

## Sphere Gap Voltmeter 20mm, 6.25cm and 12.5cm

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20mm and 6.25cm Models

VON sphere gap voltmeters are constructed to achieve the maximum attainable accuracy and meet the specifications of IEEE #4 "Techniques for Dielectric Test." Using the appropriate table in IEEE #4 the gaps are considered to be accurate with +3% with A.C. and +5% with D.C. The 6.25cm sphere gap covers the range of voltage most commonly used.

For calibration checks the 6.25cm sphere gap is suitable to 78kv. For over voltage protection the 6.25cm sphere gap may be used to 115kv. In operation the one megohm resistor assembly is always mounted on top of the sphere gap in series with the gap to prevent specimen damage and pitting of the spheres

Sphere gaps are unexcelled for achieving accurate over voltage protection for test specimens. The gap is always connected to the guard circuit of a VON tester so it does not affect the leakage reading of the test specimen. The gap is set to spill over just at the maximum voltage (usually 3 to 15kv above the highest test voltage).

When this maximum voltage is reached the gap will spill over with a relatively soft arc that will not subject the specimen to damaging pulses. The arc serves to warn the test operator of his error by tripping the test set out or by draining off current from the system faster than the test set can supply it. This reduces the voltage on the specimen. After such a spill over, the voltage must be reduced to the deionizing voltage of the gap before the test can resume

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The VON Corporation

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## VON Sphere Gap Voltmeters

The VON 20mm sphere gap consists of a gap assembly and a GZZ non-inductive resistor. The VON 6.25 sphere gap consists of a gap assembly and a one-megohm type GZZ non-inductive resistor. The VON 12.5 cm sphere gap consists of a gap assembly, two one-megohm GZZ non-inductive resistors, and one 6" hollow stainless steel ball for the output terminal.

	20mm	6.25cm	12.5 cm
Spheres	Solid Aluminum 20mm ± .2%	Solid Aluminum 6.25cm ± .2%	Solid Aluminum 12.5cm ± .2%
Top cross piece	1.25" (3.2cm) plastic channel 5.5" (14cm) long	2" (5cm) plastic channel 12" (30.5cm) long	4" (10cm) plastic channel 24" (61cm) long
Bottom cross piece and legs	1.5" (3.8cm) aluminum channel	2" (5cm) aluminum channel	4" (10cm) aluminum channel
Posts	1" (2.54cm) plastic tubes 6" (15.24cm) long	1.75" (4.5cm) plastic tubes 20" (51cm) long	3.5" (8.9cm) plastic tubes 40" (102cm) long
Adjusting screw	10-32 steel	½-20 N.F. stainless steel	¾-10 steel
Indicator	.01" Resolution is provided for adjusting the gap.	.01" Resolution is provided for adjusting the gap.	.01" Resolution is provided for adjusting the gap.
Width	5.5" (14cm) overall	12" (30.5cm) overall	24" (61cm) overall
Height	23.75" (60.3cm) with resistor mounted	49" (124.5cm) with resistor mounted	99" (252cm) with two resistors mounted
Depth	6.63" (16.8cm) including spread of feet	7.25" (18.5cm) including spread of feet	26" (66cm) including spread of feet
Weight	3 lbs. (1.4kg)	15.25 lbs. (7kg)	55 lbs. (25kg)

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