A papermaking furnish is a suspension of charged particles – fibers, fines, filler particles, and the ubiquitous ‘anionic trash’. Added to this suspension are a number of ionic functional additives, for example internal size, starch, and retention aids.

Controlling the interactions of each of these with other furnish components is crucial to efficient and effective papermaking.

Low-molecular-weight and highly charged chemicals are useful for tying up ‘anionic trash’, those non-fiber anionics brought over from the pulp mill or with the uncoated broke. Generally, these are soluble colloids and can constitute a significant portion of the total anionic charge of the furnish. It is desirable to scavenge these with cationic coagulants prior to the addition of starch and size because they compete with the anionic fibers for these additives and will greatly decrease the performance of the additives if the trash is not dealt with adequately.

Efficient chemical usage, machine cleanliness and runnability result from the optimised interaction of all wet-end components. Therefore, the ability to measure charge in the wet end is the ability to control the performance of the paper machine and all wet-end chemicals.

With the Mütek™ PCD-03 Particle Charge Detector combined with the Mütek™ PCD-T3 Titrator Three you can measure the concentration of anionic trash and track and locate sources of charges within the papermaking process. These data help the paper mill to introduce preventive check ups and avoid expensive downtimes.