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JCI 170 POWDER SAMPLE SUPPORT

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The JCI 170 Powder Sample Support provides a simple way to test small, defined quantities of powders or liquids using the JCI 155 Charge Decay Test Unit or a JCI 149 Charge Dissipation Test Unit.

The JCI 170 is an aluminium disc 140mm diameter, 13mm thick. On one side it has a smooth cornered circular recess 30mm diameter and 3mm deep and on the other side a recess 50mm diameter and 5mm deep. Either recess may be used as is felt, or found from experience, to be convenient. A convenient way to use the JCI 170 is to put test powder into the recess selected for use and then use a simple straight edge to scrape the powder surface level.

Three M3 tapped holes are provided near the edge on each side of the sample support disc. With M3 pan head screws in each of these holes the sample support may be easily located centrally when used with a JCI 149 unit. If just two of these screws are used then when the baseplate of the JCI 155 is rested centrally on the sample support and against the heads of these screws the corona charge deposition will be near the middle of the powder sample area.

A 4mm hole to take a 4mm bayonet plug lead is provided in the periphery of the sample support disc. This connection can be used to ensure reliable earth bonding between the sample support and the JCI 155 or JCI 149.

When using the JCI 155, the fast movement of the air dam on the moving plate may cause some local internal air disturbance. When testing very fine light powders it may be that this air disturbance will cause a few particles to be dispersed over the surfaces around the test region - the moving plate, the side surfaces and even into the fieldmeter. This needs to be avoided. The presence of dust on surfaces around the sensing region and in the fieldmeter may affect the surface voltage zero reading. A change in this reading, or instability of this reading, indicates the presence of contamination. It may be easy to inspect and clean the visible surfaces, but dust in the fieldmeter is not easy to remove and it may be necessary to return the instrument to JCI for cleaning. If light powders are being studied using JCI 155v4 instruments it will be wise to raise the baseplate of the JCI 155 a bit away from the top surface of the powder surface. A separation of say 5mm should be suitable. This will not affect decay measurement performance, but will greatly reduce risks of particle ingestion.