

The 5 Key Practical Steps to take to Solve Lubricant Varnish



Primary factors that influence spark discharge

Operating Conditions

- Flow rates
- Temperature

Fluid Characteristics

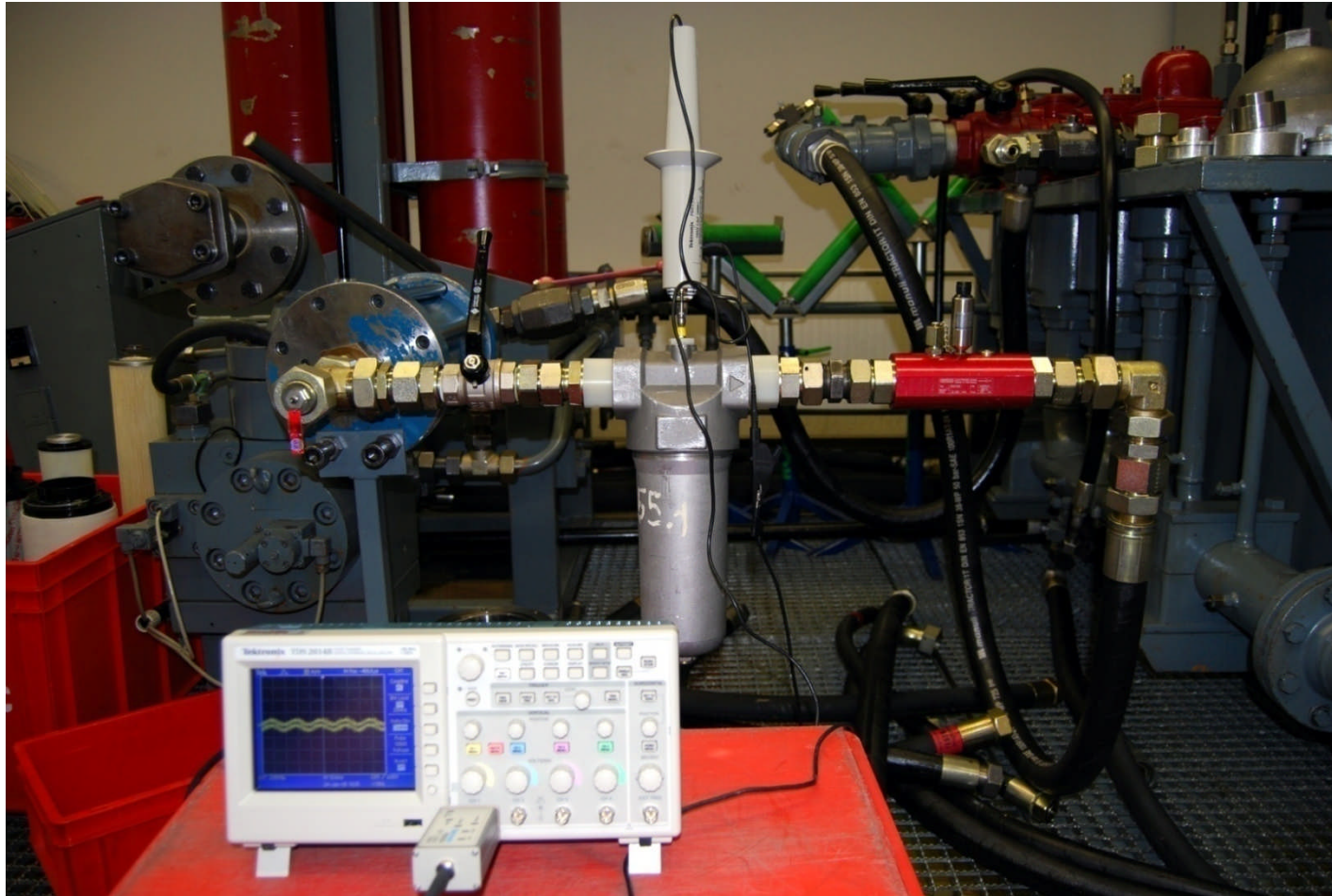
- Viscosity
- Fluid conductivity

Filter Characteristics

- Filter micron rating
- Filter manufacturing techniques



Detecting Spark



Detecting Spark Discharge

- Audible “Snap, Crackle, Pop”
- Inline fluid sensors
- Filter inspection
- Valve inspection
- Heat exchanger inspections
- Lubricant inspection

