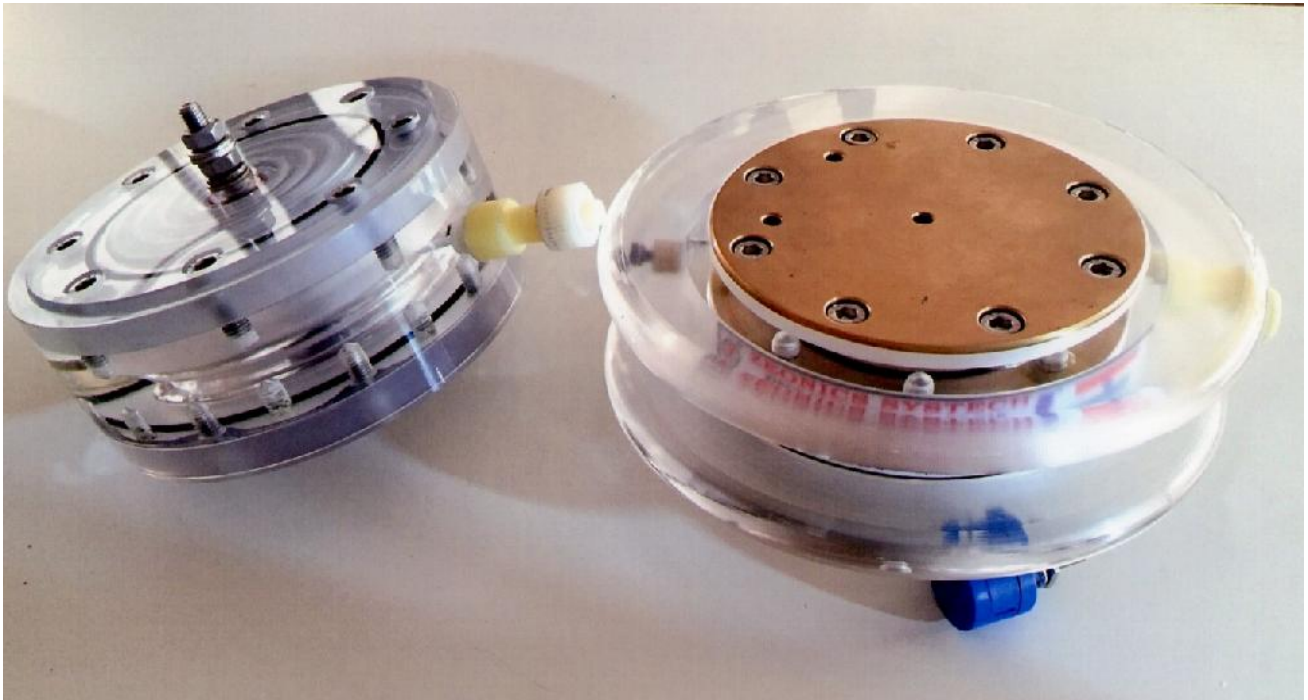




**ZEONICS SYSTECH**  
DEFENCE & AEROSPACE ENGINEERS (P) LTD.



# High Voltage Spark Gaps

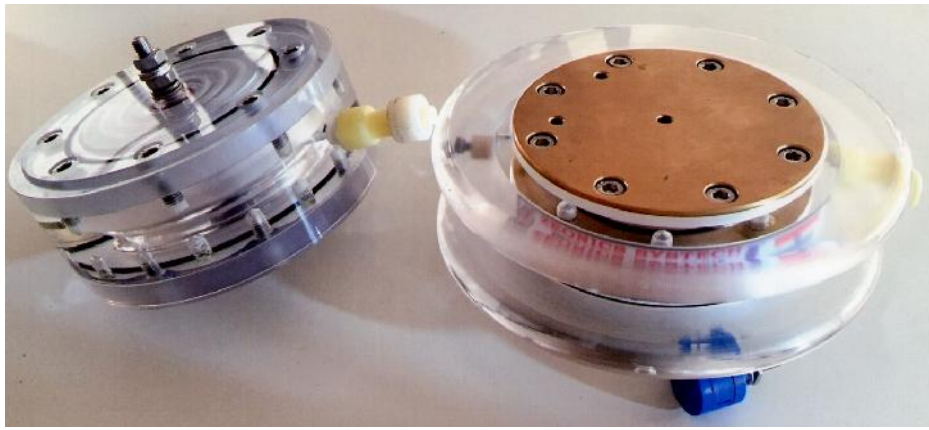


High voltage spark gaps are essentially gas-based switches. These switches are used for transferring large amounts of current, voltage and power into specific Pulse Power equipment.

There are several spark gaps which are manufactured at Zeonics, starting from miniature spark gaps in the region of 5kV to large spark gaps of upto 300kV discharge. We manufacture spark gaps from 1kA rating upto 2.45MA. The larger spark gaps are essentially converted to Rail Gaps.

