

## SECTION H — ELECTRICITY

### H01 BASIC ELECTRIC ELEMENTS

**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(s)

In this subclass, the following expression is used with the meaning indicated:

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

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##### SPARK GAPS

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

- 1/02 • Means for extinguishing arc
- 1/04 • • using magnetic blow-out
- 1/06 • • • with permanent magnet
- 1/08 • • using flow of arc-extinguishing fluid
- 1/10 • • • with extinguishing fluid evolved from solid material by heat of arc
- 1/12 • Means structurally associated with spark gap for recording operation thereof
- 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) [4]
- 1/15 • for protection against excessive pressure [4]
- 1/16 • Series resistor structurally associated with spark gap
- 1/18 • Electrolytic device structurally associated with spark gap
- 1/20 • Means for starting arc or facilitating ignition of spark gap [3]
- 1/22 • • by the shape or the composition of the electrodes [4]
- 1/24 • Selection of materials for electrodes (H01T 1/22 takes precedence) [4]

#### **2/00 Spark gaps comprising auxiliary triggering means (triggering circuits H01T 15/00) [4]**

- 2/02 • comprising a trigger electrode or an auxiliary spark gap [4]

#### **4/00 Overvoltage arresters using spark gaps (H01T 2/00 takes precedence; overvoltage protection circuits using spark gaps H02H 9/06) [4]**

- 4/02 • Details (of spark gaps H01T 1/00) [4]
- 4/04 • Housings (H01T 4/06 takes precedence) [4]
- 4/06 • Mounting arrangements for a plurality of overvoltage arresters [4]
- 4/08 • structurally associated with protected apparatus (with switches H01H 9/14; with fuses H01H 85/44) [4]
- 4/10 • having a single gap or a plurality of gaps in parallel (sparking plugs H01T 13/00) [4]
- 4/12 • • hermetically sealed [4]
- 4/14 • • Arcing horns (associated with insulators H01B 17/46) [4]
- 4/16 • having a plurality of gaps arranged in series [4]
- 4/18 • • Arrangements for reducing height of stacked spark gaps [4]
- 4/20 • • Arrangements for improving potential distribution [4]

#### **7/00 Rotary spark gaps, i.e. devices having one or more rotating electrodes**

#### **9/00 Spark gaps specially adapted for generating oscillations**

#### **11/00 Spark gaps specially adapted as rectifiers**

#### **13/00 Sparking plugs**

## H01T

- 13/02 • Details
- 13/04 • • Means providing electrical connection to sparking plug (electric connections in general H01R)
- 13/05 • • • combined with interference suppressing or shielding means [4]
- 13/06 • • Covers forming a part of the plug and protecting it against adverse environment
- 13/08 • • Mounting, fixing, or sealing of sparking plugs, e.g. in combustion chamber
- 13/10 • • • by bayonet-type connection
- 13/12 • • Means on sparking plugs for facilitating engagement by tool or by hand
- 13/14 • • Means for self-cleaning
- 13/16 • • Means for dissipating heat
- 13/18 • • Means for heating, e.g. for drying
- 13/20 • characterised by features of the electrodes or insulation
- 13/22 • • having two or more electrodes embedded in insulation (for two or more sparks H01T 13/46)
- 13/24 • • having movable electrodes (H01T 13/28 takes precedence)
- 13/26 • • • for adjusting spark gap otherwise than by bending of electrode
- 13/28 • • having spherically shaped electrodes, e.g. ball-shaped
- 13/30 • • • mounted so as to permit free movement
- 13/32 • • characterised by features of the earthed electrode
- 13/34 • • characterised by the mounting of electrodes in insulation, e.g. by embedding
- 13/36 • • characterised by the joint between insulation and body, e.g. using cement
- 13/38 • • Selection of materials for insulation (in general H01B 3/00)
- 13/39 • • Selection of materials for electrodes [4]
- 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)
- 13/41 • • with interference suppressing or shielding means [4]
- 13/42 • • with magnetic spark generators
- 13/44 • • with transformers, e.g. for high-frequency ignition

- 13/46 • having two or more spark gaps
- 13/48 • having means for rendering sparks visible
- 13/50 • having means for ionisation of gap (H01T 13/52 takes precedence) [4]
- 13/52 • characterised by a discharge along a surface
- 13/54 • having electrodes arranged in a partly-enclosed ignition chamber
- 13/56 • characterised by having component parts which are easily assembled or disassembled
- 13/58 • Testing (testing characteristics of the spark in internal-combustion engine ignition F02P 17/12) [2011.01]
- 13/60 • • of electrical properties [2011.01]
- 14/00 Spark gaps not provided for in groups H01T 2/00-H01T 13/00** (devices providing for corona discharge H01T 19/00) [4]
- 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) [4]
- 19/00 Devices providing for corona discharge** (for charging electrographic elements G03G 15/02) [4]
- 19/02 • Corona rings
- 19/04 • having pointed electrodes
- 21/00 Apparatus or processes specially adapted for the manufacture or maintenance of spark gaps or sparking plugs**
- 21/02 • of sparking plugs
- 21/04 • • Cleaning (means for self-cleaning H01T 13/14; abrasive blasting devices for cleaning sparking plugs B24C 3/34)
- 21/06 • Adjustment of spark gaps (sparking plugs having movable electrodes for adjusting the gap H01T 13/26) [4]
- 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) [4]