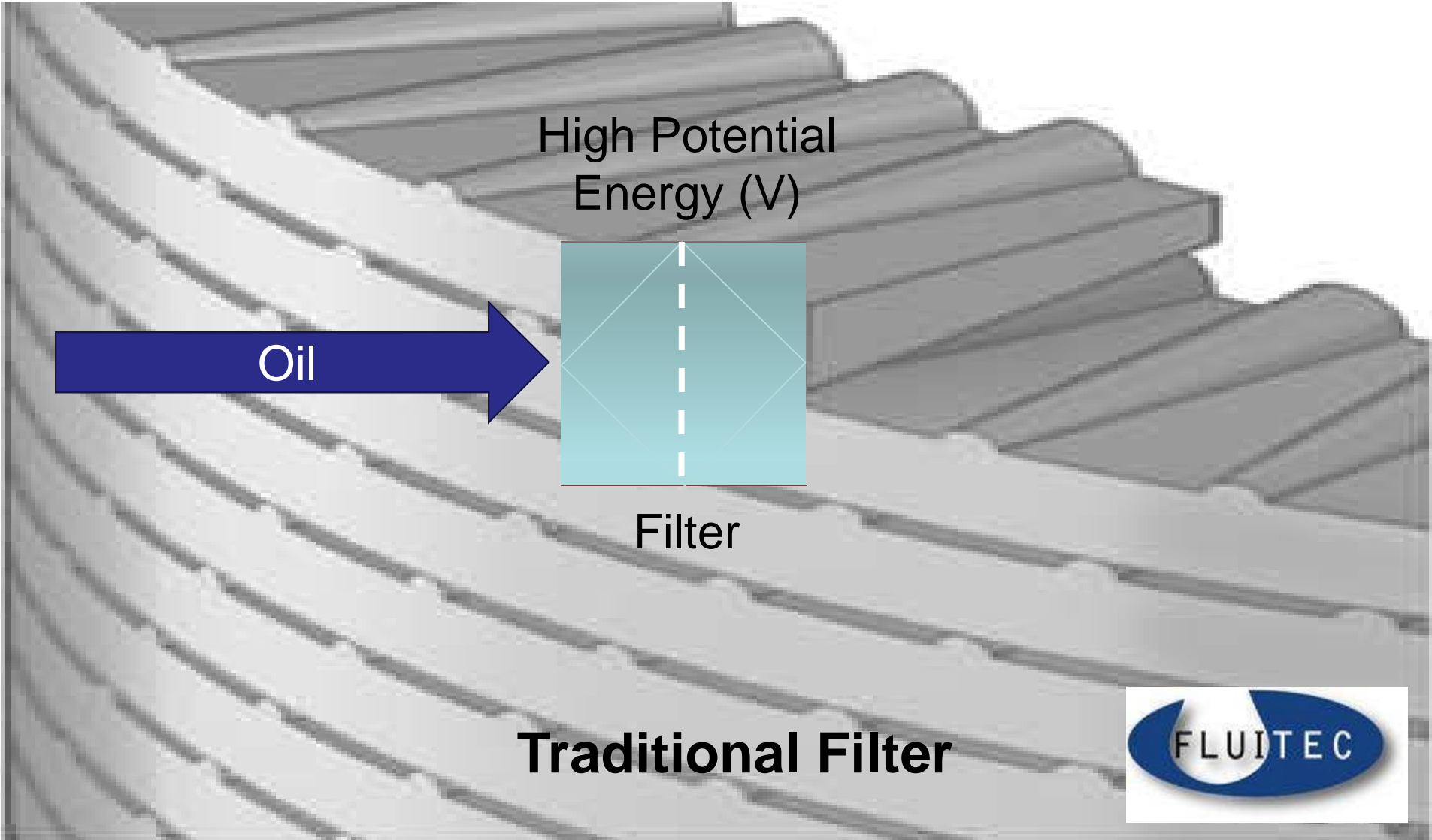


How common is spark discharge

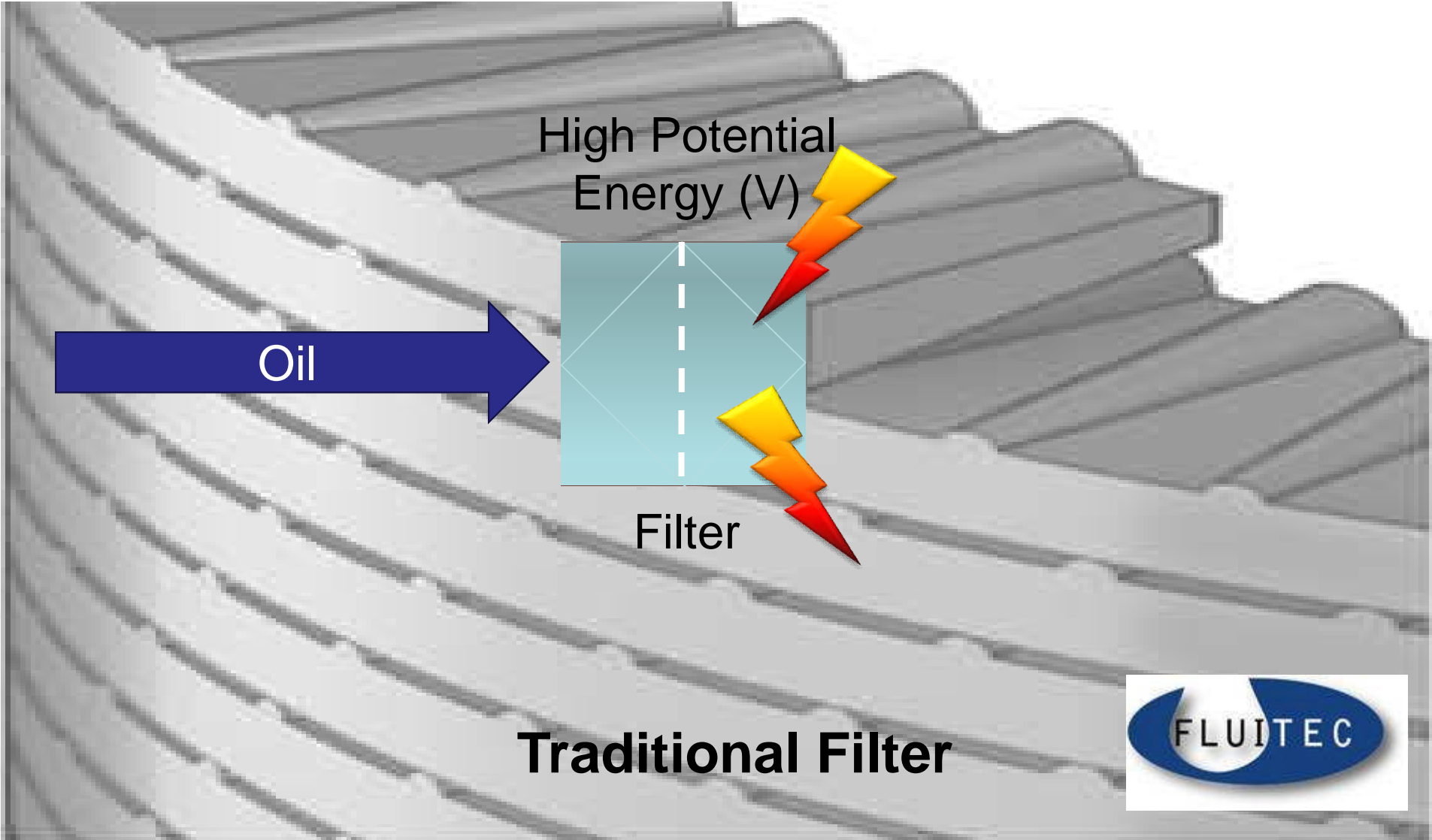
- Main lube oil filters – Extremely common
- Last chance filters – only when the oil is cold



