



# Solutions for Bakery and Pasta

Wet Chemistry Analyses for Producers of Bakery, Biscuits, Cakes and Pasta

## Crude Protein

OPSIS LiquidLINE has solutions for determination of Kjeldahl (TKN) protein following standard methods.

The samples are digested with sulphuric acid to convert nitrogen into ammonium sulphate. The samples are further distilled by steam distillation followed by titration.

Examples: Protein in macaroni products, egg noodles, spaghetti, bread, bakery.

### Our Solution

- The KjelROC Digestor Advanced motor lift makes the digestion efficient and saves valuable operator time.
- OPSIS LiquidLINE Kjeldahl catalyst tablets and glass tubes ensure stable and reliable results.
- KjelROC Analyzer with integrated Titration offers titration with low relative standard deviation and wireless communication saving time and costs.

Standards  
ISO 1871  
AOAC 930.25

Application Notes  
LA1000 Application Guide Kjeldahl  
Further Notes on request

## Total Fat

OPSIS LiquidLINE provides instruments to determine Total Fat according to the standard methods.

The sample is hydrolysed and thereafter extracted in hot solvents. Calculation of total fat content follows after the extract has been dried to a constant weight.

Examples: Fat in bread, cereal products, bakery and macaroni products

### Our Solution

- The HydROC hydrolysis unit offers a unique filter technology that saves time and reduces the risk of errors when moving samples between hydrolysis and extraction.
- The SoxROC extraction unit with batch handling and full automation facilitates the extraction.

Standards  
AOAC 935.38  
AOAC 925.12  
ISO/FDIS 11085

Application Notes  
LA1002, Appl. Guide Solvent Extraction  
Further Notes on request

## Crude Fat

OPSIS LiquidLINE provides instruments to determine Crude Fat with Hot Solvent extraction.

The sample is prepared and thereafter extracted in hot solvents. Calculation of fat content follows after the extract has been dried to a constant weight.

Examples: Fat in biscuits, crackers, fig bars, raisin filled crackers

### Our Solution

- The SoxROC extraction unit with batch handling and full automation facilitates the extraction.
- The instrument provides significant time savings versus cold extraction and a recovery of over 90% of used solvents.

Standards  
AOAC 945.44

Application Notes  
LA1002, Appl. Guide Solvent Extraction  
LA1006 Extraction of fat in biscuits  
Further Notes on request