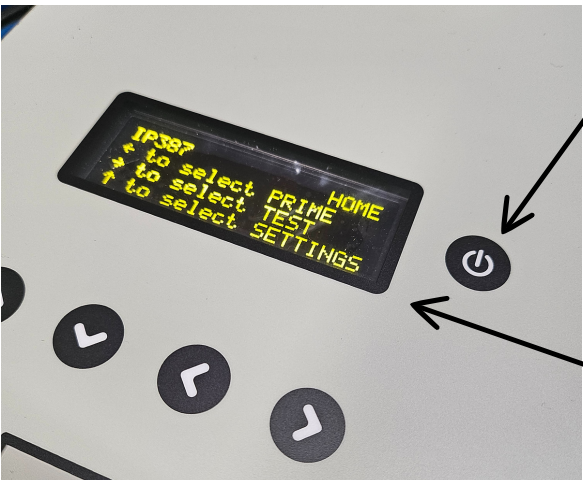


Operational Instruction Sheet

The Unitor Dieso Filtration Test Kit (DFTK) is designed to determine the Filter Blocking Tendency (FBT) of distillate fuels, including diesel, gas oil. The principle of the test is that a sample is passed through a specified filter at a constant flow rate. The pressure drop across the filter and the flow time (thus volume) are monitored. The result is calculated from either the pressure drop after a specified volume has passed through the filter, or the volume when the pressure drop has reached a specified level. The DFTK comprises a Reservoir for the sample, Pick-Up Assembly with integral temperature probe, Precision Pump, Outlet Swivel Assembly, Filter Unit, Collection Beaker for spent sample, and Control Unit. All components are mounted within the case. The Filter Unit comprises a Filter Unit and a disposable Filter Element and is supplied with this kit.

Operating

1. Check Swivel Arm Inlet is in the beaker ready for the start of the test.
2. Clean and change Filter of Swivel Arm Outlet where necessary.
3. Clean and change Restrictor where necessary.



4. Press for 2/3 seconds to turn on unit
5. Follow the instructions on the screen to commence PRIME sequence before instigating a TEST

6. After TEST is complete, follow with PRIME sequence again.

Restrictor Cleaning Procedure

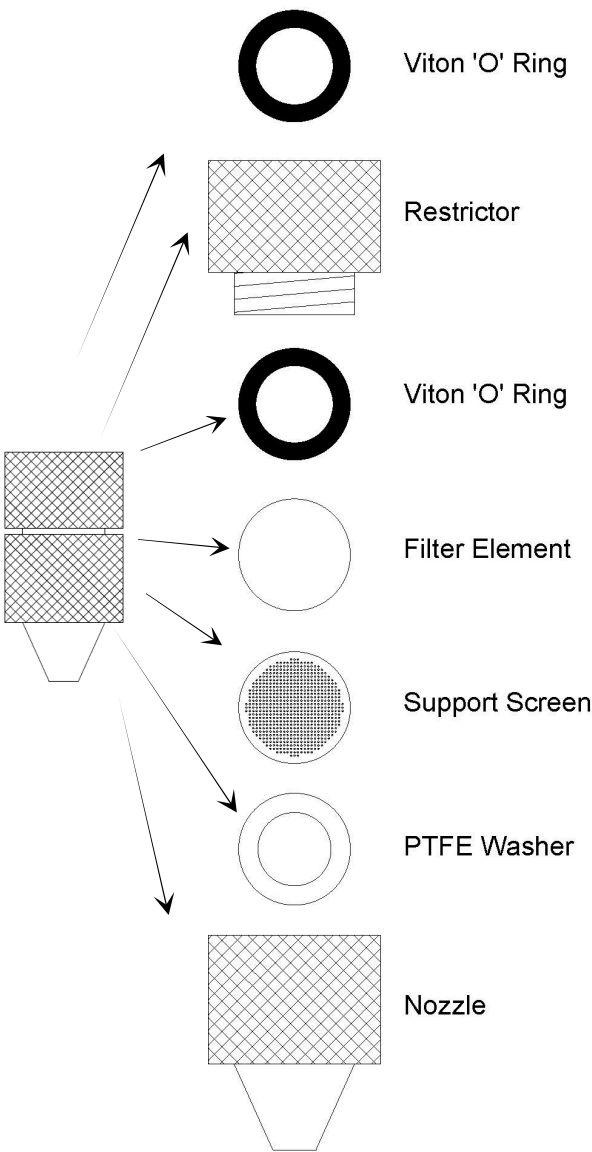


Make sure filter element is changed after every test.

Safety Warnings

- 1) Always wear safety glasses and protective clothing.
- 2) This Instrument should only be installed and operated by trained staff, who are familiar with the relevant laboratory and engineering practices.
- 3) It is the users responsibility to ensure that all relevant requirements of local and national health and safety legislation are complied with during installation and operation of this instrument.
- 4) An over-pressure device will cut power to the pump and show an error message on the display if the pressure exceeds 105kPa.
- 5) Be aware, the DFTK is electrically protected by a fuse

Filter Holder Assembly



Fault Finding

FAULT	POSSIBLE CAUSE	REMEDY
DURING PRIMING		
Pump stops	Blockage, pressure has exceeded 105kPa	Remove and clean Restrictor and Pulse Damper
Air bubbles in flow from outlet	Pick-Up Assembly not immersed in Sample	Lower Pick-Up Assembly
	Air still in fluid system	Continue to prime DFTK
	Inlet tubing cracked/hardened	Replace tubing
DURING TEST		
Pump stops	Blockage, pressure has exceeded 105kPa	Remove and clean Restrictor, Pulse Damper, and Filter Unit
Pressure increases rapidly	Partial Blockage in Filter Unit	Remove and clean Filter Unit
Pressure fluctuates	Pressure Release Valve not fully closed	Close Pressure Relief Valve
	Pick-Up Assembly not fully immersed in Sample	Lower Pick-Up Assembly fully
	Air in fluid system	Prime DFTK
	Leak from seals in Filter Unit	Replace 'O' Ring and PTFE Washer
Pressure abnormally low	Leak from Restrictor or Pulse Damper 'O' Rings	Replace 'O' Rings
	Pulse Damper choked.	Remove Pulse Damper and wipe out excess fluid.
	Filter Element not fitted in Filter Unit	Fit Filter Element
	Filter Unit not replaced after priming	Fit Filter Unit
Sample leakage from Outlet Swivel Assembly and/or Filter Unit	Pick-Up Assembly not immersed in Sample	Lower Pick-Up Assembly
	Air in fluid system	Prime DFTK
	Leak from Restrictor or Pulse Damper 'O' Rings	Tighten Restrictor and/or Pulse Damper.
Inconsistent results	Out of calibration	Re-calibrate
DURING CALIBRATION		
Inconsistent pump volume flow	Pick-Up Assembly not immersed in Sample	Lower Pick-Up Assembly fully
Pressure from pressure calibrator cannot be maintained	Leak from Restrictor or Pulse Damper 'O' Rings	Replace 'O' Rings
GENERAL FAILURE		
Pump stops	Over Pressure	Clean system of blockage
	Pump failure	Replace filter
	Control PCB failure	Replace Pump
Display goes blank	Control PCB failure	Replace Control PCB
Pump stops and Display goes blank	Power failure	Check mains power supply
	Control PCB Failure	Replace fuses
		Replace mains lead
		Replace Control PCB