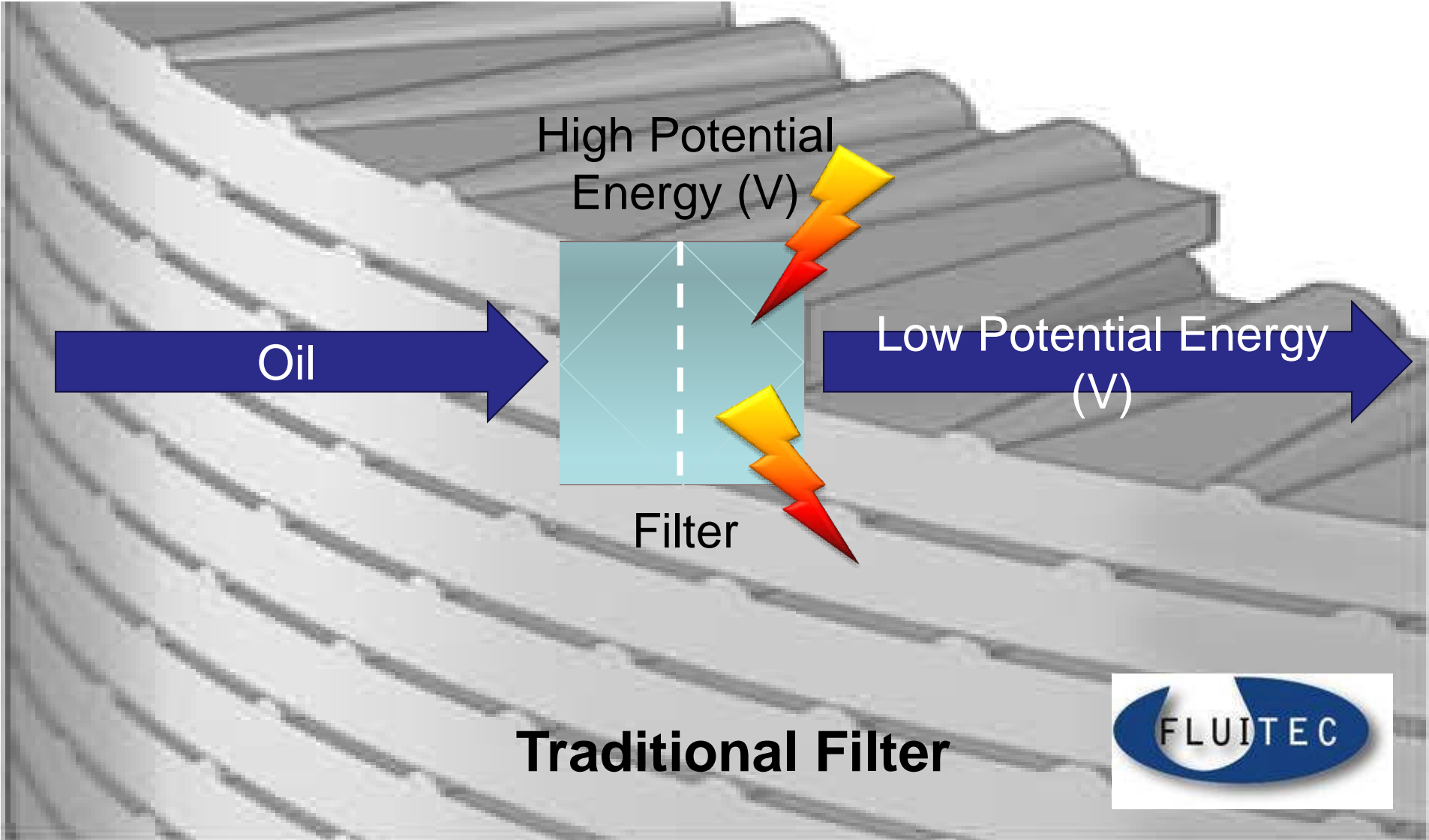
Charge Reduction Filter Technologies



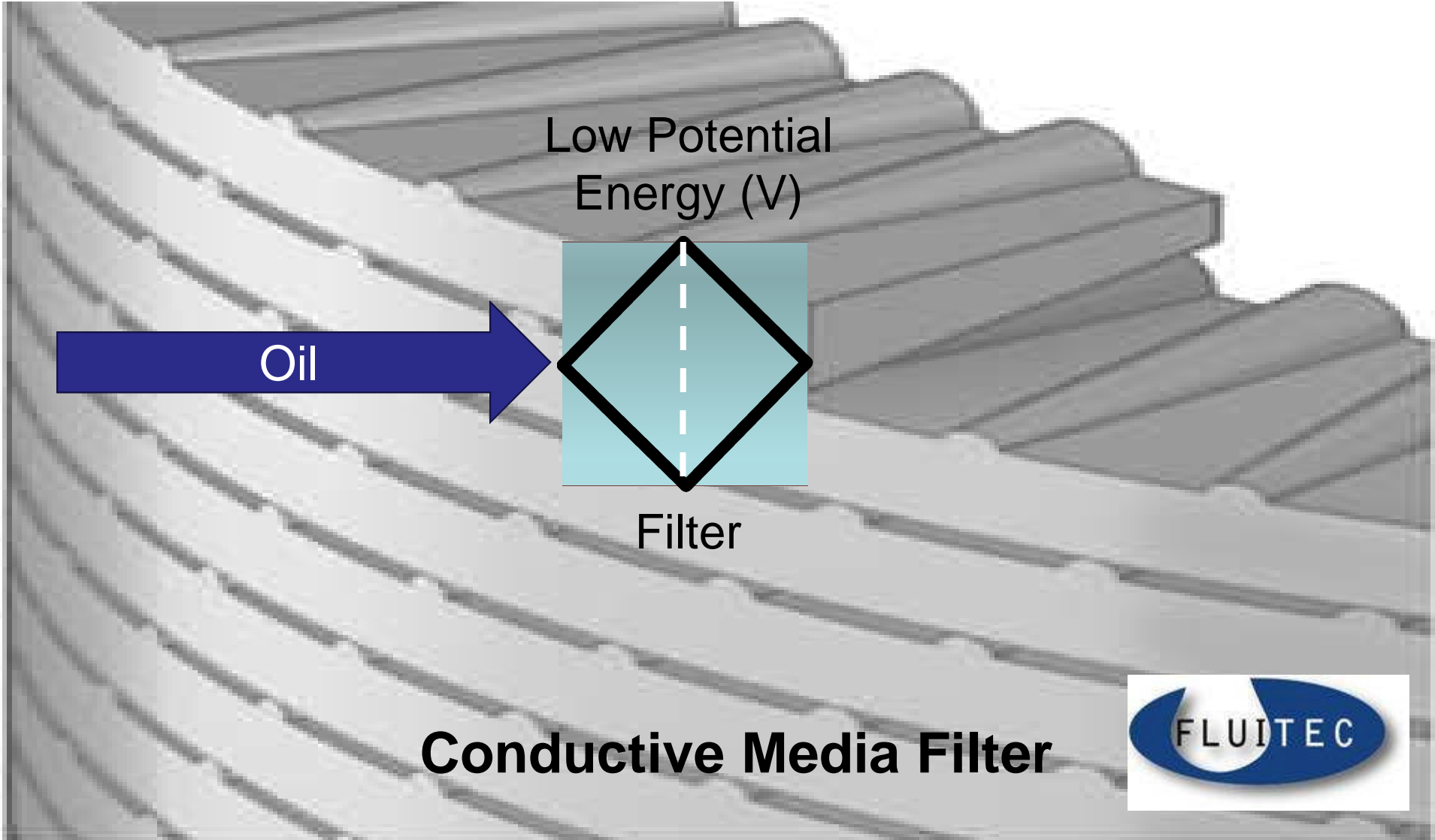
Charge Reduction Filter Technologies



