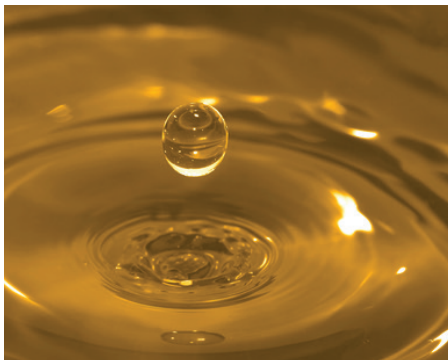


Product Profile

Laboratory instruments for quality control, analysis and calibration



Stanhope-Seta specialise in the design and manufacture of laboratory test instruments which are widely used to measure product quality and consistency. From its manufacturing base in the United Kingdom the company exports high quality instrumentation worldwide.

The wide range of instruments, manufactured in the UK are regarded as a worldwide benchmark for quality control, with products that offer advanced performance, accuracy and reliability. The company holds ISO 9001 and ISO 14001 accreditations across all areas of the business. Stanhope-Seta is also proud to hold four Queen's Awards for Industry in the Innovation and International trade categories.

Stanhope-Seta is an active member of major standardisation bodies including ASTM, IP, ISO, BSI and DIN. By working closely with industry our research and design group actively contributes to test method development and product specifications.

Stanhope-Seta instruments are supported by our global service guarantee which ensures that first class technical support is available across all the Seta product range wherever it is installed. Worldwide sales, service and support is available through our network of experienced and trained representatives.



Contact us:

t: +44 (0)1932 564391 | e: sales@stanhope-seta.co.uk | www.stanhope-seta.co.uk

Plus find us on:





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Application	Jet A-1 DefStan 91-091	Aviation Turbine Fuel ASTM D1655	Aviation Turbine (Synthesized) D7566	Aviation Gasoline ASTM D910	Motor Gasoline EN 228	Motor Gasoline ASTM D4814	Diesel EN 590	Diesel ASTM D975
Ash							EN ISO 6245	ASTM D482
Carbon Residue							EN ISO 10370	
Cetane Number							IP 617; EN 17155	ASTM D8183
CFPP							EN 116	ASTM D6371
Cloud Point							EN 23015	ASTM D2500
Colour	ASTM D156; D6045	ASTM D156; D6045	ASTM D156; D6045					
Conductivity	ASTM D2624; IP 274	ASTM D2624; IP 274	ASTM D130; IP 154	ASTM D2624				ASTM D2624
Copper Corrosion	IP 154; ASTM D130	IP 154; ASTM D130		ASTM D130	EN ISO 2160	ASTM D130	EN ISO 2160	ASTM D130
Silver Corrosion		IP 227				ASTM D7667; D7671		
Dielectric								
Distillation	ASTM D86; IP 123	ASTM D86	ASTM D86	ASTM D86	EN ISO 3405	ASTM D86	EN ISO 3405	ASTM D86
Existent Gum	ASTM D381; IP 540	IP 540; ASTM D381	IP 540; ASTM D381		EN ISO 6246	ASTM D381		
FAME Content	ASTM D7797; IP 583	ASTM D7797; IP 583					ASTM D7963; ASTM D8274	ASTM D7963; ASTM D8274
Filter Blocking Tendency							IP 387; 618	
Freeze Point	ASTM D2386; IP 16	ASTM D2386	D2386	ASTM D2386				
Flash Point	ASTM D56; D93; D3828; D7236 IP 34; 170; 523; 534	ASTM D56; D93; D3828; D7236 IP 34; 170; 523; 534	ASTM D56; D3828; D7236; IP 170; 523; 534				EN ISO 2719	ASTM D93; D3828
Hydrogen Sulfide								
Oxidation Stability				ASTM D873	EN ISO 7536	ASTM D525	EN ISO 12205	ASTM D2274
Particle Counting	ASTM D7619; IP 565	IP 565; ASTM D7619						ASTM D7619
Particulates Contamination (Filtration)	IP 423; ASTM D5452	ASTM D2276; D5452; IP 216; 423	ASTM D2276; D5452; IP 216; 423				EN 12662	ASTM D6217
Pour Point								
Total Sediment								
Unconverted Fatty Acids	ASTM D7797; IP 583							
Vapour Pressure		ASTM D323; D4953; D5190; D5191; IP 69; 394		ASTM D323; D5191	EN 13016-1	ASTM D5191; D4953; D5482; D5188; D6378		
Viscosity	ASTM D445; IP 71	ASTM D445; IP 71	ASTM D445; IP 71				EN ISO 3104	ASTM D445
Water Separation	ASTM D8073; IP 624	ASTM D8073; IP 624						

Laboratory instruments for quality control, analysis and calibration



	Marine Fuel ISO 8217	Fuel Oil ASTM D396	Bio-Heating Fuels EN 14213	FAME EN 14214	Bio-Fuel Blend Stock B20 ASTM D7467	Bio-Fuel Blend Stock B100 ASTM D6751	Instrument	Seta Reference Number
	ISO 6245	ASTM D482	ISO 3987	ISO 3987	ASTM D482	ASTM D874	Ash Furnace	99220-2
	ISO 10370; IP 398		EN ISO 10370	EN ISO 10370		ASTM D4530; D189	Micro Carbon Residue Tester	97400-3
				IP 617; EN 17155	ASTM D8183	ASTM D8183	AFIDA Cetane Number Analysis	SA6000-0
	IP 309		EN 116	EN 116	ASTM D6371		CFPP Apparatus Cloud & Pour Point Bath	94100-4 94160-0
	ISO 3015	ASTM D2500		EN ISO 23015	ASTM D2500	ASTM D2500	Cloud & Pour Point Bath Cloud & Pour Point Cryostat Compact Cloud & Pour Point Cryostat	94160-0 93531-8 94100-4
							Colorimeter	15260-4 15320-2
		ASTM D2624			ASTM D2624		Handheld Conductivity Meter	99708-0
		ASTM D130		ISO 2160; IP 154	ASTM D130	ASTM D130	Copper and Silver Corrosion Baths	11310-0 11405-0
							Copper and Silver Corrosion Baths	11310-0 11405-0
							JetDC	88500-2
		ASTM D86			ASTM D86		Setastill Distillation	11860-3
							Existent Gum Bath	12200-3 12210-0
	ASTM D7963; ASTM D8274	ASTM D7963; ASTM D8274	ASTM D8274		ASTM D8274		SetaCheck BioDiesel FIJI Instruments	SA5500-0 SetaCheck SA5000-2 - FIJI Jet SA5100-0 - FIJI Distillates SA5200-0 - FIJI Multi Fuel
							Multi-Filtration Tester Cold Filter Blocking Tester	91600-4 91670-2
							Freezing Point Apparatus	16990-2
	EN ISO 3679; 2719	ASTM D93; D3828	EN ISO 3679; IP 523; 524	EN ISO 3679; 2719; IP 523; 524	ASTM D93; D3828; D56	ASTM D3828; D93	Pensky-Martens Setaflash Series 3 Range Setaflash Series 8 Range	35000-0 Series 3 Series 8
	IP 570						H2S Analyser with VPP	SA4000-4
	ISO 12205						Oxidation Bath TOST Bath TOST Dry Block Bath	16900-7 16640-2 16645-2
					ASTM D7619		AvCount3 AvCount Lite	SA1100-0 SA1800-2
			EN 12662	EN 12662	ASTM D6217	ASTM D6217	Filtration Tests	Contact Seta for Filtration
	ISO 3016	ASTM D97	ISO 3016				Cloud & Pour Point Bath Cloud & Pour Point Cryostat Compact Cloud & Pour Point Cryostat	94160-0 93531-8 94100-4
	ISO 10307						Total Sediment Tester	16120-2
							FIJI Instruments	SA5000-2 - FIJI Jet SA5200-0 - FIJI Multi Fuel
							SetaVap2 SetaVap4	81000-2 80600-0
	EN ISO 3104; IP 71	ASTM D445	EN ISO 3104; EN ISO 3105; IP 71	EN ISO 3104	ASTM D445	ASTM D445	KV-6 Viscometer Bath KV-2 Viscometer Bath	84200-3 94710-4
							WSI Analyser	SA9000-0

Setaflash® Series 3 Small Scale Flash Point Testing

The safest choice

Approved in over 1000 international product specifications and regulations

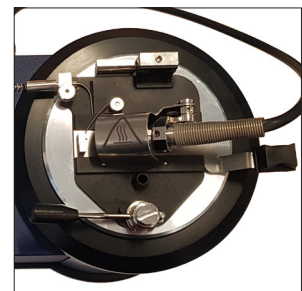
ASTM D3278; ASTM D3828; ASTM D4206; ASTM D7236; ASTM D8174; E502; IP 523; IP 534; IP 602; ISO 3679; ISO 3680 (obs); ISO 9038; EPA 1020 B; CLP Regulations

The versatile range of Setaflash® Series 3 instruments are ideal for use in the laboratory, production line or for portable test applications.

- Electric ignitor or gas (model dependant)
- Test time of under 2 minutes
- Small sample size, 2 or 4 ml
- Temperature range 10 to 135 °C or ambient to 300 °C
- Portable, lightweight, compact design
- Suitable for unknown samples using ramp mode
- Automatic flash detection
- Automatic barometric correction
- Full touch screen display
- USB output and results storage
- Sub-Ambient tests and rapid cool-down



Small Scale Certified Reference Material
 99878-3 Nominal flash point value of 75 °C
 99879-0 Nominal flash point value of 192 °C



	Series 3 Closed Cup 30000-3	Series 3e Closed Cup 30020-0	Series 3 Open Cup 31000-0	Series 3 ActiveCool 33200-3	Series 3e ActiveCool 33220-0	Series 3 ActiveCool (corrosion resisting) 33250-3	Series 3e ActiveCool (corrosion resisting) 33270-0
Temperature range	Ambient to 300 °C	Ambient to 300 °C	Ambient to 300 °C	10 to 135 °C	10 to 135 °C	10 to 135 °C	10 to 135 °C
Ignitor	Gas	Electric	Gas	Gas	Electric	Gas	Electric
Cup material	Aluminium	Aluminium	Aluminium	Aluminium	Aluminium	Stainless steel insert	Stainless steel insert
Ramp rate	up to 6 °C/min	up to 6 °C/min	n/a	up to 6 °C/min	up to 6 °C/min	up to 6 °C/min	up to 6 °C/min
Heating/cooling method	Cartridge	Cartridge	Cartridge	Peltier cell	Peltier cell	Peltier cell	Peltier cell
Results download	USB	USB	n/a	USB	USB	USB	USB
Size (HxWxD) / Weight	19.5x29.5x14 cm / 3 kg	19.5x29.5x14 cm / 3 kg	19.5x29.5x14 cm / 3 kg	19.5x29.5x14 cm / 3 kg	19.5x29.5x14 cm / 3 kg	19.5x29.5x14 cm / 3 kg	19.5x29.5x14 cm / 3 kg

Setaflash® Series 8 Small Scale Flash Point Testing

The safest choice

Approved in over 1000 international product specifications and regulations

ASTM D3278; ASTM D3828; ASTM D7236; ASTM D8174; E502; IP 523; IP 534; ISO 3679; ISO 3680 (obs);
EPA 1020 B; CLP Regulations

The Setaflash® Series 8 range are automated closed cup flash point testers with enhanced functionality over a wide temperature range.

