

VSI-2 Specifications

1. Secondary Voltage: \square

- For first breakthrough: 40 kV
- For restrike: 30kV .

2. Spark duration:

- 3ms (@ 2000rpm) \square

For homogeneous operation, one sustained spark seems to be the best based on previous test results.

3. Spark sustain current:

- 300mA^4 rms = 300mJ/ms ignition energy \square

(assuming a 3.3kOhm load which is equivalent to 1kV zener)

- Minimum 150mA rms = 150mJ/ms ignition energy \square

(assuming a 6.7kOhm load which is equivalent to 1kV zener)

4. Multi-spark repetition rate:

- 100us (10 spark/ms)
- 200us (5 spark/ms)

Multi-spark may be important for stratified operation.

5. System power consumption:

- 25W per cylinder.

For 4 cylinder engine at low load this is about 1% of the engine's output power

For a 3ms spark at 300mJ/ms the efficiency needs to be 60% into a 3.3k load.

For a 3ms spark at 150mJ/ms the efficiency needs to be 30% into a 6.7k load



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