Charge Reduction Filter Technologies



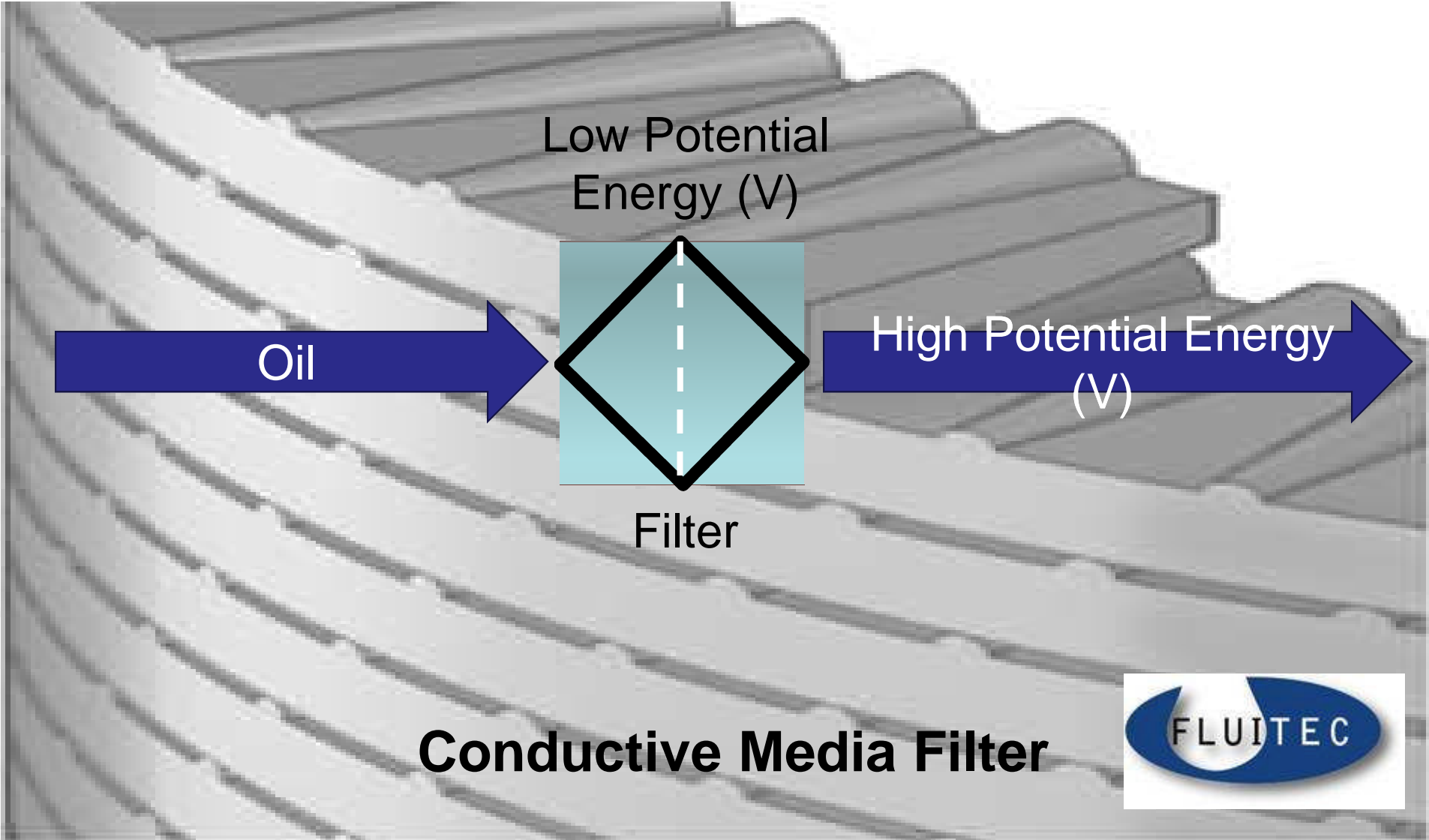
Charge Reduction Filter Technologies



Conductive Media Filter