- Automatic dipping and flash detection
- Electric ignitor (with gas option)
- Test time of under 2 minutes
- Small sample size, 2 or 4 ml
- Temperature range -30 to 135 °C or ambient to 300 °C
- ActiveCool electronic Peltier cooling, no external water bath
- Suitable for unknown samples using ramp mode
- Automatic barometric pressure correction
- Full touch screen display
- Fire detection (ActiveCool models)



Small Scale Certified Reference Material
99878-3 Nominal flash point value of 75 °C
99879-0 Nominal flash point value of 192 °C

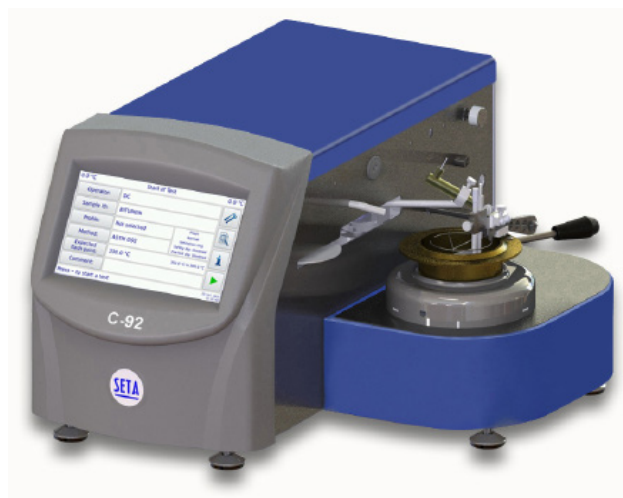
	Series 8 High Temperature 82000-2	Series 8 High Temperature 82050-2	Series 8 ActiveCool 82100-2	Series 8 ActiveCool 82110-2	Series 8 ActiveCool (corrosion resisting) 82150-2	Series 8 ActiveCool (corrosion resisting) 82160-2
Temperature range	Ambient to 300 °C	Ambient to 300 °C	-30 to 135 °C	-30 to 135 °C	-30 to 135 °C	-30 to 135 °C
Ignitor	Electric	Gas	Electric	Gas	Electric	Gas
Cup material	Aluminium	Aluminium	Aluminium	Aluminium	Stainless steel insert	Stainless steel insert
Ramp rate	up to 10 °C/min	up to 10 °C/min	up to 10 °C/min	up to 10 °C/min	up to 10 °C/min	up to 10 °C/min
Heating/cooling method	Ceramic hot plate and fan	Ceramic hot plate and fan	Peltier cell	Peltier cell	Peltier cell	Peltier cell
Results download	USB/RJ45	USB/RJ45	USB/RJ45	USB/RJ45	USB/RJ45	USB/RJ45
Size (HxWxD) / Weight	30x34x38 cm / 8 kg	30x34x38 cm / 8 kg	30x34x38 cm / 8 kg	30x34x38 cm / 8 kg	30x34x38 cm / 8 kg	30x34x38 cm / 8 kg

Seta C-92 (35300-0)

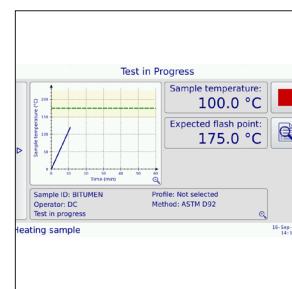
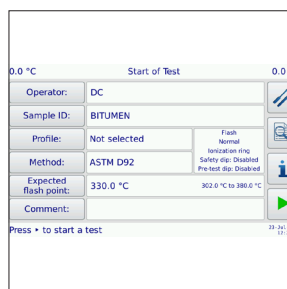
ASTM D92; ASTM D8254; IP 36; IP 403 (obs); ISO 2592; DIN 51 376; NF T60-118; JIS K 2265-4; AASHTO T48

The Seta C-92 is an automated Cleveland open cup flash and fire point tester. Featuring the most advanced, built in modern software it is both flexible and easy to use.

- Easy operation
- Electric hot-wire or gas flame
- Real time display of test progress
- Custom methods and profiles
- Full touch screen display
- Automatic correction for atmospheric pressure
- Rapid cooling system
- Automatic snuffer
- Internal result storage
- LIMS, network and USB connectivity
- Statistical quality control software (SQC)



Temperature range	Ambient to 400 °C
Ignition system	Electric hot-wire or gas flame (field switchable)
Flash detection	Ionisation ring (double)
Ramp rate	Automatic or custom settings up to 17 °C/min
Fire detection	Inert gas fire extinguisher and detector
Cooling method	Rapid forced air (integral fan)
Results download	Memory storage for 500,000 test results LIMS, Ethernet, USB
Size (HxWxD) / Weight	26x37x45 cm / 20 kg



Cleveland Standard Reference Material 80 ml (99882-0)

Multiflash Automatic Flash Point Testers

Abel (IP 170); Tag (ASTM D56)

Automated flash point testers for Tag and Abel tests.

- Automated, simple to use
- Low cost
- In-built safety features

Seta Multiflash Tag Flash Point Module (34400-0)
Auto-Abel Flash Point Tester (34200-2)

Tag 34400-0	Abel 34200-2
Closed cup	Closed cup
Non-Equilibrium, Equilibrium, Flash/no Flash	Non-Equilibrium, Equilibrium
Ambient to 93 °C (199 °F) (5 to 93 °C with cooling)	Ambient to 93 °C (199 °F) (5 to 93 °C with cooling)
Electric or Gas	Electric or Gas
Thermocouple	Thermocouple

PM-93 Pensky-Martens Closed Cup Flash Point Tester (35000-0)

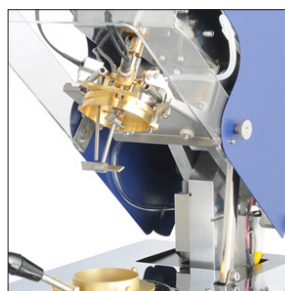
ASTM D93; IP 34; ISO 2719 Procedures A, B and C

The Seta PM-93 provides operators with high level functionality combined with class leading ease of use, robustness and safety.

- Fast, accurate and safe
- Easy operation
- Single action lifting pod
- Unique SafeFlash fire extinguishing system
- Seta Ignite - a robust and long lasting ignitor
- 30 programmable test profiles, test methods and sample names
- Large touch screen
- Memory storage for 2000 results
- Statistical quality control software (SQC)



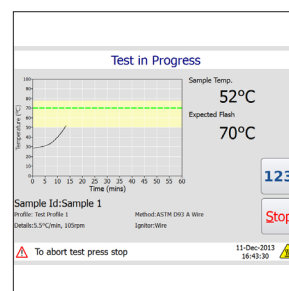
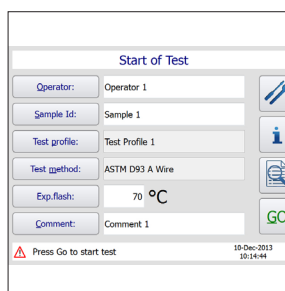
Cooling	Forced air (integral fan)
Ignition system	Electric hot-wire or gas flame
Flash detection	Thermocouple
Heating rate	Fast heating mode (>15 °C/min) and standard rate; 5.5 °C/min; 3 °C/min; 1.3 °C/min; 1 °C/min
Temperature range	Ambient +5 to 400 °C (Ambient +41 to 752 °F)
Barometric pressure correction	Automatic correction with built-in pressure sensor
Fire detection	Thermal. Optional integral inert gas Fire Extinguisher (35002-0)
Size (HxWxD) / Weight	39x24x50 cm / 25 kg



The PM-93 incorporates a heated air bath, a removable sample cup with stirrer, a removable lid with automatic shutter, interchangeable gas and electric hot wire ignitors and a flash detector. The test process is fully automated. Once a sample is added, test parameters are entered and the test is initiated, the test proceeds without any further operator intervention.

At the end of the test, the PM-93 displays the test result, which it automatically corrects for variations in atmospheric pressure using the integral barometer. Test results are saved in the system memory and can be automatically printed, emailed and exported to a USB device or LIMS.

The built-in cooling system helps maximise test efficiency, cooling the sample cup rapidly so that another test can start as soon as possible.



Multi Test Verification Material
 MTVM Gas Oil 500 ml (99851-0)
 MTVM Fuel Oil 500 ml (99852-0)
 MTVM Lubricating Oil 500 ml (99853-2)

SetaVap4 Automatic Vapour Pressure Tester (80600-0)

ASTM D5191; ASTM D5188; ASTM D6377; ASTM D6378; ASTM D8009: EN 13016-1 & 3; IP 394

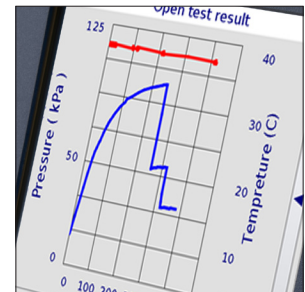
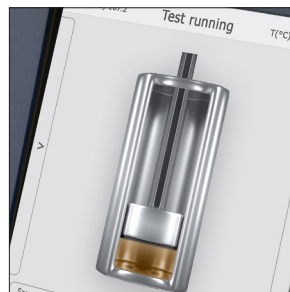
Correlates with ASTM D323; ASTM D2533; ASTM D4953; ASTM D5482

The SetaVap4 provides users with the latest generation of automated moveable piston based technology for vapour pressure testing.

