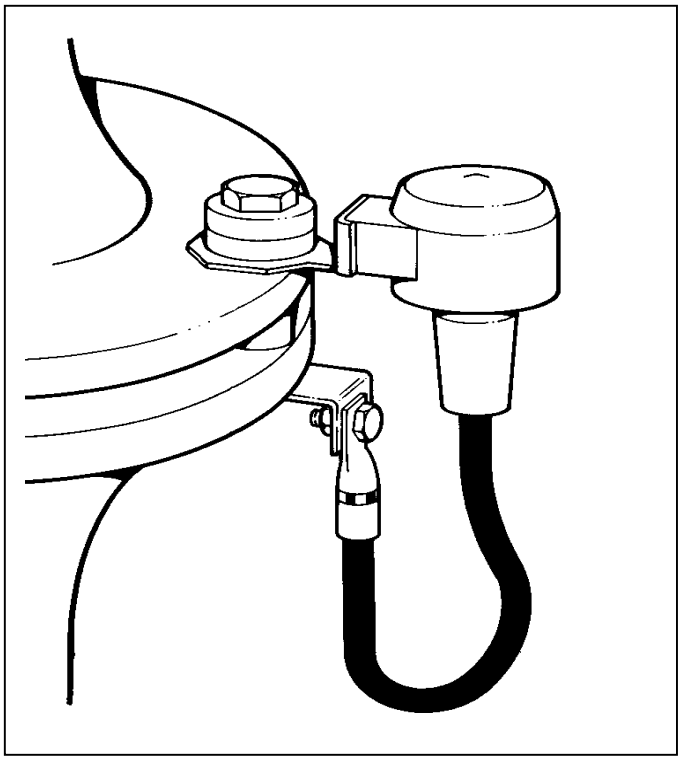
SURGE PROTECTION 2.3.1

Buried pipelines for oil, gas and other inflammable materials are normally provided with cathodic. This, in turn, requires the use of insulating flanges at terminal points on the pipeline system, such as at tank farms, governor stations, etc. In order to limit the extent of the applied cathodic protection and prevent the loss of protective current to other buried metallic structures.

In these locations, in the event of a lightning strike on to any above ground pipework or connected structure, or an electrical fault causing a voltage surge on the pipe, a flash-over across the insulating components to the flange could occur

SPARK GAP (Explosion-proof spark gap SG4 with flexible connecting cable.



Potential hazards caused by such an incident in an area classified as “Hazardous” (Zone 2) due to the possible presence of an explosive atmosphere, can be avoided by the use of an Explosion-proof Spark Gap type SG4. The spark gap is connected in a parallel across the insulating flange and, since the connection is made using a flexible

Technical Characteristics are as follows:

A) Response to alternating voltage (50Hz) 1.0kV
B) Response to surge voltage (1/50µs)2.2kV
C) Surge current rating (8/20µs) 100kA
D) Explosion protection to specification VDE 0171
E) Gases Group G4

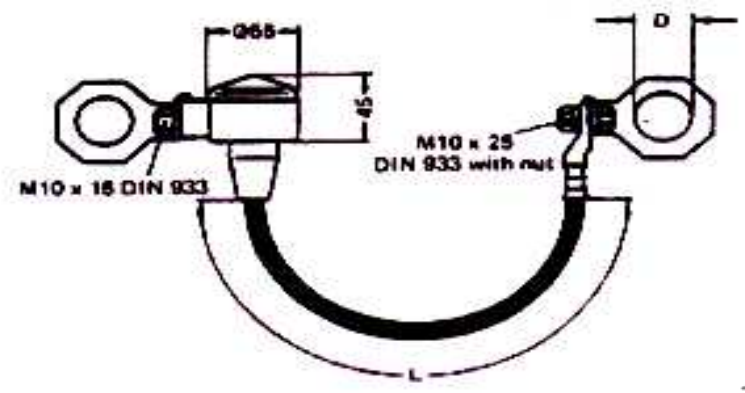
The spark gap has been certified (No; 111BE-23 805) by the Technical-Physics Federal Institute of Brunswick and issued with a “Design Certificate” (No; B1/477/261/73) by the Bavarian State of Ministry of Public Works.

The SG4 Spark Gap may be used in hazardous areas in insulating flanges having an insulation value to 50Hz alternating voltage of greater than 4.4kV.

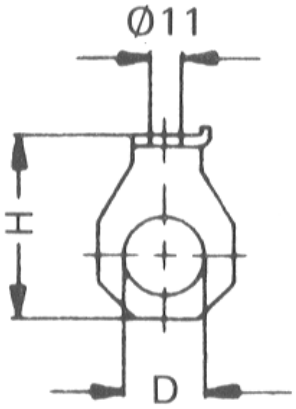
The complete device consists of: *2.3.1*

1) The Spark Gap contained in a housing of die cast zinc to DIN 1743 with cap of MARKALON as protection against accidental bridging.
2) One pair on connecting lugs of hot dipped galvanised mild steel available in three sizes to suit the diameter of the flange bolts.
3) An insulated connecting cable, size 25sq.mm available in three lengths to suit the overall dimensions of the flange joint.

In special cases associated with a high incidence of lightning strikes, as may occur in exposed mountainous regions, or high voltage lines running parallel to pipelines, a special design of SG4 Spark Gap is available with electrodes of tungsten copper, which are highly resistant to burn-off.



Size	Suitable for Bolts	D(mm)	H(mm)
1	M10	To be stated in order	75
2	M27-M39		100
3	M45-M56		140



SG4 c/w cable Part No	Cable Length L (MM)	Suitable for Flange dimensions (MM)	Weight kg
0900030002	100	20-130	0.080
0900030004	200	120-300	0.130
0900030003	300	220-320	0.180