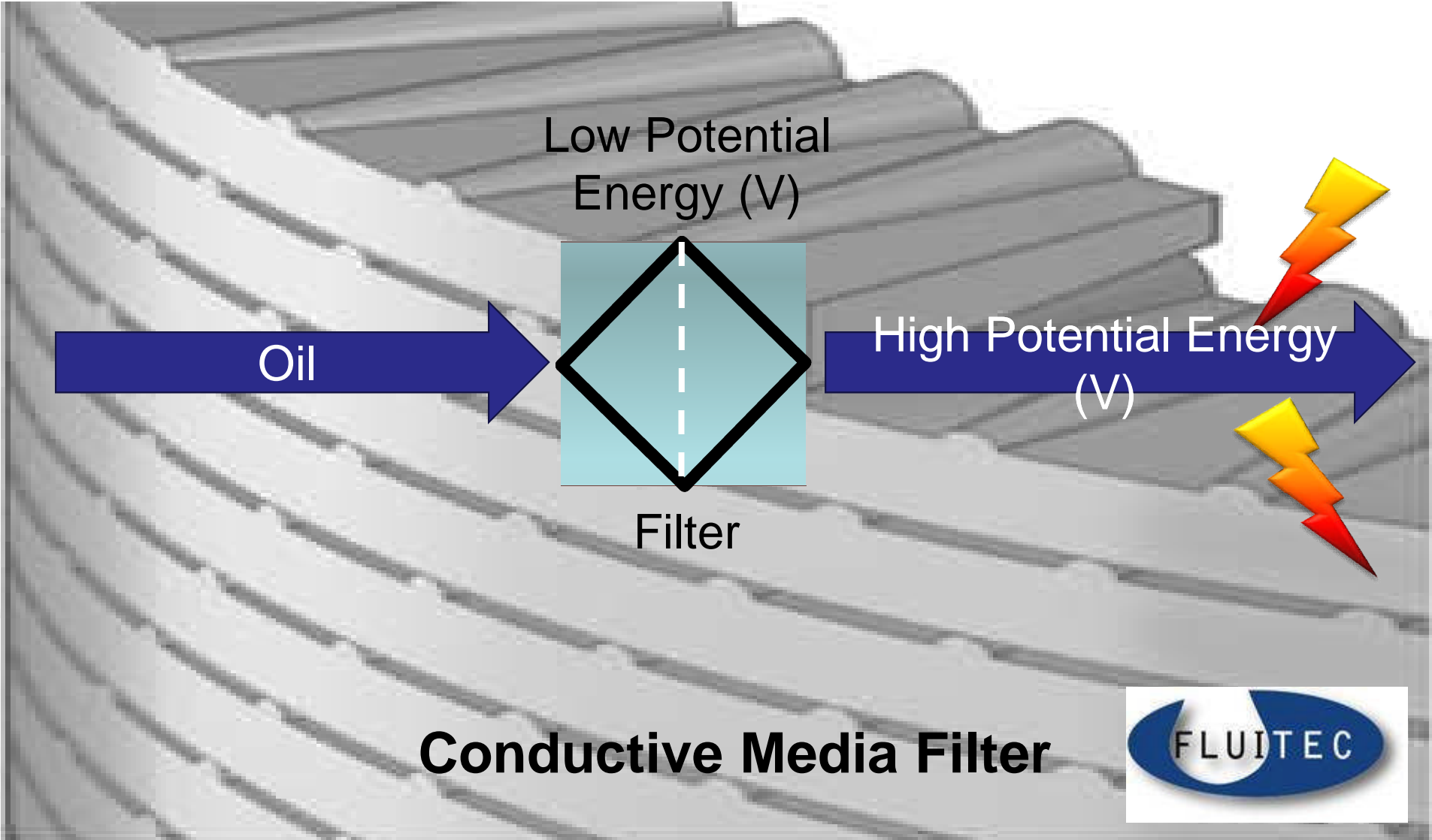
Charge Reduction Filter Technologies



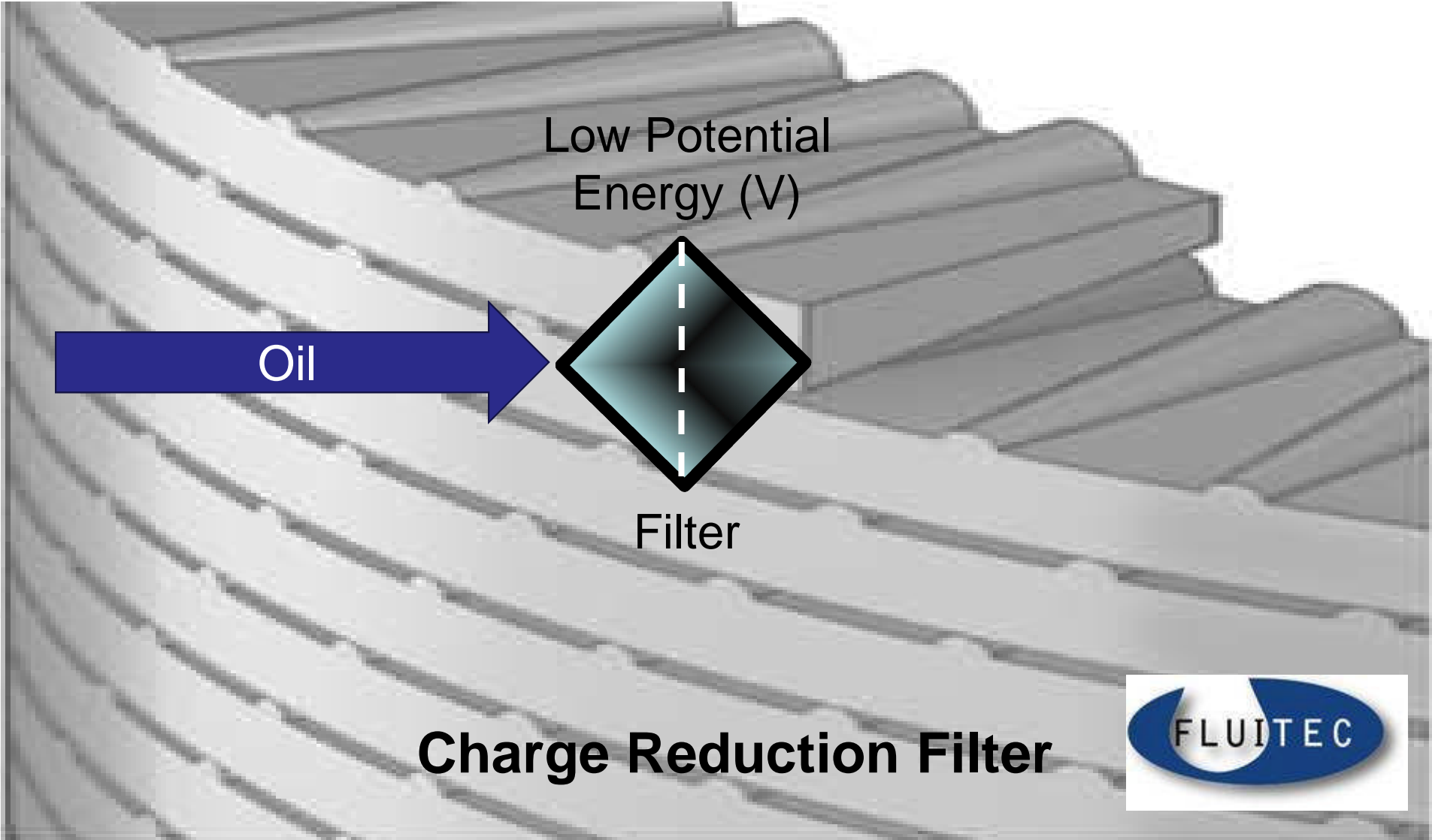
Conductive Media Filter



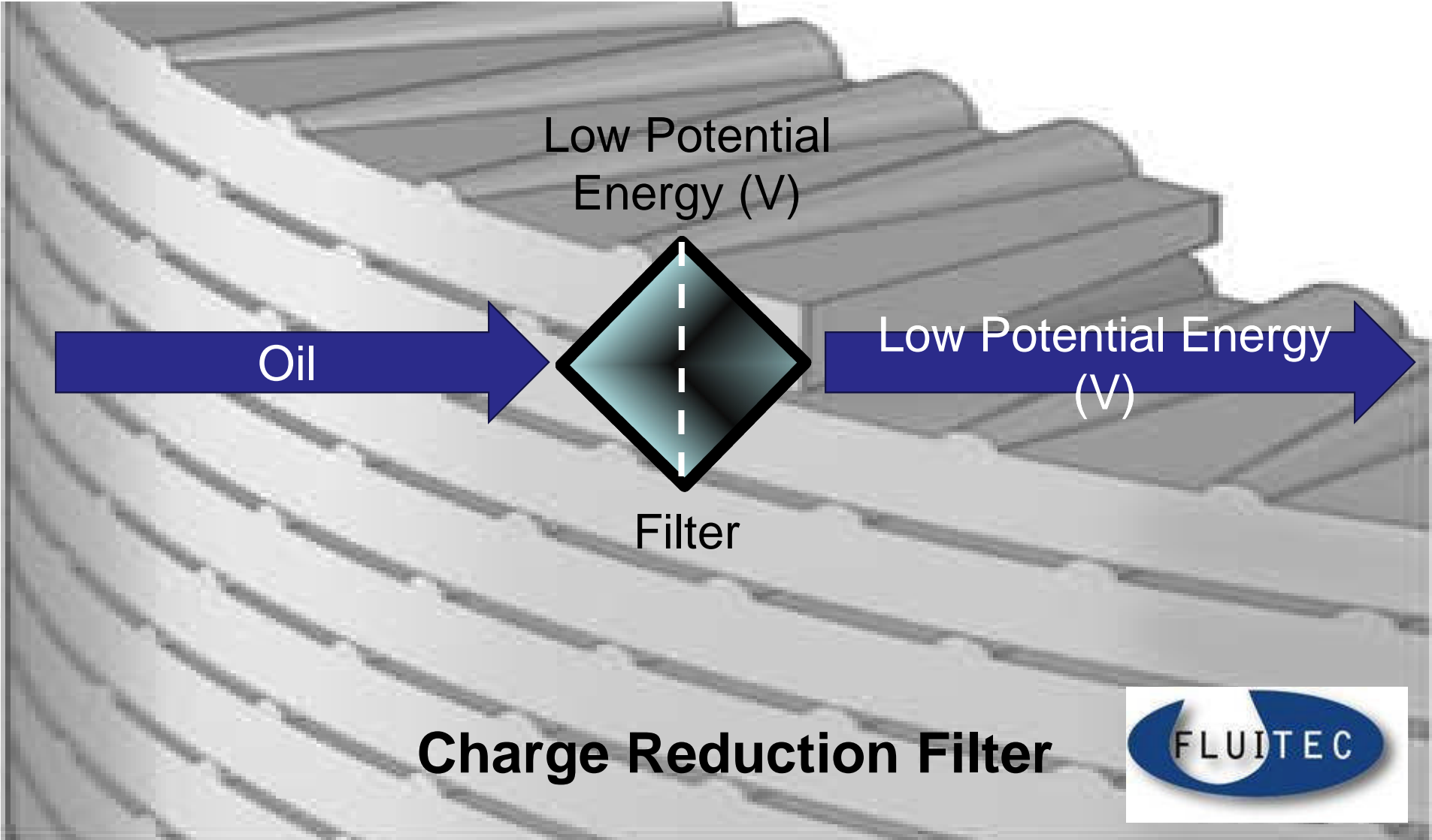