- Piston design for triple and single expansion test methods
- Peltier cells for heating and cooling
- Integrated shaker for crude oil measurements
- Large LCD touchscreen display
- Simple test procedure
- Internal results storage with USB port
- Compact, rugged design ideal for portable field or laboratory use
- DVPE, RVP, EPA and CARB calculations
- Statistical quality control software



Pressure range	0-1000 kPa
Pressure resolution	User specified - 0 to 2 decimal places
Temperature range	0 to 120 °C (no external cooling required)
Temperature stability	±0.1 °C
Sample volume	1 ml, plus rinsing
Measurement time	<10 mins for D5191
Vapour to liquid ratio	0.02:1 to 20:1
Sample introduction	Automated via built in piston, Transfer tube or syringe
Size (HxWxD) / Weight	31x20x24 cm / 8 kg



Certified Reference Material, Pentane 200 ml (80610-0)

SetaVap2 Automatic Vapour Pressure Tester (81000-2)

ASTM D5191; IP 394; IP 409; IP 481; EN 13016-1

Correlates with ASTM D323; ASTM D5482; ASTM D6378; IP 69

Pressure range	0 to 200 kPa ±0.5 kPa (0.1 kPa resolution)
Pressure resolution	0.1 kPa
Chamber temperature	37.8 °C (100 °F) 0.1 °C
Modes	Ptot, DVPE, EPA, Crude, Pabs
Power requirement	115 Vac or 220 Vac, 50/60 Hz, 70 W
Size (HxWxD) / Weight	37x13x20 cm / 3.5 kg



Salt in Crude Analyser (99700-6)

ASTM D3230; IP 265

The Seta Salt in Crude Analyser is a robust and portable instrument for determining the chloride (salt) content of crude oils.

- Automatic salt concentration calculation
- Pre-calibrated for immediate use
- No need for mixing of salt standards
- Typical test time of less than 30 seconds
- Interchangeable sensor
- 3 operating modes (ASTM, IP, user defined)
- Results can be displayed or exported to PC or a LIMS network
- Battery or mains voltage operation
- Moistureproof
- Fully portable



Conductivity range	0.0 to 151 lb / 1000 bbl (Res: 0.1 lb/bbl) 0.0 to 430.0 g/m ³ (Res: 0.1 g/m ³)
Temperature range	-20 °C to 150 °C (Res: 0.1 °C)
Power supply	9 Vdc battery or mains adaptor 100/220 Vac, 50/60 Hz
Size (HxWxD) / Weight	23x12x5 cm / 1.6 kg



SaltCheck Verification Tool (99703-0)

ASTM D3230; IP 265

A set of 3 'SaltCheck' verification modules, supplied in a convenient storage case. The modules are calibrated to show equivalent salt values of:

- 0 g/m³ | 30 g/m³ | 190 g/m³



ASTM D3230, Mixed Salt Solution, 250 ml (99704-001)

ASTM D3230, Neutral Refined Oil, 250 ml (99704-002)

Seta Oil Test Centrifuge for Sediment and Water

ASTM D91; D893; D1290; D1796; D2273; D2709; D2711; D4007; ISO 3734; ISO 9030

The Seta Oil Test Centrifuge is a heating centrifuge fitted with a rotor head with four or six universal pivoting buckets, used to determine water and sediment in oils.

- Heated chamber, ambient to 80 °C
- Static, near vertical bucket positioning
- 4 or 6 place swing out rotor
- Pre-heat facility to ensure bowl is at test temperature
- Conforms to IEC 1010-1 & 1010-2-D
- Optional vapour extraction system



4-Place Centrifuge (90000-3)

6-Place Centrifuge (90100-0)

Maximum RCF	2214 g
Maximum RPM	3000
Temperature range	20 to 80 °C (±1 °C) (86 to 176 °F)
Power requirement	230 Vac (110 V transformer option) 50/60 Hz / 1 kW
Size (HxWxD) / Weight	41x56x64 cm / 72.5 kg



Crude Oil Filtration Apparatus (19727-0)

ASTM D4807

The Crude Oil Filtration Apparatus determines the sediment in crude oils by membrane filtration in accordance with ASTM D4807. This test method has been validated for crude oils with sediments up to approximately 0.15 mass %.



Filtration Kit for Middle Distillates, IP 440 & EN 12622 (19720-0)/ASTM D6217 (19724-0)

Filtration Kit for Biodiesel & Biodiesel Blends, ASTM D7321 (19730-0)

SetaCool - Cloud, Pour Point and Cold Filter Plugging

ASTM D97; ASTM D5853; IP 15; IP 441; BS 2000-15;
ISO 3016; Pour Point of Petroleum Products
ASTM D2500; IP 219; BS EN 23015; BS 2000-219;
ISO 3015; Cloud Point of Petroleum Products
ASTM D6371; IP 309; EN ISO 116; Cold Filter Plugging
Point of Diesel and Heating Fuels

The SetaCool is designed to provide fast, accurate and precise determination of Cloud Point, Pour Point and Cold Filter Plugging Point of petroleum products, diesel and fuels cooling to $-78\text{ }^{\circ}\text{C}$.

- Built in cooling
- Safe for the environment, no F-Gas or CFC's
- Dry block bath with no cooling medium required
- Independent modular system
- Low power consumption and energy loss
- Temperature stability $\pm 0.2\text{ }^{\circ}\text{C}$ or better
- Compact footprint
- Low maintenance



SetaCool (94155-0)

SetaCool-16 (94160-0)

	SetaCool 94155-0	SetaCool-16 94160-0
Number of test jackets	4 places x 1 unit	4 places x 4 units
Cooling temperature range	Adjustable between Ambient to $-78\text{ }^{\circ}\text{C}$ with PID control	
Temperature stability	$\pm 0.2\text{ }^{\circ}\text{C}$ or better	
Power	100 V 240 Vac, 50/60 Hz	
Size (HxWxD) / Weight	45x32x24.9 cm / 19.4 kg	45x64x49.8 cm / 77.6 kg



Multi Test Verification Material
 MTVM Gas Oil 500 ml (99851-0)
 MTVM Fuel Oil 500 ml (99852-0)
 MTVM Lubricating Oil 500 ml (99853-2)

Seta Cloud and Pour Point Cryostats

ASTM D97; ASTM D5853; IP 15; IP 441; BS 2000-15;
ISO 3016; Pour Point of Petroleum Products
ASTM D2500; IP 219; BS EN 23015; BS 2000-219;
ISO 3015; Cloud Point of Petroleum Products

- Three or four individually temperature controlled compartments
- Four air wells in each compartment
- CFC free refrigeration system
- Heated anti-condensation lid
- Non flammable refrigerants, compliant with F-Gas Regulation

	Seta Cloud and Pour Point Cryostat 93531-8	Seta Compact Cloud and Pour Point Cryostat 94100-4
Temperature range	Ambient to $-35\text{ }^{\circ}\text{C}$ (x3) -30 to $-50\text{ }^{\circ}\text{C}$ (x1)	Ambient to $-34\text{ }^{\circ}\text{C}$
Compartment volume	2 Litres	2 Litres
Test positions	16	12
Cool down time	Approx 2 hrs 30 mins (from $23\text{ }^{\circ}\text{C}$ to $-51\text{ }^{\circ}\text{C}$)	Approx 1 hr (from $32\text{ }^{\circ}\text{C}$ to $-34\text{ }^{\circ}\text{C}$)
Power supply	1.8 kW 110/220 Vac, 50/60 Hz	750 W 220/240 Vac, 50 Hz
Size (HxWxD) / Weight	95x63x63 cm / 115 kg	60x60x85 cm / 115 kg

Seta JetDC (88500-2)

IP PM-FC/21; ASTM D924

The Seta JetDC measures the dielectric constant and temperature relationship of aviation fuel to predict behaviour in aircraft gauging systems.

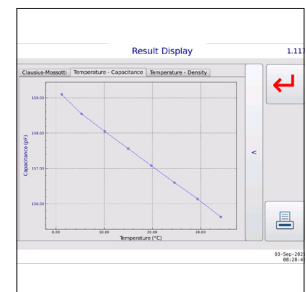
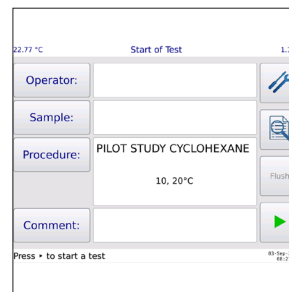
- Rapid test (20 minutes per temperature)
- Integrated apparatus
- Automated measurement
- Large touchscreen

Sustainable Aviation Fuel (SAF) represents an important route to reduce global net CO₂ emissions. SAF is produced through one of many different processes, using different feedstock such as used cooking oil, syngas, fats, vegetable oils, greases, sugars and alcohols as specified in ASTM D7566. SAFs are required to be approved for use through a standardised testing process, following ASTM D4054, which requires dielectric constant.

Due to a subtle difference in the molecular make up of a traditional Jet Fuel and SAF, there can be a difference in the dielectric constant. Dielectric constant is used by aircraft gauging systems as part of the mechanism to determine how much fuel is on board the aircraft. Aircraft fuel gauge accuracy relies on the dielectric constant properties to be similar across jet fuel batches.

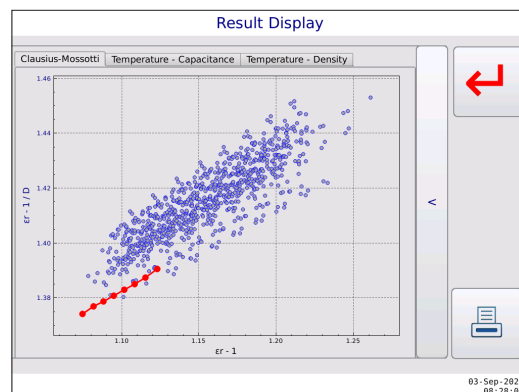


Dielectric constant (κ) measurement range	1.0 to 2.5
Control temperature	0 °C to 40 °C
Power	110/240 V, 50/60 Hz, 300 W
Size (HxWxD) / Weight	40x26x34 cm / 15 kg



Preliminary Precision Study

Precision from a pilot study complying with the general requirements of ISO 4259-1 was estimated. Ten aviation fuels representing specifications ASTM D1655; Def Stan 91-091; MIL-DTL-83133; GOST 10277 as well as five of the six annexes in ASTM D7566 were included.



