MILESTONE
HELPING CHEMISTS

YOUR LAB PARTNER
FOR IMPROVED WORKFLOW AND ENHANCED SAFETY

easyFILL
Automated Dosing Station

LESS
HANDLING TIME

ENHANCED
SAFETY

IMPROVED
LAB EFFICIENCY

CONSISTENCY
OF RESULTS

HIGH
FLEXIBILITY

ALEVIATING BOTTLENECKS IN SAMPLE PREPARATION WORKFLOW

SAMPLE PREPARATION WORKFLOW

Sample preparation is a central part of elemental analysis and includes several manual and time-consuming steps. Sample weighing, reagent addition, vessel handling, dilution, and cleaning are all processes that impact lab workflow and operator time. Since its inception, Milestone has been actively addressing these challenges. Vessel handling has been dramatically reduced with the use of Single Reaction Chamber (SRC) microwave systems (ultraWAVE and ultraCLAVE). Vessel cleaning has become more efficient with acid steam cleaning technology (traceCLEAN) or can be even eliminated by using disposable glass vials in the SRC-based systems. Reagent addition and dilution are other steps that involve operator time, in addition to risk of contamination and exposure to concentrated acid. The easyFILL Automated Dosing Station addresses these latter challenges using a single platform that ensures superior workflow for the lab and higher safety for the operator.

ultraWAVE 3

traceCLEAN

THE easyFILL

Reagent addition into digestion vials or vessels is a tedious and often unpleasant step that, in high-throughput labs, requires a significant amount of time. easyFILL frees the operator from this task, with the additional benefits of reducing their exposure to concentrated acids and ensuring consistency of the process.

LESS OPERATOR TIME, IMPROVED WORKFLOW, ENHANCED SAFETY

easyFILL WORKFLOW

The task of manually adding reagents occupies valuable time of the operator, limiting lab productivity and the ability of the chemist to accomplish other tasks. easyFILL automates these steps, reducing the operator time to just a few seconds.

Racks with vessels or vials are placed into the easyFILL

Select the Method and press ‘Run’

Vessels are ready for the digestion process

Additionally, the easyFILL enables pre-dilution. At the completion of the digestion process, the solutions are transferred into volumetric containers and placed into easyFILL for automatic pre-dilution. This step is commonly done using ICP autosampler vials so that the operator has only to finalise the dilution and bring the solutions to the analytical equipment.

Automatic pre-dilution in 50-mL ICP autosampler vials

CONSISTENT & ERROR-FREE OPERATIONS

The handling of acids often leads to human errors and contamination, potentially impacting the analysis quality. The dispensing accuracy of the easyFILL pump ensures great reproducibility, while the hands-off approach and the use of high-purity PTFE for all the acid lines avoids risk of contamination. Moreover, the automatic cleaning of the lines, built into the sequence, avoids contamination when different reagents are dosed.

HIGH FLEXIBILITY

easyFILL offers great flexibility with a wide variety of racks to accommodate most digestion vessels and even two sets simultanously such as two ultraWAVE racks. The system handles up to six reagents at a time (such as HNO_3, H_2O_2, HCl, HF) matching most application needs. easyFILL comes into play before the digestion for acid addition and after for pre-dilution or for acidification of the digested solutions. Moreover, easyFILL is compatible with ICP autosampler racks to avoid additional handling.

ENHANCED SAFETY

Handling of concentrated acids is a common safety concern for all laboratories. Even the use of pipettes under a fume hood still could expose the operator to the acids. easyFILL automates these processes and avoids acid handling. The built-in exhaust further enhances the safety of operations by diverting any acid vapours to the lab extraction system.

SMART SOFTWARE

easyFILL is fully controlled by a touch screen terminal with customized software. For routine processes the operator simply recalls a stored method with the type and volume of reagents as well as the number of positions in use. Availability of the reagents in the bottles and the waste volume are tracked by the software, so that the operator knows when it is time to refresh a reagent bottle or empty the waste tank. Moreover the software integrates a guided procedure to calibrate the pump, in just few minutes.

easyFILL CONFIGURATIONS

Digestion rotors and racks	easyFILL configuration
SK-15	2 racks with 8 pos (16)
MAXI-24 HP; MAXI-44	2 racks with 24 pos (48)
7 position rack ultraWAVE 3	2 racks with x 7 pos (14)
15 position rack ultraWAVE	2 racks with 15 pos (30)
20 position rack ultraWAVE 3	2 Racks with 20 pos (40)
40 position rack ultraCLAVE	2 racks with 40 pos (80)
62 position rack ultraCLAVE	2 racks with 62 pos (124)
ICP autosampler vials Ø 30 mm	2 racks with 21 pos (42)
ICP autosampler vials Ø 16 mm	2 racks with 60 pos (120)

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Established in 1988, Milestone is headquartered in Italy with its R&D and manufacturing centre in Germany and Switzerland and offices in the United States, China, Japan and Korea. We operate worldwide through a network of over 100 exclusive distributors, all providing our customers with premium application and service support. Milestone's mission is to help chemists by offering them the most advanced instrumentation for sample preparation and direct mercury analysis in the world. Our industry-leading technology, in combination with fast, responsive service and applications support, allows Milestone to support our goal of giving you the highest return on investment possible.

ADDITIONAL MILESTONE SOLUTIONS FOR ELEMENTAL ANALYSIS

ETHOS UP

High Performance Microwave Digestion System

ultraWAVE 3

Single Reaction Chamber Microwave Digestion System

traceCLEAN

Acid Steam Cleaning System

duoPUR/subCLEAN

Acid Purification System

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