## Proudly Made in INDIA





### Field Distortion Spark Gaps

- |                     |                                      |
|---------------------|--------------------------------------|
| 1. SBV              | : 25kV to 100kV                      |
| 2. Control          | : 30% to 80% of SBV                  |
| 3. $I_{pk}$ Current | : 30kA to 100kA                      |
| 4. PRR              | : 10kA    50PPS    100kA    1PPM     |
| 5. Gas Flow         | : Nitrogen/SF6 at 25Lps to 50Lps     |
| 6. Electrodes       | : Copper Tungsten                    |
| 7. Gas purging      | : Every Few Shots    when at    30kV |
| 8. Type No.         | : ZHS/001/055                        |



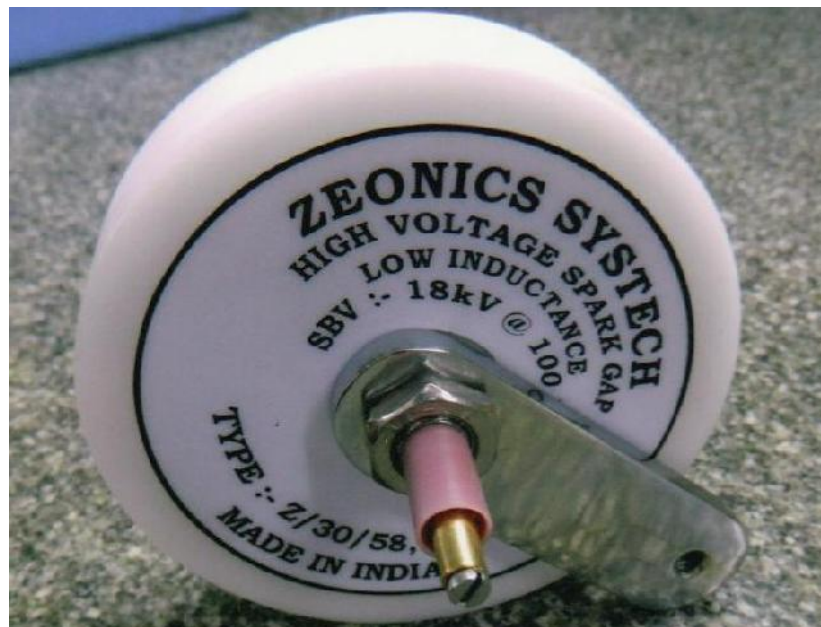
### High Voltage Gas-filled Spark Gap Trigatron

- |                    |                                       |
|--------------------|---------------------------------------|
| 1. SBV             | : 60kV to 130kV (Pressure Controlled) |
| 2. Control         | : 50kV to 95kV                        |
| 3. Peak current    | : 10kA                                |
| 4. Max. pressure   | : 50 psi Nitrogen or SF6 at 30P       |
| 5. Trigger voltage | : 20kV pulse maximum                  |
| 6. Type No.        | : Z/28/92 (731)                       |



## High Voltage Nuclear Hardened Spark Gap Switches

1. Working voltage : SBV 40kV DC
2. Test voltage : 50% to 80% of SBV (20kV to 32kV)
3. Peak current : 20kA maximum
4. Temperature : -20°C to +85°C
5. Rh at 40°C : 95%
6. Neutron capability : Maximum  $1 \times 10^9$  flux neutrons it can handle
7. Peak current : 25kA
8. Type No. : ZE/3T/40



## Low Inductance High Voltage Spark Gap

1. SBV : 18kV @ 100PSI
2. Typical Rise Time : < 5nSec at 100PSI
3. Gas : Nitrogen
4. Type No. : Z/30/58



## Spark Gaps

At **Zeonics Systech** we specialise in manufacturing Spark Gaps of different types.

The major type of spark gaps manufactured are as follows.

- A) High Pressure Gaps.
- B) Low Pressure Gaps.
- C) Atmospheric Pressure Gaps.

All the above Pressure Gaps perform very well in their own condition and requirements. Most of the Gaps manufactured are totally produced at our Lab In House and Gas filling is done using special proprietary techniques. A wide variety of Gases are used in manufacturing these Spark Gaps. We use Nitrogen, Argon, Tritium, compressed Freon as well as processed Mafron .



Most of our Spark Gaps are used for several Important applications where high voltage fast switching is necessary, Typically 3KVDC to 120KVDC Spark Gaps are designed and manufactured by us . Please find herewith our complete Catalogue of Spark Gaps for your perusal.



Many of our isotopes are processed in house for installing them in the Spark Gaps as how energy emitters.

## Applications

Spark gaps are used for applications like Ignition systems, rocket firing systems, explosive detonation, Lithotripsy, CT scanners, Lightning Arresters, Lightning protection systems, etc.

## Advantages

Spark gaps are very rugged, easy to operate and extremely reliable. They do not fail easily and can be used for military duty. Once the construction is done and the gas has been decided, Spark gaps are very reliable as they do not get affected by EMI or Nuclear blasts.

Spark Gaps provide isolated and high power switching abilities.

## Installation

Spark gaps need to be fixed specifically for specific applications. Some Spark gaps are used in oil atmosphere, some in open air, and some are also in different gas pressures.

## Types available

We have very wide variety of Spark gaps which cannot be compressed into a single catalogue. Please contact us and tell us your exact requirements, and we can design a spark gap for you.

**Contact: Zeonics Systech Defence & Aerospace Engineers Pvt. Ltd.**

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