Seta Multi Filtration Tester (MFT) (91600-4)

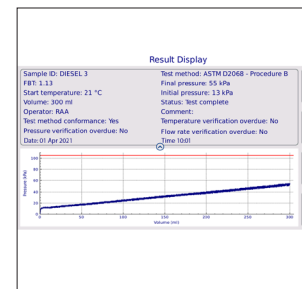
ASTM D2068; ASTM D8386; IP 387; IP PM EA/13; CGSB-3.0 NO.142

The Seta MFT is a fully automated instrument, designed to test the Filter Blocking Tendency (FBT) of diesel, biodiesel (B100 & B5/7/20/30), gas oil, gas turbine fuel and kerosene.

- Fully automated test
- Interlaboratory study proven with ASTM and EI validated precision
- Large colour touch screen display
- Graphical display of sample flowrate
- Results in less than 15 minutes
- Automatic calculation of FBT and EFBT
- Statistical Quality Control function
- Storage of test results
- Ethernet and USB port
- RS232 interface for printing
- Simple calibration/verification



Filter blocking tendency range	1.0 to 30 (low number is best)
Sample size	300 ml
Maximum pressure	200 kPa
Flow rate	20 ml/min, adjustable
Power	110/240 V, 50/60 Hz, 300 W
Size (HxWxD) / Weight	35x30x40 cm / 9.8 kg



Filter Blocking Tendency (FBT) Verification Fluid (91668-0)

Seta Cold Filter Blocking Tester (91670-2)

IP 618; BS EN 590 National Annex; IP 387; ASTM D2068 Procedure B

The Seta CFBT is a benchtop unit which measures the cold filter blocking tendency (CFBT) and cold filterability of middle distillate fuels containing biodiesel.

CFBT Range	1.0 to 30
Flow rate	20 ml/min, adjustable in software
Sample size	750 ml
Temperature range	-5 °C to +40 °C
Size (HxWxD) / Weight	32x53x54 cm / 24 kg



Micro Carbon Residue Tester (97400-3)

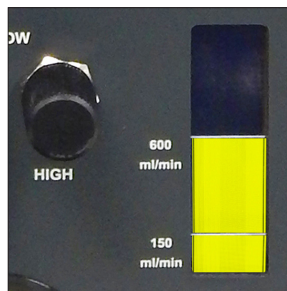
ASTM D4530; ASTM D189; IP 13; IP 398; ISO 10370

The Seta MCRT is an automatic instrument designed to determine the carbon residue formed after evaporation and pyrolysis of petroleum products.

- Carbon residue range 0.1% to 30.0% (m/m)
- Fully automatic, load and go
- 12 sample capacity
- Automatic temperature ramp and gas flow control
- Digital display flowmeter
- Equivalent to ASTM D189; IP 13
- Temperature range ambient to 500 °C
- User friendly interface
- Calibrated for precise temperature ramp rate
- Integrated fan for cooling
- Low pressure and over temperature cut out



Temperature range	Ambient to 500 °C ±2 °C
Ramp rate	10 to 15 °C/min
Pressure controller	20 to 750 kPa
Primary pressure	1400 kPa max
Flowmeter	0.1 to 1 litre/min
Flow rate	Automatic, 150 ml/min or 600 ml/min
Size (HxWxD) / Weight	46x35x39 cm / 21 kg



Multi Test Verification Material
MTVM Fuel Oil 500 ml (99852-0)

Setaclean Total Sediment Tester (16120-2)

ASTM D4870; BS ISO 10307-1; BS ISO 10307-2;
BS 2000-390; IP 375; IP 390

- Measures sediment up to 0.5% m/m
- Sample viscosities up to 130 m/m²/s
- 10 g sample size
- Two test stations



Seta Existent Gum Solid Bath

ASTM D381; IP 131; IP 540; BS EN ISO 6246; DIN 51 784

A Solid Block Bath designed to carry out up to five simultaneous tests for determining existent gum content in fuels by the Jet Evaporation method.

- 5 test stations
- Suitable for air and steam or air only operation
- Integral steam superheater (12200-3 only)
- Digital temperature control
- Flow gauge calibrated for air and steam



Air & Steam Bath (12200-3)

Air Only Bath (12210-0)

	Air & Steam 12200-3	Air only 12210-0
Operating temperature range	140 to 260 °C (± 0.5 °C) (284 to 500 °F)	
Heaters	Integral steam superheater	2 kW
Operational requirement	Steam generator or rotary compressor	Rotary compressor
Over temp cut out	280 °C (adjustable)	
Air/steam inlet	15 mm o.d pipe	
Size (HxWxD) / Weight	45x35x50 cm / 45 kg	



SSAFlab Filtration Kit for ASTM D5452, IP 423 (19722-0)

ASTM D5452; IP 423

SSAFlab Filtration Kit for the determination of particulate contamination in aviation fuels.

Comprises; ground/bond wire, 0.45 micron filter, matched weight pair of 0.8 micron filters, stainless steel filter holder with stainless steel screen, filter forceps, 25 mm solvent filtering dispenser, vacuum filtering flask, petrislide.



Seta Solid Block Bath 4 Way (16670-0)

ASTM D525; ASTM D873; IP 40; IP 157; BS EN ISO 7536; BS 2000-40; ISO 7536; BS 2000-138; IP 138

The Seta Solid Block Bath is an aluminium block bath with digital temperature control that has been designed to accept up to four vessels for the oxidation stability of gasoline and aviation fuels.

- 4 place dry block bath
- Small footprint
- Ambient +5 to 130 °C (heat up time of 80 minutes)
- Stability ± 0.1 °C
- Over temperature cut out
- Auto-Oxi control software available (15452-2)



Bath type	Dry
Temperature range	Ambient to 130 °C
Number of test stations	4
Heat up time to 100 °C	80 minutes
Power requirements	200/240 V, 50/60 Hz, 3 kW
Size (HxWxD) / Weight	30x60x28 cm / 65 kg

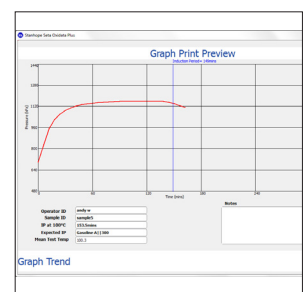
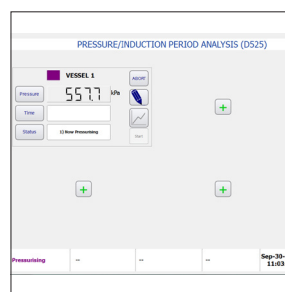


Seta Auto-Oxi Control System Software (15452-2)

Supports ASTM D525; IP 40; ASTM D873; IP 138; ASTM D5304

The Seta Auto-Oxi software is a data capture system for simultaneously monitoring up to four pressure vessels.

- Software for use with water or dry block baths
- Incorporates purge and leak test
- Automatic breakpoint determination
- Connects to Seta Pressure Transducers (15455-3)
- Connects to a PC via USB data cable



Seta TOST Solid Block Bath (16640-2)

ASTM D943; ASTM D2274; IP 157; IP 388; ISO 4263

The Seta TOST Bath is a compact solid block bath which can accept up to 12 sets of oxidation glassware, it is suitable for TOST tests and as an alternative to liquid filled baths.

- Suitable for TOST tests and as an alternative to liquid filled baths
- 12 positions dry block bath
- Ambient to 100 °C temperature range
- Integral Setatemp controller
- Seta Oxflo controller and flowmeters included



TOST Dry Block Bath - 6 Way with Oxflo (16645-2)

Oxidation Bath Liquid - 6 Way with Oxflo Controller (16900-7)

Temperature range	Ambient to 100 °C
Temperature control at 95 °C	Uniformity ± 0.1 °C Stability ± 0.03 °C
Bath type	Solid block
Power requirements	220/240 V, 50/60 Hz / 2 kW
Size (HxWxD) / Weight	Bath: 50x25x49 cm / 110 kg Oxflo Control Unit: 44x35x26 cm / 11 kg



Silver and Copper Corrosion Baths

ASTM D130; ASTM D4048; ASTM D7667; ASTM D7671; IP 112; IP 154; IP 611; BS EN ISO 2160 & BS 2000-154 & ISO 2160; DIN EN ISO 2160; ISO 2160



Seta Copper Silver Block Bath
(11310-0)



Seta Silver and Copper
Corrosion Bath (11405-0)



Seta Oxi-Corrosion Bath
(15550-3)

Air Release Value System (15840-0)

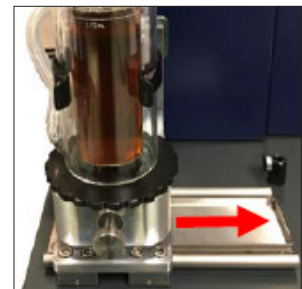
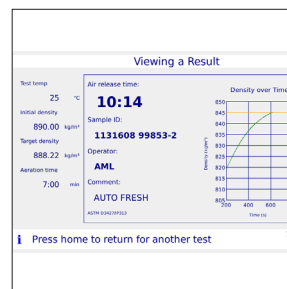
ASTM D3427; IP 313; BS 2000-313; ISO 9120

Seta Air Release Value (ARV) System is a benchtop, automated instrument, used to evaluate the ability of turbine, hydraulic and gear oils to release entrained air.

- Integrated solution
- Multi-station sample management platform
- Simple test menu
- Automated density monitoring
- Circulated sample heating
- Quick connectors for ease of sample handling
- Integral sinker warmer
- Automatic result calculation
- Results storage for over 10,000 tests
- Full LIMS connectivity



Sample size	200 ml
Test temperature range	Ambient to 75 °C (air to 85 °C)
Set temperatures	25 °C, 50 °C, 75 °C (custom temp available in software)
Sample temperature stability	±0.1 °C
Air temperature stability	±0.2 °C
Water supply	10 l/min, adjustable from 25 °C to 80 °C
Density	0.0001 g/ml (0.1 kg/m ³)
Size (HxWxD) / Weight	82x44x50 cm / 29 kg



Setafoam Dual Twin Foam Test Baths (14020-8)

ASTM D892; IP 146; ISO 6247

Setafoam Dual Twin Foam Test Baths are a pair of highly transparent water baths for detecting foaming characteristics in lubricating oils.

