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BUNKER SAMPLER – TECHNICAL DATA SHEET

1. Temperature Rating

-50°C to 75°C for Bunker Sampler Assembly

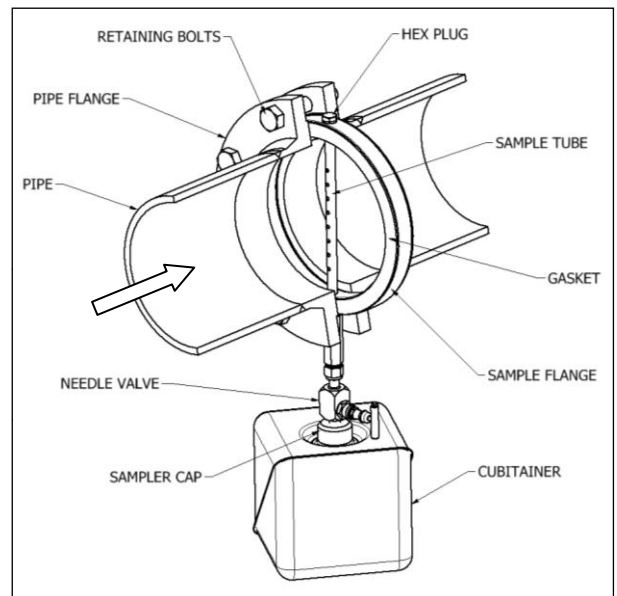
-18°C to +85°C for Cubitainer

2. Pressure Rating

Maximum 40 barg (580 psig)

3. Materials of Construction

Component Part	Material
Hex Plug	316 Stainless Steel
Sample Flange	304 Stainless Steel
Gasket (See NOTE 1)	Aramid Fibres
	Glass Fibres
	Nitrile Rubber
Sample Tube	304 Stainless Steel
Needle Valve	304 Stainless Steel
	Polytetrafluoroethylene (PTFE)
Sampler Cap	303 Stainless Steel
Cubitainer	Low Density Polyethylene (LDPE)



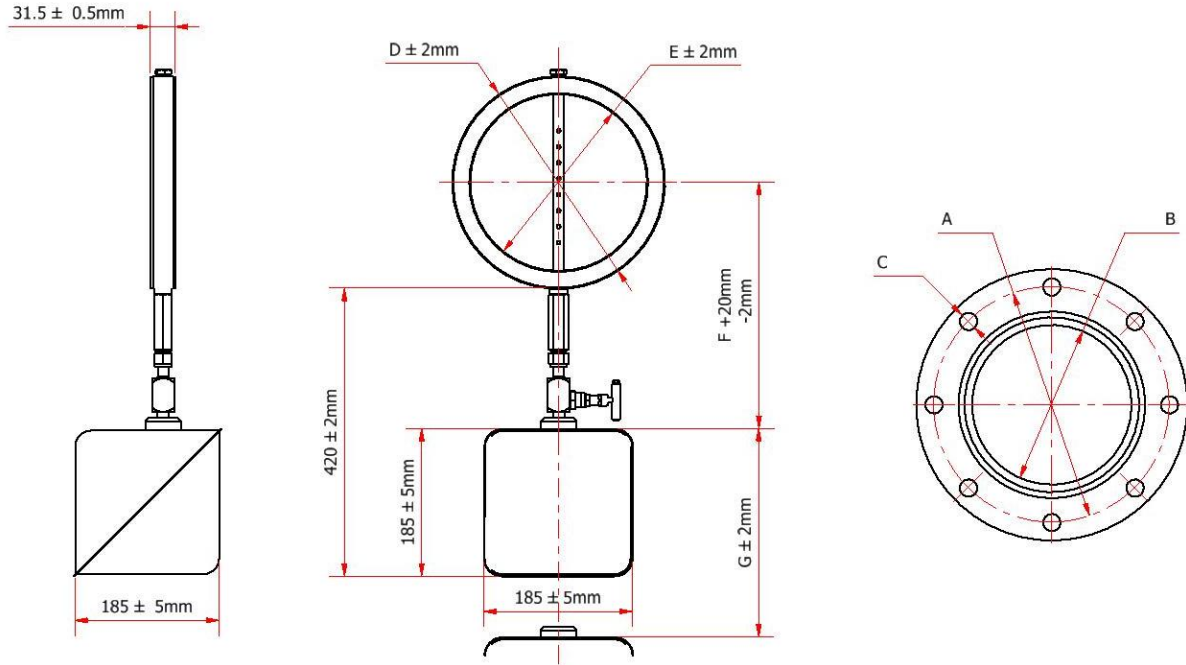
NOTE 1: Meets non-asbestos standard BS7531 Grade Y

4. Working Environment


The Parker Kittiwake Bunker Sampler and equipment have been designed for worldwide operations including North Sea, Norwegian Continental Shelf and tropical waters. This unit is designed to withstand salty and highly corrosive environments.

