



IGNITION QUALITY TESTER (IQT™)

**ASTM D6890; IP 498; EN 15195: 2005(E); EN 590 (next revision); Correlates with ASTM D613
Incorporated into Fuel Specifications ASTM D975 & BS 2869**

- Automated test procedure
- Optimise refinery blending
- Tighter control of cetane additives
- Minimize 'give away'
- Small (<100ml) sample size
- Fast analysis (<20 mins)
- Precise results -
Repeatability of 0.88, Reproducibility 3.53 @ 52 CN

The Ignition Quality Tester (IQT™) is a reliable, affordable and quiet alternative to a cetane engine. It is a fully automated test instrument for deriving the cetane number for a wide range of middle distillate fuels including conventional and oil sands-based diesels, biodiesels, refinery streams, plus fuels using oxygenate and nitrate based cetane enhancers.

Significantly smaller and quieter than a traditional cetane engine, the IQT™ requires less infrastructure, uses compressed gases that are readily available in cylinders throughout the world, and is designed for a laboratory type environment. The IQT™ automatically carries out all pre-test and test procedures, analyses the data and presents the results in under 20 minutes.

The combustion chamber, injection system and fuel/gas metering systems are mounted on a sturdy chassis attached to the top of a wheeled cabinet. The cabinet also contains the associated coolant system and an integral computer with the IQT™ System Software (ISS™) installed. An easy to view flat screen colour monitor is mounted on an adjustable arm attached to the cabinet. An electronics cabinet, containing the data acquisition card and the control system, is mounted on the side of the wheeled cabinet.

Manufactured by Advanced Engine Technology (AET) in Canada, the IQT™ determines the delay between the injector needle lifting and the combustion pressure recovery point in a heated fixed volume combustion chamber. This delay is highly correlated to the ASTM D613 cetane number (CN). The IQT™ is connected to a Nitrogen supply for delivering the sample, an Air supply to operate the injector, and a 20.9% O₂ content Air supply for the combustion charge. The combustion chamber is electrically heated.

The IQT™ package comprises the Ignition Quality Tester, cooling system, wheeled cabinet, electronics cabinet, computer, software, monitor, connecting cables, flexible hoses for connection to the gas supplies, and a toolkit. Please refer to the accessories table for additional kits required for installation and operation.



92000-2



BIO-FUEL TESTING



CALIBRATION & VERIFICATION MATERIALS



SOFTWARE INCLUDED

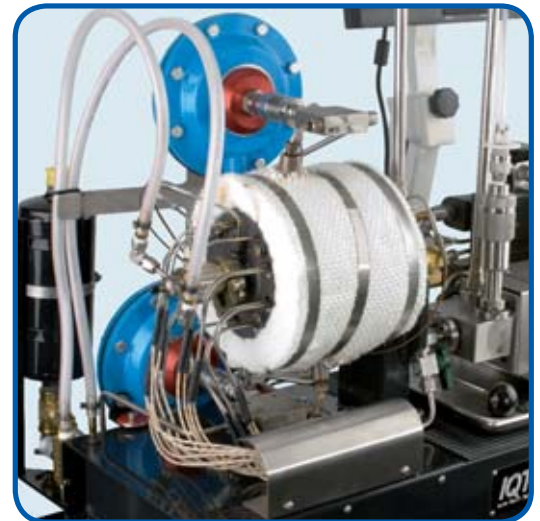
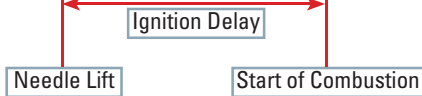
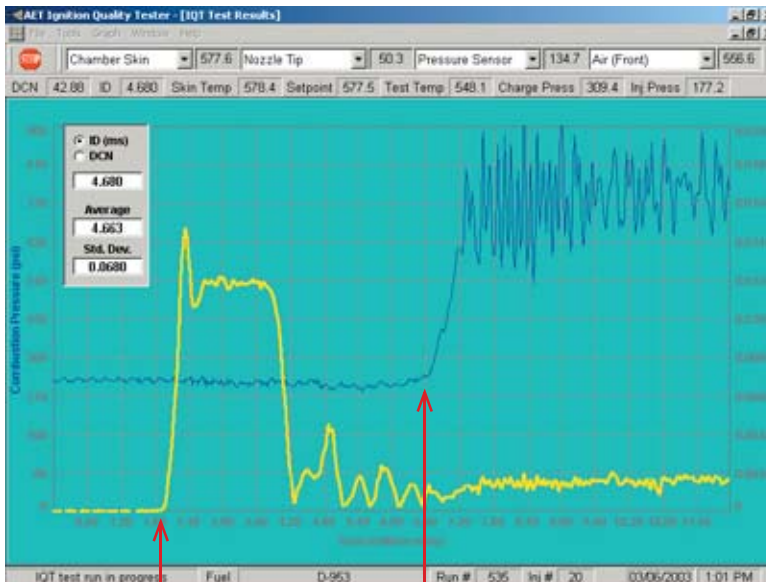