- High and low temperature baths
- Up to two simultaneous tests per bath
- Two pre-heating stations per bath
- Two integral normalising coils
- Digital or Analogue flow meter options available
- LED back lighting



Spherical Diffuser and Tube (14021-0)

Cylindrical Metal Diffuser and Tube (14023-0)

Herschel Emulsifier (96700-2)

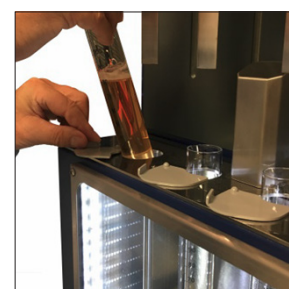
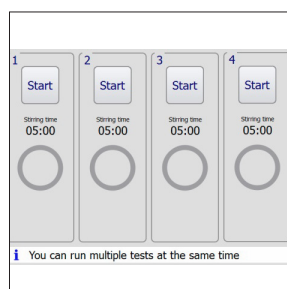
ASTM D1401; IP 412; ISO 6614

The Herschel Emulsifier is a bench top, automated instrument, used to measure the ability of petroleum oils or synthetic fluids to separate from water.

- 4 independently controlled test stations
- Multiple operator safety features, including emergency stop button
- Motorised raising and lowering
- Automated test sequence
- Intermediate scraping position
- Integrated timing
- Easy handling and removal of sample
- No removal of the paddles required
- Guaranteed paddle rotation speed
- Non-reflective enhanced LED lighting



Bath volume	5 Litres
Bath liquid	Water or white oil
Sample size	40 ml oil 40 ml distilled water 1% sodium chloride solution or synthetic seawater
Test temperatures	54 °C and 82 °C
Bath temperature stability	±1 °C
Stirrer speed	1500 ±15 rpm
Size (HxWxD) / Weight	89x45x45 cm / 49.5 kg



Seta Autowash (14024-2)

ASTM D892; D6082; IP 146

- Automatic, unattended cleaning of diffuser and air tube
- Cleans and dries cylindrical metal or spherical diffusers
- Ensures consistent cleaning everytime
- Up to 10 washing programs available
- Low solvent use
- No operator exposure to solvents
- Quick and simple operation



Seta-Shell Four Ball Lubricant Testers

ASTM D2266; D2596; D2783; D4172; IP 239; BS ISO 26422;
BS EN ISO 20623; DIN 51 350; CEC-L-45-A-99

Seta-Shell 4-Ball lubricant testers are used to determine the effectiveness of lubricants and greases at preventing component wear under extreme loads.

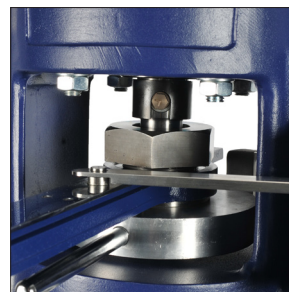
- Applied loads range up to 800 kgf
- Drive speed from 1200 to 1760 rpm
- Digital timer and display with selectable range 0.1s to 9999hr
- Digital displays and microprocessor control of Applied Load and Torque (19900-4)
- Automatic torque limiting and cut-off
- Interlocked guards for maximum safety
- Optional heating pad and controller

Seta-Shell Four Ball Autoload (19900-4)

Seta-Shell Four Ball Manual Load (19800-7)



	Autoload 19900-4	Manual Load 19800-7
Speed range	1200 to 1760 rev/min	1200 to 1760 rev/min
Load range	6 to 800 kgf	0 to 800 kgf
Timing	0.1s to 9999hr	0.1s to 9999hr
Power supply	220/240 V, 50/60 Hz, 2.6 kW	220/240 V, 50/60 Hz, 2.6 kW
Size (HxWxD) / Weight	165x82x62 cm / 180 kg	169x82x62 cm / 161 kg



Viscosity Shear Stability Head (19820-3)

CEC L-45-99; ISO 26422

- Temperature control via an external chiller
- PC connectivity for temperature data logging
- Secondary over temperature monitoring with automatic shutdown
- Quick release mounting system for easy bearing access



Stanomatic Dual Grease Workers

ASTM D217; ASTM D7342; BS 2000-50; IP 50; ISO 2137

The Stanomatic Dual Grease Worker removes the variations that can occur in the hand operation of grease workers, particularly with hard greases.

Grease Worker with Brass Cups (17790-3)

Grease Worker with Stainless Steel Cups (17792-3)



Setamatic Penetrometer (17500-0)

ASTM D5; ASTM D1403; ASTM D1831; ASTM D217; ASTM D7342;
ASTM D937; EN 1426; IP 179; IP 310; IP 50; ISO 2137

- Microprocessor controlled automatic penetrometer
- Penetration range 0 to 630 Pen (6.3 cm)
- Timer range 1 to 9999 seconds
- Automatic plunger release and retention
- Flexi light and inbuilt spirit level
- RS232C interface



Dual Water Washout Tester (19650-0)

ASTM D1264; DIN 51 807; IP 215; ISO 11009

The Seta Dual Water Washout Tester estimates the resistance of a lubricating grease to washout by water from a bearing.

A dual bath instrument with the capability for simultaneous testing at 38 °C and 79 °C allowing significant time savings for D1264 tests.

Single Bath Water Washout Tester (19610-4)



Roll Stability Testers

ASTM D1831; ASTM D8022

- 165 rpm or 100 to 200 rpm variable speed control
- Air bath temperature range ambient to 200 °C
- Integral timer
- Variable speed control
- Polished stainless steel or mild steel cylinder/roller options
- Optional venting hood for ambient tests

Seta High Temperature Roll Stability Tester (19400-5)

Seta High Temperature Roll Stability Tester SC, variable speed (19450-0)



KV-6 Viscometer Bath (84200-3)

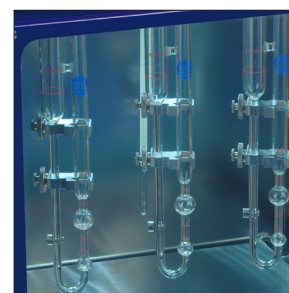
ASTM D2170; ASTM D2270; ASTM D445; ASTM D446; IP 71; IP 226; IP 319; BS 188; BS 2000-71; ISO 3105; BS EN 12595; BS 2000-319; EN 3104; DIN 51 366; DIN 51 562

The KV-6 Viscometer Bath precisely maintains the temperature of viscometer tubes, which are used to measure the viscosity of liquid petroleum products.

- Up to 6 viscometer tubes
- 50 litre oil/water bath
- Temperature stability ± 0.01 up to and including 100 °C, ± 0.03 above 100 °C
- Digital display with 0.01 °C resolution
- Oil, silicone fluid or water filled depending on temperature of use
- Double wall glass front panel ensures optimum insulation and reduce heat loss
- Toughened glass front panel and integral back lighting



Temperature range	Ambient to 150 °C (302 °F)
Temperature stability	± 0.01 °C up to and including 100 °C, ± 0.03 °C above 100 °C
Tube capacity	up to 6
Bath fluid	Oil/silicone/water
Bath capacity	50 Litres
Power requirements	220/240 V, 50/60 Hz / 2.2 kW
Size (HxWxD) / Weight	68x56x33 cm / 33 kg



KV-2 Viscometer Bath (94710-4)

ASTM D445; ASTM D446; IP 71; BS 188; BS EN ISO 3104; BS 2000-71.1; ISO 3104; BS 2000-71-2; ISO 3105

Temperature range	-40 °C to 20 °C
Temperature stability	± 0.01 °C at -20 °C
Tube capacity	up to 2
Bath fluid	Anhydrous methanol or water/ethylene glycol (50/50)
Bath capacity	7 Litres
Size (HxWxD) / Weight	75x37x70 cm / 56 kg



SetaCheck® Biodiesel (SA5500-0)

ASTM D8274

SetaCheck Biodiesel is a handheld instrument designed to provide fast, accurate and repeatable on-site measurement of biodiesel content in diesel fuel blends.

- No dilution required, samples measured directly
- Correlates with EN 14078
- Unique Mid-IR technology
- Simple to use
- Bright, backlit screen displays the Biodiesel concentration (% by volume)
- User calibration available via PC software



Range	0.1% to 40%
Operating temperature	5 - 40 °C
Test duration	Less than 1 minute
Sample volume	2 ml
Power supply	Rechargeable Lithium Ion battery
Size (HxWxD) / Weight	36x15x20 cm / 1 kg

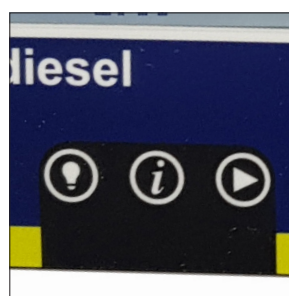
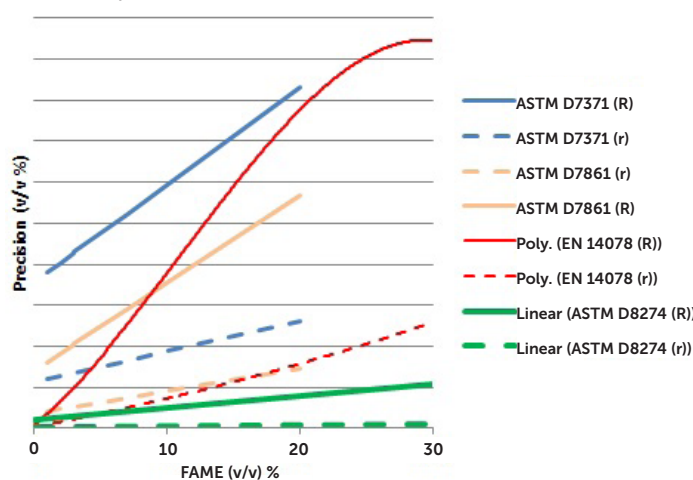


1) Switch instrument on

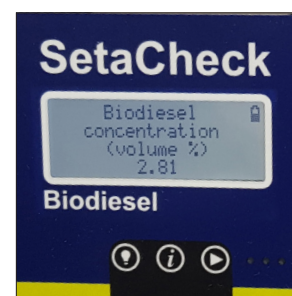


2) Fill cell

Predicted precision, SetaCheck Biodiesel versus other methods



3) Press play



4) Result display

In-Line Conductivity Sensors, JF-1A

ASTM D2624; IP 274

The Seta D2 In-line Conductivity Sensor continuously measures the conductivity and temperature of distillate fuels in distribution systems.

The sensor provides real time information and instant conductivity measurement of product flowing within the pipeline. Connectivity is via 4-20 mA current loop.