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5. Bunker Sampler Sizes



Part Number	Dim. 'B'	Bunker Sampler Dimensions / Specifics					Flange Standard
		Dim. 'D'	Dim. 'E'	Dim. 'F'	Dim. 'G'	Weight	
FG-K1-122-KW	50mm / 2"	95mm	63mm	144.3mm	181.8mm	3.40kg	JISB2210 5K, 10K, 16K, BS 4504 PN10, PN16, BS10 D, E, F ANSI B16.5 150, 300
FG-K1-123-KW	75mm / 3"	127mm	86mm	238mm	215mm	3.90kg	JISB2210 5K, 10K, 16K, BS 4504 PN16, BS10 D, E, F ANSI B16.5 150, 300
FG-K1-124-KW	100mm / 4"	157mm	116mm	254mm	240mm	4.28kg	BS 4504 PN16, BS10 D, E, F, ANSI B16.5 150, 300
FG-K1-125-KW	125mm / 5"	188mm	144mm	269mm	265mm	4.84kg	JISB2210 5K, 10K, 16K, BS 4504 PN16, BS10 D, E ANSI B16.5 150
FG-K1-126-KW	150mm / 6"	216mm	171mm	283mm	290mm	5.46kg	JISB2210 5K, 10K, 16K, BS 4504 PN16, BS10 D, E, F ANSI B16.5 150, 300
FG-K1-127-KW	175mm / 7"	241mm	194mm	296mm	315mm	6.16kg	JISB2210 5K, 10K
FG-K1-128-KW	200mm / 8"	266mm	221mm	308mm	340mm	6.48kg	JISB2210 5K, 10K, 16K, BS 4504 PN10, PN16, BS10 D, E, F ANSI B16.5 150
FG-K1-129-KW	225mm / 9"	307mm	260mm	329mm	370mm	6.64kg	ANSI B16.5 300
FG-K1-130-KW	250mm / 10"	328mm	281mm	339mm	400mm	7.08kg	JISB2210 10K, 16K, BS 4504 PN10, PN16, BS10 D, E, F ANSI B16.5 150, 300
FG-K1-131-KW	275mm / 11"	361mm	319mm	355mm	425mm	7.20kg	JISB2210 10K, BS 4504 PN10, PN16, BS10 D, E
FG-K1-132-KW	300mm / 12"	401mm	340mm	375mm	450mm	7.50kg	JISB2210 16K, BS10 F, ANSI B16.5 150, 300 BS 4504 PN10, PN16, BS10 D, E, F
FG-K1-133-KW	350mm / 14"	420mm	375mm	385mm	505mm	7.96kg	ANSI B16.5 150, 300

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6. Bunker Sampling Accessories

Fuel Sampler / FG-K11079-WA (1-off)

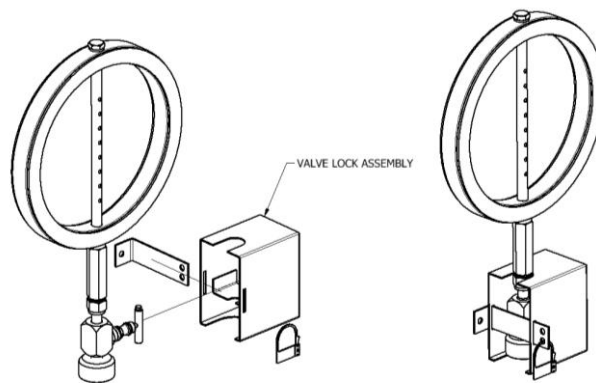
The fuel sampler is designed to fit (via a threaded boss) into an existing fuel supply line and can be removed with the fuel line full. Supplied in a single size, it can be modified to fit fuel delivery lines between 3 and 12 inches.

Cubitainers / FG-K3-201-KW (24-off)

Drip samplers use disposable 'Cubitainers' to collect fuel samples prior to mixing and transfer to sample bottles.

Valve Lock / FG-K1-139-KW (1-off)

A Valve Lock assembly is available to prevent sample tampering and to ensure the flow rate is maintained during sampling.



Converter Bobbin / FG-K3-021-KW (1-off)

A Converter Bobbin is available to allow DNVPS Samplers to use Parker Kittiwake Cubitainers.

Sampler Gauge / FG-K11168-KW (1-off)

With the Sampler Gauge fitted the user can observe line pressure during fuel transfer.

Elbow Kit for 45° Elbow / FG-K13588-KW


Kit to enable Sample Tube to be positioned at 45° with respect to the vertical.

Elbow Kit for 90° Elbow / FG-K13589-KW

Kit to enable Sample Tube to be positioned at 90° with respect to the vertical.

