will enable the ships engineer to monitor scale and corrosion inhibitor concentrations. Regular testing will allow rapid corrective action to take place helping you to maintain optimum operating conditions, minimise down-time and reduce energy costs.



Ordering Information

Part Number	Description	Quantity
FG-K29200-KW	Marine Cooling Water Test Kit	Each
FG-K29202-KW	Marine Boiler Water Test Kit	Each
BI-K21309	pH Test Strips 7 - 14	pk100
BI-K21308	PH Test Strips 4.5 - 10	pk100
AS-K27608-VS	P Alkalinity - Indicator	pk 2
AS-K27609-VS	P Alkalinity - Titrant	pk 2
AS-K27612-VS	Chloride Indicator	pk 2
AS-K27616-VS	Chloride LR Titrant	pk 2
AS-K27613-VS	Chloride HR Titrant	pk 2
AS-K27610-VS	Nitrite Indicator	pk 2
AS-K27611-VS	Nitrite Titrant	pk 2
AS-K28155-KW	ECON Phosphate HR Reagent Pack	pk 40
BI-K27264	ECON Comparator	Each
AS-K29155	ECON Phosphate HR Comparator Disc	Each
AS-K27601-KW	Titration jar	pk 5

Test Kit Contents

FG-K29200-KW: Marine Cooling Water Test Kit

Black Plastic case including:

1 x Chloride Test Set	100 tests
1 x Nitrite Test Set	100 tests
1 x pH Test Set	100 tests
1 x 20ml sampling syringe	
1 x 2ml sampling syringe	
1 x test jar	
1 x test tube (nitrite test)	
1 x Instruction booklet	

FG-K29202-KW: Marine Boiler Water Test Kit

Black Plastic case including:

1 x Chloride Test Set	100 tests
1 x P Alkalinity Test Set	100 tests
1 x Phosphate Test Set	40 tests
1 x pH Test Set	100 tests
1 x 20ml sampling syringe	
1 x test jar	
1 x ECON Comparator	
1 x Phosphate Comparator Disc	
1 x Instruction booklet	



- Optimise operating conditions
- Reduce energy costs
- Measure key boiler and cooling water inhibitors
- Simple step-by-step instructions
- No operator training necessary

Test Kit Specifications

Cooling Water Test Kit:

Chloride LR	:	20 - 400 ppm
Nitrite	:	75 - 2500 ppm
pH	:	pH 4.5 - 10

Size (Case): 34(L) x 27(W) x 8.5(H) cm

Weight: 2 kg

Boiler Water Test Kit:

Chloride HR	:	200 - 12,000 ppm
P Alkalinity	:	80 - 2,400 ppm
Phosphate	:	10 - 100 ppm
pH	:	pH 7 - 14

Size (Case): 34(L) x 27(W) x 8.5(H) cm

Weight: 2 kg

Kittiwake Sewage Effluent Test Kit

The environmental impact of global industry is of ever increasing concern. Many industries are now duty bound to improve the quality of both water and airborne emissions. IMO's MARPOL regulates the environmental impact of ocean going vessels. Resolution MEPC.115(51) to MARPOL Annex IV relating to sewage effluent comes into force from 27th September 2008. This means that performance of Sewage Treatment Systems will be a pre-qualifier to obtaining an "International Sewage Pollution Prevention Certificate"

Resolution MEPC.115(51) regulates for mandatory installation and ongoing operation of sewage treatment systems for new vessels over 400 gt and vessels under 400gt certified to carry more than 15 persons. A port authority can instruct a survey of the system at any time and if the system is shown not to substantially comply, i.e. perform to type approval, then the vessel can be held in port until repairs are completed (Regulation 4(5)).

With this in mind Kittiwake has introduced the Sewage Effluent Test Kit. This kit will enable ships engineers to rapidly assess the performance of onboard treatment systems and demonstrate to port authorities that the effluent discharge is within IMO consent levels. i.e. performs to type approval. Supplied in a wall mounted lockable cabinet or two strong engineers storage cases, the kits come complete with equipment and reagents for approximately one years testing. All tests are simple to perform with step by step user instructions. A log book is included to record results. The kit is a perfect onboard solution.



