



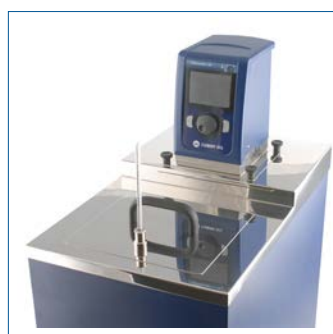
Cold Soak Test Bath

ASTM D7501; IP PM-EA; CGSB-3.0 No 142; CEN N 403

Fuel Specification

ASTM D6751 Biodiesel Fuel Blend Stock (B100) for Middle Distillate Fuels

View a Demo: www.stanhope-seta.co.uk/cold-soak-testing.html



Filter Blocking Tendency: Background

Larger volumes of automotive road diesel are now being blended with FAME and the use of biodiesel is increasing. As a result there is growing need to check that these fuel types meet satisfactory operating criteria and specifications across a broad range of climatic conditions.

Industry standardization groups have reviewed how best to ensure that cold flow and filterability properties of B100 FAME and BX Diesel blends are maintained within specification and the result is 4 test methods.

Cold Soak Filtration Test Method: Determining the filter blocking tendency (FBT) of FAME

The method combines a cold soak step (cooling the sample) and a subsequent filterability step, to determine filter blocking tendency.

The combination of 2 test methods provides manufacturers, fuel blenders and suppliers with a means of checking operability for both B100 FAME materials and B5 or any other BX blended diesel fuels.

Cold Soak Test Bath

- x4 Sample Capacity
- Pre-programmed Cold Soak test conditions
- Automatic warm up after 16 hours
- Integral Cooling and Heating, -20 to 80°C
- Suitable for pre-conditioning samples at 60°C

The Seta Cold Soak test bath is a specially designed bench top unit with programmable digital temperature control suitable for cooling and heating samples in accordance with IP PM-EA, CEN N 403, ASTM D7501 and CGSB-3.0 No. 142 cold soak test requirements.

Cold soak test requirements

IP PM-EA; CEN N 403:	+5°C for 16 hours	20°C for 2 hours
ASTM D7501:	+4.5°C for 16 hours	25°C for 2 or 4 hours
CGSB:	+1°C for 16 hours	25°C for 2 hours

The 12 litre stainless steel liquid bath holds 4 x 500ml sample bottles and is supplied with a removable bottle carrier. Heating and cooling is provided by a Thermostir which is user adjustable for set point, ramp control and time functions in the range -20 to +80°C.

Cool down time is typically 45 minutes to 1°C, then a continuous audible alarm will sound after each cold soak. Warm up is automatic and 15 minutes from 5°C to 20°C.

The bath is suitable for both water and water glycol mixes.

Specifications:

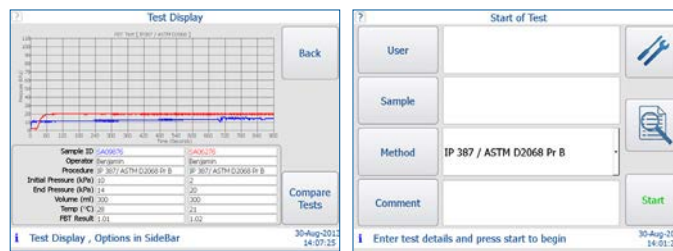
Temperature Range:	-20 to +80°C
Temperature Stability:	+/-0.02°C
Sample Capacity:	4 off 500ml sample bottles
Bath Liquid Capacity:	12 litres
Refrigerant:	CFC free, Single Stage R507
Cooldown time:	Approx. 45 minutes from 25 to 1°C
Ambient Temperature range:	15 to 30°C
Size (HxWxD)/Weight:	77.5 x 31.5 x 51cm / 46.6Kg
Power:	220/240v 50/60Hz / 2.4KW

Ordering Information:

Cold Soak Bath	91665-0
Test Jars 500ml (30)	91665-001



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FBT Software measures Pressure vs Time (91603-0)

Specifications:

Filter Blocking Tendency (FBT) Range:	1.0 to 30 (low number best)
Maximum Pressure:	200kPa
Power Requirement:	110/120Vac or 220/240Vac
Size (HxWxD) / Weight:	27 x 43 x 26cm / 10kg

Features

- Portable test for filterability/blocking tendency
- IP 387 and D2068 test parameters are pre-programmed
- Compact and easy to use
- Result in less than 15 mins
- Interface for PC or Printer

The Multi Filtration Tester (MFT) fully conforms to the latest 'cold soak' filterability test requirements for FAME and bio diesel to be used with the Seta Cold Soak Test Bath (91665-0) for IP PM-EA.

A unique and versatile instrument designed to test the Filter Blocking Tendency (FBT) of diesel, biodiesel (B100 & B5/7/20/30), gas oil, gas turbine fuel and kerosene. Test parameters for IP 387 and ASTM D2068 are pre-programmed. FBT analysis is achieved by measuring the pressure differential across a disposable filter. Fuels which have a high FBT could potentially block filters in the distribution network or during use in a vehicle or power plant.

MFT is also used to determine the FBT for BX fuels containing bio components, such as FAME (biofuel), which have been 'cold soaked' at a temperature just above zero Celsius. During the 16 hour cold soak particles of saturated monoglycerides (SMG's) and sterol glucosides can be formed which do not dissolve when the temperature is raised back to ambient.

The MFT is Microprocessor controlled and provides a simple user interface using 2 buttons and the Seta Multifunctional And Rotational Test (SMART) control feature in conjunction with a backlit alphanumeric 4 line display. The SMART control is exceptionally easy to use for selecting different tests, setting parameters and for calibration of the temperature and pressure sensors. The display provides the operator with test procedure information as well as indicating the selected test method, sample temperature, pressure, volume and the test result.

A printer can be connected to provide a permanent record of the test parameters, results and a filterability graph.

PC software is available which enables the pressure versus time plots to be stored dynamically, compared against one another and output in a variety of formats to enable data analysis.

Filter Blocking Tendency Verification Material

The Seta FBT Verification Fluid is used for checking calibration of the Multi-Filtration Tester (91600-3), including verification of filters, according to IP 387 Procedure B and as referenced in IP PM-EA and CEN N 403.

The methods recommend use of a certified verification fluid with a nominal FBT = 2.00, a certificate stating the precise value is supplied with the verification material.

The FBT verification material is produced gravimetrically using a balance traceable to internationally recognised standards and is supplied in a 500ml bottle.

Filtration Kit for ASTM D6751 Biodiesel Fuel Blend Stock (B100) for Middle Distillate Fuels

ASTM D6217, D7501, IP 415



The Filtration Kit determines the mass of particulate contamination in middle distillate fuels by filtration as specified in ASTM D6751. Can be used in conjunction with Seta Cold Soak Test Bath (91665-0).

Ordering Information:

MFT	91600-3
Start-up Kit, IP387 & D2068 Procedure A	91615-0
Start-up Kit, IP387 & D2068 Procedure B	91616-0
FBT Verification Fluid (500ml)	91668-0
Grounding Kit	91605-0
FBT Software	91603-0
Filtration Kit for ASTM D6217, IP 415	19724-0