Bunker Sampler Plug and Lanyard / FG-K16692-KW

To prevent excess fuel discharging from the Bunker sampler during Cubitainer changes, a sampler plug can be fitted.

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7. Certification

Bunker Sampler;


- Germanischer Lloyd 52229-04 HH (Appendix A)
- Lloyds Registration – Cert. No. 05/00068 (Appendix B)
- Port of Singapore Specification CP 60-2004, Bunkering by bunker barges / tankers
- ISO 3170:2004, Petroleum liquids, manual sampling.
- ASTM D 4057:2000, Standard practice for manual sampling of petroleum and petroleum products.

Bunker Sampler Gasket;

- BS 7531 Grade Y
- DIN-DGVW 95.01e052
- SVGW 95-043-7
- KTW C 027/95/st
- WRc Approved
- Germanischer Lloyd 98951-97 HH

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Appendix A


Germanischer Lloyd

Certificate no.: **52229-04 HH**

Certificate

Specification of the Product

Producer : Kittiwake Developments Ltd.
3-6 Thorgate Road
Littlehampton, West Sussex
BN 17 7U, United Kingdom



Description : Bunker Drip Sampler (FG-K1-123 to -132)
Storage System (FG-K16091-KW)


Components : Bunker Drip Sampler
Cubtainer, Cubtainer Box, Cubtainer Spout
750ml Bottle, Bcttie Label, Clear Protective Label
Tamper Evident Caps
45° Elbow Joint
Digital Thermometer
Valve Lock, Numbered Padlock Seal
Sampler Gauge / Tapping
Log Book, Training CD

This is to Confirm


That the above-mentioned Bunker Sampler and Storage System is suitable to be used according to the GUIDELINES FOR THE SAMPLING OF FUEL OIL FOR DETERMINATION OF COMPLIANCE WITH ANNEX VI OF MARPOL 77/78 as specified in IMO Resolution MEPC.96(47).
The system shall be applied following the maker's manual REGULATORY BUNKER SAMPLE LOG BOOK (MA-K26287-KW Issue 1).

Issued at Hamburg, 2004-12-23


Germanischer Lloyd

Hans-J. Götz


Sven Neddenien

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Appendix B – Sheet 1

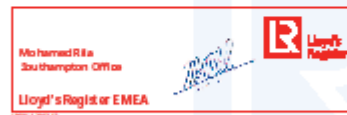


Type Approval Certificate Extension

This is to certify that Certificate No. 05/ 00088(E1) for the undernoted products is extended and renumbered as shown.

This certificate is issued to:

PRODUCER	Parker Hannifin Manufacturing Limited	
PLACE OF PRODUCTION	3-6 Thorgate Road Littlehampton West Sussex, BN 17 7LU United Kingdom (UK)	
DESCRIPTION	Portable bunker fuel sampling flange and assembly	
TYPE	FG-K1-122-KW FG-K1-124-KW FG-K1-126-KW FG-K1-128-KW FG-K1-130-KW FG-K1-132-KW	FG-K1-123-KW FG-K1-125-KW FG-K1-127-KW FG-K1-129-KW FG-K1-131-KW FG-K1-133-KW
APPLICATION	Marine, offshore and industrial applications, to provide samples of fuel oil during bunkering operations	
SPECIFIED STANDARDS	Port of Singapore Specification CP 60-2004, Bunkering by bunker barges/ tankers; ISO 3170:2004, Petroleum liquids, manual sampling; ASTM D 4057:2000, Standard practice for manual sampling of petroleum and petroleum products.	
RATINGS	Line diameter (inch):	2 to 14
Certificate No.	05/ 00088(E2)	
Issue Date	20 August 2015	
Expiry Date	24 July 2020	
Sheet	1 of 2	




M.H.M.Riia
Marine Technology & Engineering Services
Lloyd's Register EMEA

Lloyd's Register EMEA
Global Technology Centre, Southampton, SO16 7QF

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Appendix B – Sheet 2



OTHER CONDITIONS

Operation of the sampler is to be in accordance with the manufacturer's operating instructions, and monitored at all times to ensure the sample bottle is not over filled, or over pressurised.

"This Certificate is not valid for equipment, the design, ratings or operating parameters of which have been varied from the specimen tested. The manufacturer should notify Lloyd's Register EMEA of any modification or changes to the equipment in order to obtain a valid certificate."

The attached Design Appraisal Document No. 05/00068(E2) and its supplementary Type Approval Terms and Conditions form part of this Certificate

All other details remain as the previous Certificate No. 05/ 00068(E1) to which this extension should be attached.

Certificate No. 05/ 00068(E2)
Issue Date 20 August 2015
Expiry Date 24 July 2020
Sheet 2 of 2



M.H.M.Riia
Marine Technology & Engineering Services
Lloyd's Register EMEA

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