TECHNICAL DATASHEETS AVAILABLE

SPECIFICATIONS	
Measuring Principle:	Constant Volume Combustion Chamber
Injection System:	Pintle-type, single hole nozzle, air-driven injection pump
Combustion Air Supply:	Compressed air, 20.9% O ₂ , ±1.0%
Regulated minimum:	21.7 bar (310 psi) for Combustion process
Air Supply:	Compressed air, Industrial Grade
Regulated minimum:	12.1 bar (175 psi) for Injection process
Nitrogen Supply:	Compressed Nitrogen, Industrial Grade
Regulated minimum:	3.5 bar (50 psi) for Fuel Feed process
Cooling System:	Closed-loop liquid to air
Computer (supplied):	Pentium based PC with interface
Input voltage:	120/220V, 60 Hz 220/240V, 50Hz Protected by an uninterruptable power supply (UPS) and isolating transformer
Typical Footprint:	3 x 3 x 3m
Typical Weight:	300kg

Stanhope-Seta are distributors for the Ignition Quality Tester in Europe and India.

In addition to the supply of the IQT™ equipment, Stanhope-Seta also offer a comprehensive set of support packages including site preparation, IQT™ installation and commissioning. Stanhope-Seta can also provide basic and advanced staff training and maintenance workshops on-site and at our UK headquarters.



Combustion Chamber detail

ACCESSORIES – IQT™

REQUIRED

- 92002-0 SERVICE SPARES KIT, comprising exhaust valve, injector nozzle, gaskets and 'O' rings, combustion chamber heater, bleed valve for injection pump, thermocouple set, combustion pressure transducer.
- 92007-2 START UP KIT, comprising waste product and coolant overflow containers, sample containers and filtering kit, wash bottles and containers, fume extraction system adaptor and trunking, gas supply adaptors, laser printer, computer trolley, and additional tools.
- 92008-3 CALIBRATION KIT, comprising nozzle opening pressure (NOP) calibrator, mass calibration kit (92000-010), digital thermometer, calibration materials.
- 92010-2 POWER SUPPLY KIT, with auto shut down system, comprises uninterruptible power supply (3 hours), isolating transformer, combustion chamber over-temperature cut-out switch, cables and connectors.
- 92020-0 GAS REGULATOR KIT, comprising a set of delivery panels (cylinder/supply end) and point of use panels (IQT end) for the nitrogen and two air supplies. Each panel includes all required regulators, valves, filters gauges and adaptors, assembled and ready to mount.
- TRIQT1 INSTALLATION, COMMISSIONING & TRAINING, IQT installation and commissioning, local training of staff.

OPTIONAL

- 92009-2 EXTRACTION FAN SYSTEM, for positive fume extraction.
- TRIQT2 ADVANCED WORKSHOP & MAINTENANCE TRAINING, in depth training including advanced maintenance and repair work at Stanhope-Seta in the UK.
- TRIQT3 SERVICE CONTRACT, Scheduled maintenance, tailored to client needs (ad-hoc or annual contracts available).