Each installation is customised to suit the exact requirements of the pipeline and product.

- 16 Bar pressure or 100 Bar with the high pressure unit
- High accuracy AC measurement ($\pm 1.5\%$ of reading)
- Allows precise control and measurement of SDA Additive Injection
- Stainless steel construction
- Easily fitted and retracted from the pipeline via a retractable mount (16 Bar version only)
- Can be fitted to pipes of various diameters
- ATEX, FM, FMc, IECEx Certified for Zone 1, Hazardous Areas*
- All water wet parts are resilient to salt water



[Inline Conductivity Sensor ATEX, FM \(99500-0\)](#)

[Low Pressure Inline Conductivity Sensor IECEx \(99501-0\)](#)

[High Pressure Inline Conductivity Sensor ATEX, FM \(99505-0\)](#)

[High Pressure Inline Conductivity Sensor IECEx \(99506-0\)](#)

Conductivity range	0-2000 pS/m (customisable)
Accuracy	± 2 pS/m or $\pm 2\%$ of reading
Process Temperature range	-20 to 60°C
Pressure	16 Bar or 100 Bar
Resolution	0.1 pS/m / 0.1 °C
Process connection types	ANSI, DIN, NPT, BSP
Weight	6.8 kg



* Certification depends upon part number chosen, details on request

Handheld Conductivity Sensor, JF-1A-HH-ST (99580-0)

ASTM D2624; IP 274

Stick Conductivity Sensors provide a revolution in the field of conductivity measurement through ease of use, portability, and extremely accurate results for field measurement applications

- Easy to use, one button design stick handheld for field conductivity and temperature measurement
- Durable and ergonomic design in the industry.
- Suitable for use in harsh environments
- Digital reading of conductivity, temperature, date and time of sample
- AC Measurement Technology no need to relax the fuel prior to test
- Large one button design - easy operation with gloves on
- Long life 'AAA' batteries, field replaceable.
- IRD Data link for calibration and verification, no need to open the unit
- Extended Operation Temperature Range from -20 °C to 55 °C
- USB 5 point Validation and calibration simulator available



Temperature	-30 °C to 55 °C
Storage Temperature	-35 °C to 60 °C
Resolution	0.1 pS/m and 0.1 °C
Sensor Tip	316 SS/PEEK/VITON
Measurement Range	0-2,000 pS/m
Accuracy Temperature	+/- 0.5 °C
Size (HxD) / Weight	20.7 x 2.3 cm / 140 g

Handheld Conductivity Sensors, JF-1A-HH

ASTM D2624; IP 274

- High accuracy AC measurement ($\pm 1.5\%$ of reading)
- Conductivity and temperature output capability
- Measure in any sample container
- No need to relax the fuel
- Calibration kit available
- Stores up to 8 data locations
- USB interface for ease of data transfer to user

Conductivity Meter for Fuels (99708-0)	0-2000 pS/m ± 2.5 pS/m ($\pm 1.5\%$ of reading)
Conductivity Meter for Oils (99707-0)	0-2000 pS/cm ± 1.5 pS/cm ($\pm 1.5\%$ of reading)
Conductivity Meter for Ink & Paints (99706-0)	0-10,000 pS/cm ± 1 pS/cm ($\pm 1.5\%$ of reading)
Handheld Conductivity Meter for Solvents (99550-0)	0-20,000 pS/cm ± 1 pS/cm ($\pm 1.5\%$ of reading)
Resolution	0.1 pS/m (99708-0), 0.1 pS/cm (99707-0)
Temperature range	0 to 35 °C (± 0.1 °C) (32 to 95 °F)
Size (HxWxD) / Weight	31x11x10 cm / 0.5 kg



FIJI FAME Measurement

ASTM D7797; ASTM D7963; IP 583;
Specification compliant for ASTM D1655; Defence Standard 91-091; CAN/CGSB-3.23; AFQRJOS; MIL-DTL-83133; ISO 8217; ISO/PAS 23263

The FIJI FAME Analysers offers full compliance with industry approved methods for rapid and easy checks on Parts Per Million levels of fatty acid methyl ester (FAME) content in fuels, C8 to C22.

- Analysis time 20 minutes
- Certified range 10-150 mg/kg FAME in AVTUR
- Measuring range 0-1000 mg/kg in AVTUR
- Certified range 20 ppm to 20% in Distillate and Residual fuels
- Approved for co-processing
- Fully automatic
- Suitable for untrained operators
- No cleaning solvents required
- No pre-sample preparation required
- 50 ml sample volume

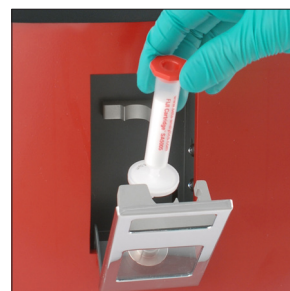


FIJI FAME in Jet (SA5000-2)

FIJI FAME in Middle Distillate & Residual Fuel (SA5100-0)

FIJI FAME MultiFuel (SA5200-0)

Sample size	50 ml
Connectivity	2 x USB
User interface	Colour touch screen
Power supply	50 W
Size (HxWxD) / Weight	55x38x42 cm / 27 kg



1) Load cartridge



2) Place sample

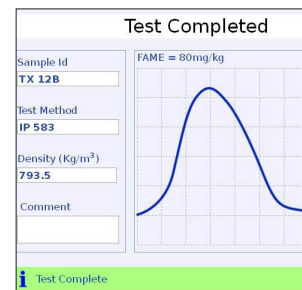
FIJI uniquely uses state of the art FTIR (Fourier Transform Infra-Red Spectroscopy) technology coupled with a patented sample preparation system. FAME detection is from 10mg/kg and the instrument has full ASTM and IP method precision from 10mg/kg level upwards.

FIJI can be used as a lab or field based screening tool. Rapid screening of fuels using the FIJI technique avoids the need for both expensive and complex analytical tests, and can prevent costly delays when releasing jet fuel.

The FIJI instrument is robust, extremely easy to use and is fully automatic so no specialist operator training is involved. Tests require less than 50 ml of sample and typically take under 20 minutes. Results are presented in mg/kg units together with an optional traffic light system for flagging go/no go FAME contamination levels of the fuel.



3) Press GO



4) Test completed

FIJI Verification Material 100 ppm 100 ml (SA5021-0)

FIJI Verification Material 30 ppm 100 ml (SA5020-0)

H₂S Analyser with Vapour Phase Processor (SA4000-4)

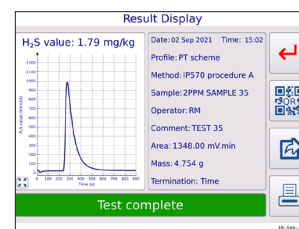
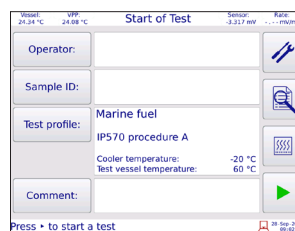
ASTM D7621; IP 570;
ISO 8217; ISO/PAS 23263

The H₂S Analyser is a compact bench-top instrument, used to measure the total hydrogen sulphide (H₂S) content of fuel oils and dead crude oils.

- Measurement range from 0-250 mg/kg H₂S (0-250 ppm H₂S) in the liquid phase
- Built in Vapour Phase Processor proven to eliminate effects of chemical interference
- A non chemical method, no wet chemistry involved
- Small lab bench footprint
- Integral camera to aid sample input
- Custom result reporting and LIMS output
- Automated gas calibration
- Suitable for monitoring residual marine fuel blends, refinery feedstock components, cargoes and products in the distribution system as well as crude oils
- Critical measurement method for product safety and release



Measurement range	0-250 mg/kg
Viscosity range	1-3000 mm ² /s
Principle of measurement	Electro-chemical sensor
Test duration	15 minutes
Sample size	1 ml, 2 ml, 5 ml (depending on H ₂ S concentration)
Diluent volume	20 ml
H ₂ S size (HxWxD) / Weight	52x29x57 cm / 20 kg



IP 570 Proficiency Test Scheme (PTS) (SA4032-0)

ASTM D7621; IP 570

- Evaluate and monitor laboratory and instrument performance
- Demonstrate compliance with laboratory accreditation requirements
- World-wide inter-laboratory comparison of test results and performance
- Identify any potential equipment or operational bias
- Provide added confidence to laboratory staff and customers



Seta AvCount3 (SA1100-0)

Fuels • Hydraulic oil • Light lubricants

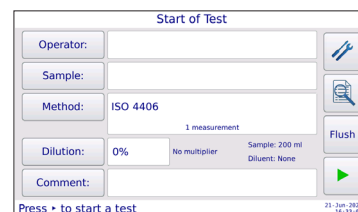
ASTM D7619; ASTM D7647; ASTM D975; IP 565; Defence Standard 91-86; Defence Standard 91-091; IP 630; GOST 17216; ISO 4406; ISO 60970; NAS 1638; SAE 4059; JIS B 9932:2012; JIS B 9933:2021; JIS B 9934:2012

The AvCount3 is a compact bench-top automatic particle counter, used to measure the size and distribution of particles and water droplets in light and middle distillate fuels, including aviation fuel and kerosine, biodiesel, low viscosity oils and hydraulic oils.

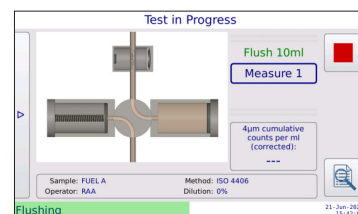
- ISO 11171 calibration
- Cumulative counts/ml
- ISO 4406 Cleanliness Codes
- Colour touch screen
- Dilution ratio calculation
- Real time display of test progress
- User programmable
- Under 3 minute test time (IP 565)
- LIMS, network and VNC connectivity
- Programmable alarm limits
- User and sample identification
- 14 embedded test methods
- Integrated printer
- 500,000 test memory
- In-field verification and calibration



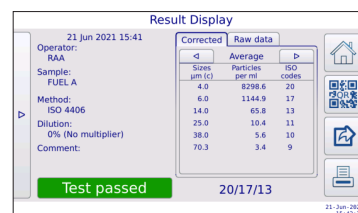
Counts per measurement (max)	60,000
Sample viscosity (max)	68 mm ² /s
Test methods	14 embedded, user programmable
Number of measuring channels	16
Results	500,000 measurements internal, unlimited on PC Print via internal printer, export to LIMS, USB or QR code
Sample temperature range	0 to 70 °C
Connectivity	RJ45 Ethernet or USB
Power supply	100 – 240 Vac, 50/60 Hz auto-sensing universal power supply
Size (HxWxD) / Weight	37x23x27 cm / 6 kg



1) Enter operator and sample details, select method, press ►



2) Test begins, instrument sequences are detailed



3) Final result displays either numerically or graphically

Seta AvCount Lite (SA1800-2)

Fuels • Hydraulic oil • Light lubricants

ASTM D7619; ASTM D975; IP 565; Defence Standard 91-86; Defence Standard 91-091; IP 630; ISO 4406; ISO 60970; CEN/TR 15367-1; CEN/TR 17548; JIS B 9932:2012; JIS B 9933:2021; JIS B 9934:2012

The AvCount Lite particle counter provides reliable results for determining the particle concentration in liquid fuels and oils.