Ordering Information

Part Number	Description	Quantity
FG-K27377-KW	ECON 7011 portable pH meter	Each
BI-K24808	Suspended Solids Tube	Each
FG-K21364-KW	Portable Incubator (mains)	Each
FG-K27955-KW	C.O.D. LR Colorimeter	Each
AS-K25731-KW	C.O.D. Digester and safety screen	Each
AS-K23047-KW	C.O.D. Vial pack, 0-150ppm	pk25
AS-K23038-KW	2ml sampling syringes (C.O.D.)	pk 25
AS-K28276-KW	Coliform/E.Coli Test Sachets	pk 25
BI-K27718	UV Lamp (battery operated)	Each
BI-K21427	100ml measuring cylinder	Each
AS-K28277-KW	100ml sample collection bags	pk 25
MA-K28399-KW	Sewage Effluent Instruction manual	Each

Test Kit Contents

FG-K27973-KW: Sewage Effluent Test Kit

Strong aluminium framed test kit case (1) containing:
 1 x pH Meter (Waterproof)
 1 x Total Suspended Solids/BOD Tester
 1 x Coliform/E.Coli Identification/Enumeration Test Set
 1 x UV lamp (Battery Operated) for E.Coli Test
 1 x Portable Incubator (Mains - for E.Coli/Coliform Test)
 1 x Instruction and log book

Strong aluminium framed test kit case (2) containing:

1 x COD Colorimeter
 1 x COD Digester
 1 x COD Test Set (0-150ppm-pre-dosed reaction tubes)
 1 x Cooling Tube Set
 1 x Instruction Booklet

FG-K28418-KW: Sewage Effluent Test Cabinet

Containing all items above in a lockable and wall mountable steel cabinet.



- Compact and portable
- Designed for MARPOL compliance testing
- EPA approved methodologies
- Enumerates C.O.D. and Coliforms/E.Coli
- Measures pH value, TSS and B.O.D.
- Simple step-by-step instructions
- Rapid results

Test Kit Specifications

Detection: E.Coli/Coliforms, C.O.D, pH, TSS and BOB (Probable).

Range: C.O.D. : 0-150ppm O₂
 Coliforms/E.Coli : 0-230 CFU per 100ml
 TSS : 0-500 JTU (ppm TSS)
 pH : 0-14
 BOD (probable) : 7.5 - 255 ppm O₂

Application: To determine the efficiency of on-board effluent treatment plant.

Size (Case1): 56(L) x 32(W) x 21(H) cm **Weight:** 7 kg

Size (Case2): 40(L) x 32(W) x 21(H) cm **Weight:** 8 kg

Size (Cabinet): 65(L) x 32(W) x 62(H) cm **Weight:** 32 kg

Kittiwake Marine Hygiene Test Kit

Recent high profile legionella scares on board cruise ships has highlighted issues of crew and passenger health and safety; particularly in respect to microbiological contamination of water systems. Simple, regular testing of these systems for micro-organisms like coliforms, e.coli and pseudomonas will reduce risks, help keep employees healthy and ultimately save lives.

The World Health Organisation (WHO) in line with the International Health Regulations 2005, have drafted guidelines on ship sanitation which detail the on-board systems that require monitoring, the method and frequency of monitoring and record keeping requirements. The draft guidelines were created in close collaboration with the International Labour organisation (ILO) and the International Maritime Organisation (IMO).

Kittiwake has developed the Marine Hygiene Test Kit to aid with the monitoring of ships water systems. Passenger ships, general cargo vessels, fishing vessels, naval vessels, tankers and rigs are all required to conform. Monitoring is required on supplies from port, water production, treatment and distribution (e.g. showers), swimming and spa pools, waste disposal and fire prevention systems.



Ordering Information

Part Number	Description	Quantity
FG-K21364-KW	Portable Incubator (mains)	Each
AS-K28276-KW	Coliform/E.Coli Test Sachets	pk25
AS-K28277-KW	Thio Bags (100ml) for Coliform/E.Coli Test	pk25
BI-K21368	TVC & Fungi Dip Slides RBS	pk10
BI-K27105	TVC & Pseudomonas Dip Slides TV/PT	pk10
BI-K21308	pH Test Strips 4.5 – 10	pk100
BI-K21322	Starch Iodide Test Strips	5m reel
BI-K27718	UV Lamp (Battery Operated)	Each
CH-K27652	Chlorine Disinfection Tablets	pk250
AS-K28041-KW	ECON Chlorine LR & VLR Comparator Reagent Pack	Each
AS-K29041	ECON Chlorine LR Comparator Disc	Each
AS-K29180	ECON Chlorine VLR Comparator Disc	Each
AS-K28047-KW	ECON Chlorine Dioxide Comparator Reagent Pack	Each
AS-K29047	ECON Chlorine Dioxide Comparator Disc	Each
AS-K28059-KW	ECON Chlorine HR Comparator Reagent Pack	Each
AS-K29059	ECON Chlorine HR Comparator Disc	Each
MA-K28372-KW	Marine Hygiene Log Book	Each
AS-K28273-KW	De-scaling Powder	200g

