HAEFELY
Current and voltage – our passion

Sold & Serviced in USA by:
HV TECHNOLOGIES, Inc.
8526 Virginia Meadows Dr.
Manassas, VA 20109
(703) 365-2330
www.hvtechnologies.com
hvsales@hvtechnologies.com

KFS

Horizontal and Vertical Sphere Gaps

Vertical sphere gap 750 mm
Type KFS V 750

APPLICATIONS

Sphere gaps can be used for Impulse, AC or DC voltage calibration according to the IEC 60052 recommendation. The sphere-gap presents the undeniable advantage of a direct and straightforward voltage measurement, where only the sphere diameter and their distance give a voltage measurement within ± 3 % accuracy.

As both spheres are mounted on columns of insulating material in the horizontal sphere gaps, it's possible to superimpose impulse, alternating and direct voltages for special tests. For the chopping of lightning impulses, the sphere gap can be equipped with the optional chopping device KFS Z.

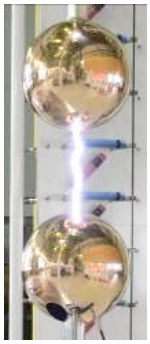
DESIGN

Designed for indoor operation. The spheres are made of highly polished copper with tight manufacturing tolerances.

In the horizontal design, they are mounted together with the adjusting gear on supporting columns. The adjusting gear consists of a hand-wheel and precision scale for adjustment of the sphere gap (accuracy 0.5 mm).

The vertical, motorised design includes the sphere drive placed on the base frame. The sphere distance is controlled by the impulse generator control (Ex. GC 223) or by a specific control unit (Ex. GSC 219).

TRIGGER DEVICE



The triggering device is essential for chopping lightning impulses on the tail. It is available for both the vertical and horizontal sphere gaps. This way the chopping system can be controlled by an electronic triggering device and allows wave-chopping with a maximal dispersion of approx. 0.1 µs.

The chopping device requires a power supply of 230 V, 50 or 60 Hz.

The trigger device consists of:

- Impulse Amplifier with an adjustable delay time between 1 µs - 5 µs, in 8 steps (set by jumpers)
- Trigger sphere with a built-in ignition rod (this sphere must be exchanged with one of the measuring spheres for chopping operation).
- Set of cables

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TECHNICAL DATA, DIMENSIONS & WEIGHTS

Type	Sphere diameter D mm	Ratings for AC peak, DC and impulse voltage L.I. 1.2 / 50 µs measurements Spacing of 0.5 x D kV	Max. voltage L.I. 1.2 / 50 µs for chopping on the tail* (-)kV
KFS H 150	150	177	210
KFS H 250	250	275	340
KFS V 250	250	275	340
KFS V 500	500	515	715
KFS V 750	750	750	920
KFS V 1000	1000	1010	1215

*Consult Factory for positive values

Type	Height m	Base frame, approx m	Weight, net approx. kg
KFS H 150	1.22	1.3 x 0.45	47
KFS H 250	1.76	2.6 x 0.7	60
KFS V 250	2.3	1.1 x 0.8	110
KFS V 500	3.4	2.2 x 1.3	350
KFS V 750	4.8	3.1 x 1.3	520
KFS V 1000	5.9	3.3 x 1.5	620

Horizontal sphere gap 250 mm

SPHERE GAP DISTANCE CONTROL UNIT

TYPE GSC 219

This simple control unit is designed for the sphere gap distance measurement & control of motorised, vertical sphere gaps type KFS V.

It enables an autonomous setting of the sphere gap distance, independent from the existing control unit.

The desk top unit contains the power supplies for the sphere gap DC motor drive and the sphere gap distance measuring system. A multiple digit display shows the sphere distance. The distance is adjusted by means of two push buttons.

The control unit also supplies the trigger amplifier of the sphere gap with mains power should the sphere gap be used with the above described chopping device

GSC 219

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