- ISO 11171 calibration
- Cumulative Particles/ml
- ISO 4406 Cleanliness Codes
- Simple operation
- Portable, compact instrument
- Under 3 minute test time (IP 565)
- Bottle samples or on-line (high and low pressure)
- Stand alone or PC controlled (ProTrend SA1810-0)
- Programmable via PC
- Integrated printer
- Battery power optional



Counts per measurement (max)	60,000
Sample viscosity (max)	64 mm ² /s
Test methods	3 stored at any one time, unlimited on PC
Number of measuring channels	6 displayed (16 recorded and displayed via PC)
Results	900 measurements internal, unlimited on PC
Sample temperature range	0 to 70 °C
Connectivity	USB connection for PC
Power supply	100 – 240 Vac, 50/60 Hz power adaptor Optional 12 Vdc battery and charger
Size (HxWxD) / Weight	25x14.5x35 cm / 7.5 kg



> Online sampling



AvCount Verification Material 250 ml (SA1006-0)

Seta AvCount Lube (SA1900-0)

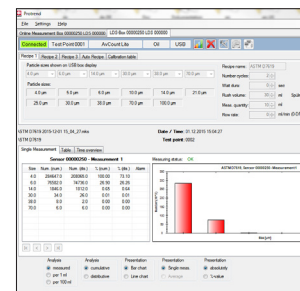
ASTM D7647*; ISO 4406*; ISO 60970*; ASTM D678;
NAS 1638; AS 4059F; ISO 11500; SAE A6D; SAE 749D;
GOST 17216; GB 5930; GJB 420-A-1996; GJB 4208-2006
*Does not require connection to a computer

The AvCount Lube is a fully configured particle counter and sample delivery system suitable for testing higher viscosity samples such as lubricating oils.

- ISO 11171 calibration
- Up to 200 mm²/s viscosity
- FFKM seals resistant to many synthetic oils
- PC controlled via ProTrend software
- User friendly software
- Integral compressor
- Programmable via PC
- Under 3 minute test time

Counts per measurement (max)	60,000
Sample viscosity (max)	200 mm ² /s with integral Sample Delivery System
Total sample volume used	80 ml (IP 565)
Number of measuring channels	6 displayed (16 recorded and displayed via PC)
Results	600 measurements internal, unlimited on PC
Sample temperature range	0 to 70 °C
Connectivity	USB connection for PC
Power supply	100 – 240 Vac, 50/60 Hz
Size (HxWxD) / Weight	64x32x28 cm / 16 kg

Fuels • In-service lubricants
Hydraulic fluids • Insulating oils

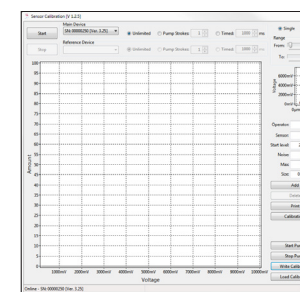
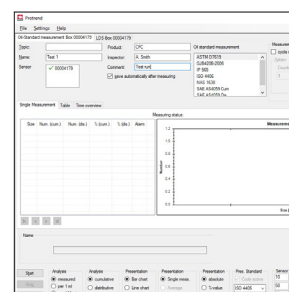


The AvCount Lube consists of an automatic particle counter (SA1910-0) and a sample delivery system (SDS) (SA1950-0).

The test process is fully automated. Once a sample is loaded, a test method selected and the test is initiated, the test proceeds without any further operator intervention.

The sample is fed to the inlet of the AvCount Lube at 3 bar gauge via the sample delivery system, or at atmospheric pressure for low viscosity samples. The instrument can also be connected to a pressurised source such as a pipeline operating at up to 10 bar gauge, or storage tank.

Test results are analysed and reported using the ProTrend software, in accordance with a number of test methods and cleanliness codes. For NAS 1638 tests, the sizes are converted automatically using industry accepted conversion tables.



AvCount Verification Material 250 ml (SA1006-0)

Ultrasonic Bath to ISO 11171 (99320-4)

ISO 11171

- Compact benchtop design
- Quiet and safe operation
- Robust and reliable



AvCount 250ml Bottle Tumbler (SA1010-0)

ASTM D975; ASTM D7619; ASTM D7647; IP 565; AS 4059;
Defence Standard 91-091; Defence Standard 91-86; GB 5930GJB

- Fitted with 250 ml 'syrup' bottle holder (SA1004-0)



AvCount Calibration Material 'd' (SA1121-0)

- Traceable to NIST 2806d
- For use with particle counters calibrated in accordance with ISO 11171
- Supplied in 250 ml bottles with a Certificate of Measurement



AvCount Verification Material (SA1006-0)

- Manufactured in accordance with ISO 11171 Annex F
- Supplied in 250 ml bottles with a Certificate of Measurement



AFIDA (SA6000-0)

ASTM D8183; IP 617; EN 17155
ASTM D975; ASTM D6751; ASTM D7467; EN 590
Correlates with ASTM D613; EN ISO 5165 & DIN 51773

AFIDA provides a fully automated determination of the Indicated Cetane Number (ICN) of diesel and diesel related fuels.

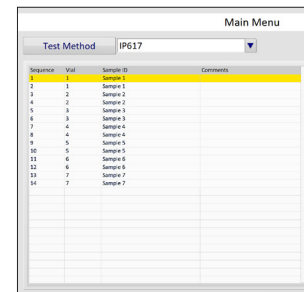
- Indicated Cetane Number by CVCC*
- Highly automated with auto sampler
- Reference Fuel Calibration
- No bias correction to engine values
- Excellent precision to minimise giveaway
- Easy to use, suitable for 24/7 operation
- Load and go



Carousel capacity	36 samples
Range for ICN	35 - 85
Chamber temperature	580 °C
Chamber pressure	17.5 bar
Injection pressure	1000 bar
Compressed air	20.9 ± 0.5 % O ₂
Sample volume	Approx 40 ml for analysis and cleaning
Warm up time	Approx 45 mins
Analysis time	Approx 25 min per sample
Size (HxWxD) / Weight	80x130x60 cm / 160 kg (100 kg excluding platform)



1) Place sample in carousel and select location

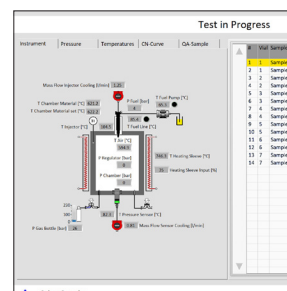


2) Select test sequence and press go

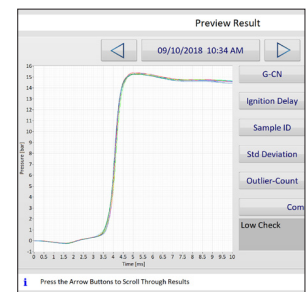
AFIDA incorporates a unique and patented high pressure injection system that generates fine fuel droplets similar to modern common rail injectors in most diesel engines.

A temperature controlled piezo electric injector provides highly repeatable fuel metering, offering improved performance and consistency when compared with solenoid controlled injectors and pintle type nozzles.

The analyser provides very fast, efficient and calibrated ICN determinations using an integral 36 position carousel and auto sampler.



3) Monitor instrument status, pressure, temperature or CN curve during test



4) View results

*Constant Volume Combustion Chamber

Water Separation Instrument (WSI) (SA9000-0)

ASTM D8073; IP 624
ASTM D1655; JIG Bulletin No 142; ATA 103; CAN/CGSB-3.23 2020

The WSI measures how effectively a fuel sample releases entrained and emulsified water when pumped through a water coalescing filter.

- Substantial cost saving per test
- Fully automated sample handling
- Simple operation for non-chemists
- Patented Ultra Sonic Mixer
- 10 minute test duration
- Minimal operator time required (under 3 minutes)
- Sonic mixing sequences providing consistent water droplet size and stable emulsion
- Featuring an API/EI 1581 5th edition filter material
- High resolution optical water detector measuring to <1ppm water concentration



Measurement range	5-100 Water Separation Index (WSI)
Temperature range	18 °C to 29 °C
Sample size	230 ml
Power	Universal, AC 85-264 Vac, 50-60 Hz
Outputs	USB, digital display
Size (HxWxD) / Weight	38x31x35 cm / 8 kg

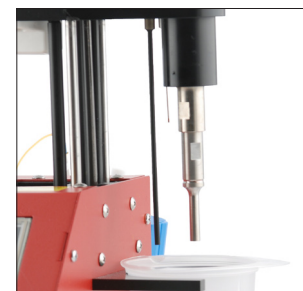
The WSI is designed to predict filter coalescer failure. The instrument is fully automatic with simple touch screen operation. The WSI features a patented Sonic Mixing Technology which eliminates any variables with water droplet size and ensures the same amount of energy is applied to each sample.

Filter cartridges use latest generation API/EI 5th edition filter material which is less sensitive to weak surfactants and eliminates uncertainty over static dissipator additives, but is responsive to the presence of ester based additives.

In use, an automated test sequence first emulsifies the sample with dyed water using the ultra-sonic mixer. Once emulsified the sample is pumped through the filter cartridge and onto the sensitive water detection system. As the test progresses the filter effectiveness decreases and the detection system measures the water passing through the filter. At the end of the test the result is shown as the Water Separation Index (WSI).