Test Kit Contents

FG-K27977-KW: Marine Hygiene Test Kit

Strong aluminium framed test kit case including:
 1 x Coliform/E.Coli Identification Test Set
 1 x TVC & Pseudomonas Bacteria Test Set
 1 x TVC Bacteria & Fungi Test Set
 1 x Chlorine VLR, LR and HR Comparator Test Sets
 1 x Chlorine Dioxide VLR and LR Comparator Test Sets
 1 x pH Test Set
 1 x Chlorine HR identification Test Set
 1 x Dip Slide Incubator
 1 x Temperature Meter
 1 x Pack of Disposable Gloves (100)
 1 x Chlorine Disinfection Tablets (250)
 1 x De-scaling Powder 200g
 1 x Log book, guidance and instruction manual

FG-K27978-KW: Marine Hygiene Test Cabinet

Containing all items above in a lockable and wall mountable steel cabinet.



- Safely control water and air borne bacteria
- Designed for IMO compliance testing
- Lower risk of operational down time
- Detects Coliforms/E.Coli to 1 CFU per 100ml
- Disinfection/descaling chemicals included
- Wall mounted cabinet option available

Test Kit Specifications

Detection: E.Coli/Coliforms, Chlorine, pH, Chlorine dioxide, TVC, Yeast/Mould, Pseudomonas,.

Range: Chlorine : 0-1, 0-3.5, 0-125ppm Cl₂
 Chlorine Dioxide : 0-1.9ppm ClO₂
 Coliforms/E.Coli : 10³ to 10⁷ CFU per ml
 Pseudomonas : 10³ to 10⁷ CFU per ml
 Yeast/Mould : 10³ to 10⁷ CFU per ml
 Coliforms/E.Coli : 1 CFU per 100ml
 pH/Temperature : 0-14/0-110°C

Application: To minimise the risk of microbiological contamination of on-board water and air handling systems

Size (Case): 56(L) x 32(W) x 21(H) cm **Weight:** 9 kg
Size (Cabinet): 65(L) x 32(W) x 62(H) cm **Weight:** 30 kg

Marine Water Test Cabinet

The Marine Water Test Cabinet is a combination of the Marine Hygiene and Sewage Effluent Cabinets and also includes the cooling and boiler water kits for a 4 in 1, space saving, complete onboard water test suite.

**MARPOL Annex IV
Resolution MEPC.115(51)**

**World Health Organisation
Guide to ship sanitation**

International Health Regulations 2005

Existing and new regulations for 2008 make it mandatory to ensure the occupational health of ship's crew and to guard against environmental pollution. The marine Water Test Cabinet will provide a valuable tool for monitoring asset and equipment performance, help to ensure safe and correct operation and to provide an audit trail of test results.

Supplied in a wall mountable, steel storage cabinet with foam inserts to hold all equipment and reagents in place. The cabinet can be locked for added security. Full instructions and log books for recording results are included. All tests are simple to perform and no specialist training is required.



Ordering Information

Part Number	Description	Quantity
FG-K28419-KW	Marine Water Test Cabinet	Each
	See individual test kits for additional equipment	



Test Kit Contents

FG-K28419-KW: Complete Water Test Cabinet Cabinet to Include:

- 1 x Sewage Effluent Test Set*
- 1 x Marine Hygiene Test Set*
- 1 x Cooling Water Test Set
- 1 x Boiler Water Test Set

* One item supplied where components are duplicated.



- Single Storage location for all test items.
- Compact and space saving
- All Sewage Effluent tests Included
- All Marine Hygiene tests Included
- Measures key boiler and cooling water inhibitors

Test Kit Specifications

Detection: BOD (Probable), Chlorine, Chloride, Chlorine Dioxide, COD, Coliforms/E.Coli, Nitrite, P Alkalinity, pH, Phosphate, Pseudomonas, Yeast/Mould, Temperature, TSS, TVC.

Range:

BOD (probable)	: 7.5 - 255 ppm O ₂
Chlorine	: 0-1, 0-3.5, 0-125ppm Cl ₂
Chloride LR	: 20 - 400 ppm
Chloride HR	: 200 - 12,000 ppm
Chlorine Dioxide	: 0-1.9ppm ClO ₂
C.O.D.	: 0-150ppm O ₂
Coliforms/E.Coli	: 0-230 CFU per 100ml
Nitrite	: 75 - 2500 ppm
P Alkalinity	: 80 - 2,400 ppm
pH	: 0-14
Phosphate	: 10 - 100 ppm
Pseudomonas	: 10 ³ to 10 ⁷ CFU per ml
Yeast/Mould	: 10 ³ to 10 ⁷ CFU per ml
Temperature	: 0-110°C
TSS	: 0-500 JTU (ppm TSS)
TVC	: 10 ³ to 10 ⁷ CFU per ml

Size: 65(L) x 32 (W) x 62(H) cm
Weight: 34 kg

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