Charge Reduction Filter Technologies



Charge Reduction Filter Technologies



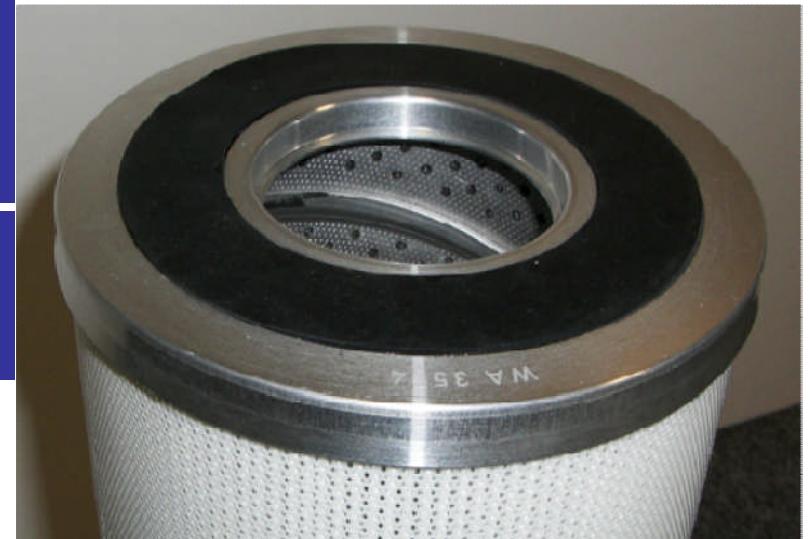
Charge Reduction Filter Technologies



Comparing CRE filters to standard OEM filters.

7FA Field Trials

	Standard OEM Filter	CRE filter
Flow Electrification	8,000 mV	70 mV



114X Improvement!