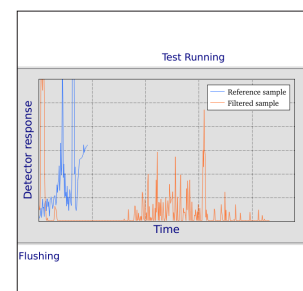
> Filter cartridge



> Patented Ultra Sonic Mixer



> Supports bar code reader



> Touch screen display

Multi Test Verification Materials

- Highly cost effective solution to laboratory verification requirements
- Verification to ASTM/CEN/ISO/IP
- Certified values
- 2 year shelf life from manufacture

99850-0 Seta MTVM - Kerosene (Jet Turbine Fuel) 500 ml

Test Name	ASTM / Method	Range	Amount/test
Density	IP 365	0.798 to 0.807 kg/l	2 ml
Distillation IBP	D86; IP 123; EN ISO 3405	140 to 180°C	100 ml
Distillation 10%	D86; IP 123; EN ISO 3405	159 to 188°C	100 ml
Distillation 50%	D86; IP 123; EN ISO 3405	183 to 218°C	100 ml
Distillation 90%	D86; IP 123; EN ISO 3405	220 to 252°C	100 ml
Distillation FBP	D86; IP 123; EN ISO 3405	241 to 269°C	100 ml
Distillation Residue	D86; IP 123; EN ISO 3405	1.1 to 1.3% vol	100 ml
Distillation Loss	D86; IP 123; EN ISO 3405	0.4 to 0.8% vol	100 ml
Flash Point	IP 170; EN ISO 13736	35 to 60°C	85 ml
Freezing Point	D2386; IP 16	-62 to -43°C	25 ml
Aromatics FIA	D1319; IP 156	16 to 22% vol	0.75 ml
Smoke Point	D1322; IP 57; ISO 1322	20 to 25 mm	20 ml
Kin Vis -20°C	D445; IP 71; EN ISO 3104	2 to 8 mm ² /s	20 ml
Acid Number	D3242; IP 354	< 0.100 mg KOH/g	100 ml
Mercaptans	D3227; IP 342; ISO 3012	0.0003 to 0.0100% (m/m)	40 ml

99851-0 Seta MTVM - Gas Oil 500 ml

Test Name	ASTM / Method	Range	Amount/test
Density at 15°C	D4052; IP 356	0.83 to 0.854 kg/l	2 ml
Distillation IBP	D86; IP 123; EN ISO 3405	160 to 190°C	100 ml
Distillation 10%	D86; IP 123; EN ISO 3405	198 to 242°C	100 ml
Distillation 50%	D86; IP 123; EN ISO 3405	255 to 290°C	100 ml
Distillation 90%	D86; IP 123; EN ISO 3405	319 to 350°C	100 ml
Distillation 95%	D86; IP 123; EN ISO 3405	335 to 368°C	100 ml
Distillation FBP	D86; IP 123; EN ISO 3405	347 to 385°C	100 ml
Distillation Residue	D86; IP 123; EN ISO 3405	1.25 to 1.42% vol	100 ml
Distillation Loss	D86; IP 123; EN ISO 3405	0.26 to 0.7% vol	100 ml
FAME Content	IP 579	0.03 to 19.03% (V/V)	
Flash Point	D93; IP 34; EN ISO 2719	56 to 80°C	75 ml
Cloud Point	D2500; D5771-IP 444; D5772; IP 445; D5773; IP 446; IP 219; ISO 3015; EN 23015	-17 to -4°C	Up to 38 ml
CFPP	D6371; IP 309; EN 116	-30 to 0°C	45 ml
Pour Point	D97; IP 15; D5950; D5949; D6749; D6892; D5985; EN ISO 3016	-33 to -6°C	Up to 38 ml
Kin Vis 40°C	D445; IP 71; EN ISO 3104	2.3 to 3.5 mm ² /s	Up to 40 ml
Lubricity HFRR	D6079; IP 450; ISO 12156-1	212 to 512 µm	2 ml
Water Karl Fischer	D1744; IP 438; EN ISO 12937	23.4 to 63.9 mg/kg	5 ml

99852-0 Seta MTVM - Fuel Oil 500 ml

Test Name	ASTM / Method	Range	Amount/test
Density at 15°C	D4052; IP 356	0.94 to 0.994 kg/l	2 ml
Pour Point	D97; IP 15	-14 to 7°C	Up to 38 ml
Kin Vis 50°C	D445; IP 71; EN ISO 3104	150 to 1800 mm ² /s	Up to 40 ml
Kin Vis 100°C	D445; IP 71; EN ISO 3104	20 to 95 mm ² /s	Up to 40 ml
Micro Carbon	D4530; IP 398; ISO 10370	0.10 to 30.0% (m/m)	2 ml
Flash Point	D93 (b); IP 34 (b); EN ISO 2719 (b)	88.9 to 121.6°C	75 ml

99854-0 Seta MTVM - Motor Gasoline 500 ml

Test Name	ASTM / Method	Range	Amount/test
Motor Octane No.	D2700; ISO 5163	82 to 90 MON	-
Research Octane No.	D2699; ISO 5164	90.5 to 101 RON	-
Density at 15°C	D4052; IP 356; ISO 12185	0.721 to 0.763 kg/l	2 ml
Distillation IBP	D86; IP 123; EN ISO 3405	26 to 39°C	100 ml
Distillation 70°C	D86; IP 123; EN ISO 3405	15 to 44 % vol	100 ml
Distillation 100°C	D86; IP 123; EN ISO 3405	36 to 70 % vol	100 ml
Distillation 150°C	D86; IP 123; EN ISO 3405	75 to 95 % vol	100 ml
Distillation FBP	D86; IP 123; EN ISO 3405	175 to 205°C	100 ml
Aromatics FIA	D1319; IP 156	19 to 42% vol	0.75 ml
Olefins FIA	D1319; IP 156	1.5 to 15% vol	0.75 ml
Saturates FIA	D1319; IP 156	42 to 72% vol	0.75 ml
Vapour Pressure	D5191; IP 394; EN 13016-1	50 to 95 kPa	3 ml

99856-0 Seta MTVM - Bitumen 200ml

Test Name	ASTM/Method	Range	Amount/test
Softening Point	IP 58; EN ISO 1427	37 to 54°C	7.5 ml
Needle Penetration	IP 49; EN ISO 1426	35 to 200 Pen	130 ml

99853-2 Seta MTVM - Lubricating Oil 500 ml (ISO guide 34)

Test Name	ASTM / Method	Range	Amount/test
Flash Point	D93 Procedure A	196 to 225°C	80 ml
Pour Point	D97; IP 15	-49.1 to -33°C	50 ml
Kinematic Viscosity 40°C	D445	53 to 165 mm ² /s	30 ml
Kinematic Viscosity 100°C	D445	9 to 22 mm ² /s	30 ml
Viscosity Index	D2270	139 to 180	60 ml
Density	D4052	0.85 to 0.88 g/mL	10 ml
Zinc	D5185	800 to 1275 mg/kg	5 ml
Calcium	D5185	3000 to 5000 mg/kg	5 ml
Phosphorus	D5185	800 to 1600 mg/kg	5 ml
Acid Number	D664	1 to 5 KOH/g	2 ml
Base Number	D2896	5 to 15 KOH/g	3 ml

Single Test Verification Materials

- Verification to ASTM/CEN/ISO/IP
- Certified values
- 2 year shelf life from manufacture

Seta STVM - Kerosene 50 ml

Seta Part Number	Test Name	ASTM/Method	Range
99857-0	Napthalenes	D1840	1.33 to 2.4% vol
99858-0	Sulfur ED X-ray	D4294; IP 336; EN ISO 8754	0.003 to 0.110% m/m
99898-0	Aromatics-Di HPLC	D6379; IP 436	1.44 to 2.90% m/m
99898-0	Aromatics-Mono HPLC	D6379; IP 436	15.2 to 21.2% m/m
99898-0	Aromatics-Total HPLC	D6379; IP 436	16.9 to 22.8% m/m

Seta STVM - Gas Oil 50 ml

Seta Part Number	Test Name	ASTM/Method	Range
99867-0	Sulfur WD X-ray	D2622	0.0009 to 0.013% m/m
99869-0	Aromatics HPLC	D6591; IP 391; EN 12916	0.6 to 3.6% m/m

99905-0 Seta SIMDIS STVM - Kerosene (Jet Turbine Fuel) 10 ml

Test Name	ASTM/Method	Range	Amount/Test
SIMDIS IBP	D2887; IP 406	100 to 180°C	1 ml
SIMDIS 10%	D2887; IP 406	142 to 188°C	1 ml
SIMDIS 50%	D2887; IP 406	183 to 218°C	1 ml
SIMDIS 90%	D2887; IP 406	220 to 249°C	1 ml
SIMDIS 95%	D2887; IP 406	230 to 259°C	1 ml
SIMDIS FBP	D2887; IP 406	244 to 297°C	1 ml

99906-0 Seta SIMDIS STVM - Gas Oil 10 ml

Test Name	ASTM/Method	Range	Amount/Test
SIMDIS IBP	D2887; IP 406	120 to 190°C	1 ml
SIMDIS 10%	D2887; IP 406	177 to 242°C	1 ml
SIMDIS 50%	D2887; IP 406	260 to 290°C	1 ml
SIMDIS 90%	D2887; IP 406	320 to 355°C	1 ml
SIMDIS 95%	D2887; IP 406	335 to 375°C	1 ml
SIMDIS FBP	D2887; IP 406	350 to 414°C	1 ml

99980-0 Seta STVM - Gasoline 5 x 5 ml

Test Name	ASTM/Method	Range	Amount/Test
Motor Gasoline Aromatics	D6839; ISO 22854; EN 14517	22.41 to 35.41% vol	0.1 µL
Motor Gasoline Olefins	D6839; ISO 22854; EN 14517	0.31 to 14.50% vol	0.1 µL
Motor Gasoline Saturates	D6839; ISO 22854; EN 14517	43.62 to 77.2% vol	0.1 µL
Motor Gasoline Oxygenates	D6839; ISO 22854; EN 14517	0.04 to 12.3% vol	0.1 µL
Motor Gasoline Oxygen	D6839; ISO 22854; EN 14517	0 to 2.58% vol	0.1 µL
Motor Gasoline Benzene	D6839; ISO 22854; EN 14517	0.051 to 0.888% vol	0.1 µL

99981-0 Seta STVM - Gas Oil 50 ml

Test Name	ASTM/Method	Range	Amount/Test
Gas Oil Sulphur	D5453; IP 490; ISO 20846	3 to 10 mg/kg	1 ml