

MILESTONE MICROWAVE SAMPLE DIGESTION SYSTEMS – FROM TRADITIONAL APPROACH TO REVOLUTIONARY AND UNIQUE DESIGN

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It is well known that a reliable analysis requires efficient sample preparation. We can say that reliability of analytical methods depends on quantitative conversion of solids to homogeneous solutions. Acid digestion of solid samples requires efficient conversion of solid and liquid samples into aqueous solutions, to be easily analyzed. For achieving this we must destroy all the organic matter or fully dissolve inorganic matter, avoiding any loss of the chemical elements present in the sample. Furthermore, no external contamination should be introduced. It is as well important matching the requirements of the analytical instruments, to avoiding possible spectral interferences: we must take care of the viscosity of the final solution, we must select the proper acid mixture compatible with the analytical technique.

Appart from “classical”, but still superior instrumentation (Ethos 1), Milestone developed unique Single Reaction Chamber (SRC) technology - UltraWAVE which overcomes the limitations of traditional microwave sample preparation. At the heart of the system there is a large sample chamber that is pre-pressurized with inert gas and heated with microwave energy. The chamber serves both as a microwave cavity and a reaction vessel.