

CPC**COOPERATIVE PATENT CLASSIFICATION****H01T**

SPARK GAPS; OVERVOLTAGE ARRESTERS USING SPARK GAPS; SPARKING PLUGS; CORONA DEVICES; GENERATING IONS TO BE INTRODUCED INTO NON-ENCLOSED GASES ([working of metal by the action of a high concentration of electric current B23H](#); welding, e.g. arc welding, electron beam welding or electrolytic welding [B23K](#); gas-filled discharge tubes with solid cathode [H01J 17/00](#); electric arc lamps [H05B 31/00](#))

NOTE

In this subclass, the term "spark gaps" is used with the following meaning:

- enclosed or non-enclosed discharge device having cold electrodes and used exclusively to discharge a quantity of electrical energy in a small time duration.

H01T 1/00**Details of spark gaps**

- [H01T 1/02](#) . Means for extinguishing arc
- [H01T 1/04](#) . . using magnetic blow-out
- [H01T 1/06](#) . . . with permanent magnet
- [H01T 1/08](#) . . using flow of arc-extinguishing fluid
- [H01T 1/10](#) . . . with extinguishing fluid evolved from solid material by heat of arc
- [H01T 1/12](#) . Means structurally associated with spark gap for recording operation thereof
- [H01T 1/14](#) . Means structurally associated with spark gap for protecting it against overload or for disconnecting it in case of failure ([H01T 1/15](#), [H01T 1/16](#), [H01T 1/18](#) take precedence)
- [H01T 1/15](#) . for protection against excessive pressure
- [H01T 1/16](#) . Series resistor structurally associated with spark gap
- [H01T 1/18](#) . Electrolytic device structurally associated with spark gap
- [H01T 1/20](#) . Means for starting arc or facilitating ignition of spark gap
- [H01T 1/22](#) . . by the shape or the composition of the electrodes
- [H01T 1/24](#) . Selection of materials for electrodes ([H01T 1/22](#) takes precedence)

H01T 2/00**Spark gaps comprising auxiliary triggering means** ([triggering circuits H01T 15/00](#))

- [H01T 2/02](#) . comprising a trigger electrode or an auxiliary spark gap

H01T 4/00

Overvoltage arresters using spark gaps ([H01T 2/00](#) takes precedence; overvoltage protection circuits using spark gaps [H02H 9/06](#))

- H01T 4/02 . Details (of spark gaps [H01T 1/00](#))
- H01T 4/04 . Housings ([H01T 4/06](#) takes precedence)
- H01T 4/06 . Mounting arrangements for a plurality of overvoltage arresters
- H01T 4/08 . structurally associated with protected apparatus (with switches [H01H 9/14](#); with fuses [H01H 85/44](#))
- H01T 4/10 . having a single gap or a plurality of gaps in parallel
- H01T 4/12 . . hermetically sealed
- H01T 4/14 . . Arcing horns (associated with insulators [H01B 17/46](#))
- H01T 4/16 . having a plurality of gaps arranged in series
- H01T 4/18 . . Arrangements for reducing height of stocked spark gaps
- H01T 4/20 . . Arrangements for improving potential distribution
- H01T 7/00 Rotary spark gaps, i.e. devices having one or more rotating electrodes**
- H01T 9/00 Spark gaps specially adapted for generating oscillations**
- H01T 11/00 Spark gaps specially adapted as rectifiers**
- H01T 13/00 Sparking plugs**
- H01T 13/02 . Details
- H01T 13/04 . . Means providing electrical connection to sparking plug (electric connections in general [H01R](#))
- H01T 13/05 . . . combined with interference suppressing or shielding means
- H01T 13/06 . . Covers forming a part of the plug and protecting it against adverse environment
- H01T 13/08 . . Mounting, fixing or sealing of sparking plugs, e.g. in combustion chamber
- H01T 13/10 . . . by bayonet-type connection
- H01T 13/12 . . Means on sparking plugs for facilitating engagement by tool or by hand
- H01T 13/14 . . Means for self-cleaning
- H01T 13/16 . . Means for dissipating heat
- H01T 13/18 . . Means for heating, e.g. for drying
- H01T 13/20 . characterised by features of the electrodes or insulation
- H01T 13/22 . . having two or more electrodes embedded in insulation (for two or more sparks [H01T 13/46](#))
- H01T 13/24 . . having movable electrodes ([H01T 13/28](#) takes precedence)
- H01T 13/26 . . . for adjusting spark gap otherwise than by bending of electrode
- H01T 13/28 . . having spherically shaped electrodes, e.g. ball-shaped
- H01T 13/30 . . . mounted so as to permit free movement

- H01T 13/32 . . characterised by features of the earthed electrode
- H01T 13/34 . . characterised by the mounting of electrodes in insulation, e.g. by embedding
- H01T 13/36 . . characterised by the joint between insulation and body, e.g. using cement
- H01T 13/38 . . Selection of materials for insulation ([in general H01B 3/00](#))
- H01T 13/39 . . Selection of materials for electrodes

- H01T 13/40 . structurally combined with other devices ([combined or associated with fuel injectors F02M 57/06](#); [structurally combined with other parts of internal-combustion engines F02P 13/00](#))
- H01T 13/41 . . with interference suppressing or shielding means
- H01T 13/42 . . with magnetic spark generators
- H01T 13/44 . . with transformers, e.g. for high-frequency ignition

- H01T 13/46 . having two or more spark gaps
- H01T 13/462 . . { [in series connection](#) }
- H01T 13/465 . . . { [one spark gap being incorporated in the sparking plug](#) }
- H01T 13/467 . . { [in parallel connection](#) }

- H01T 13/48 . having means for rendering sparks visible

- H01T 13/50 . having means for ionisation of gap ([H01T 13/52](#) takes precedence)

- H01T 13/52 . characterised by a discharge along a surface

- H01T 13/54 . having electrodes arranged in a partly-enclosed ignition chamber

- H01T 13/56 . characterised by having component parts which are easily assembled or disassembled

- H01T 13/58 . Testing ([testing characteristics of the spark in internal-combustion engine ignition F02P 17/12](#))
- H01T 13/60 . . of electrical properties

- H01T 14/00** **Spark gaps not provided for in groups [H01T 2/00](#) to [H01T 13/00](#) (devices providing for corona discharge [H01T 19/00](#))**

- H01T 15/00** **Circuits specially adapted for spark gaps, e.g. ignition circuits (ignition circuits for internal-combustion engines [F02P](#); electric spark ignition for combustion apparatus [F23Q](#); protection circuits using spark gaps [H02H 9/06](#))**

- H01T 19/00** **Devices providing for corona discharge (for charging electrographic elements [G03G 15/02](#))**

- H01T 19/02 . Corona rings

- H01T 19/04 . having pointed electrodes

- H01T 21/00** **Apparatus or processes specially adapted for the manufacture or maintenance of spark gaps or sparking plugs**

- H01T 21/02
 - . of sparking plugs
- H01T 21/04
 - . . Cleaning ([abrasive blasting devices for cleaning sparking-plugs B24C 3/34](#))
- H01T 21/06
 - . Adjustment of spark gaps ([sparking-plugs having movable electrodes for adjusting the gap H01T 13/26](#))
- H01T 23/00**
 - Apparatus for generating ions to be introduced into non-enclosed gases, e.g. into the atmosphere** ([discharge tubes with provision for emergence of ions from the vessel H01J 33/00](#); [generating plasma H05H](#))