CENTRIONICS®

Process & Analytical Instruments Company

PALM OIL MILL EFFLUENT

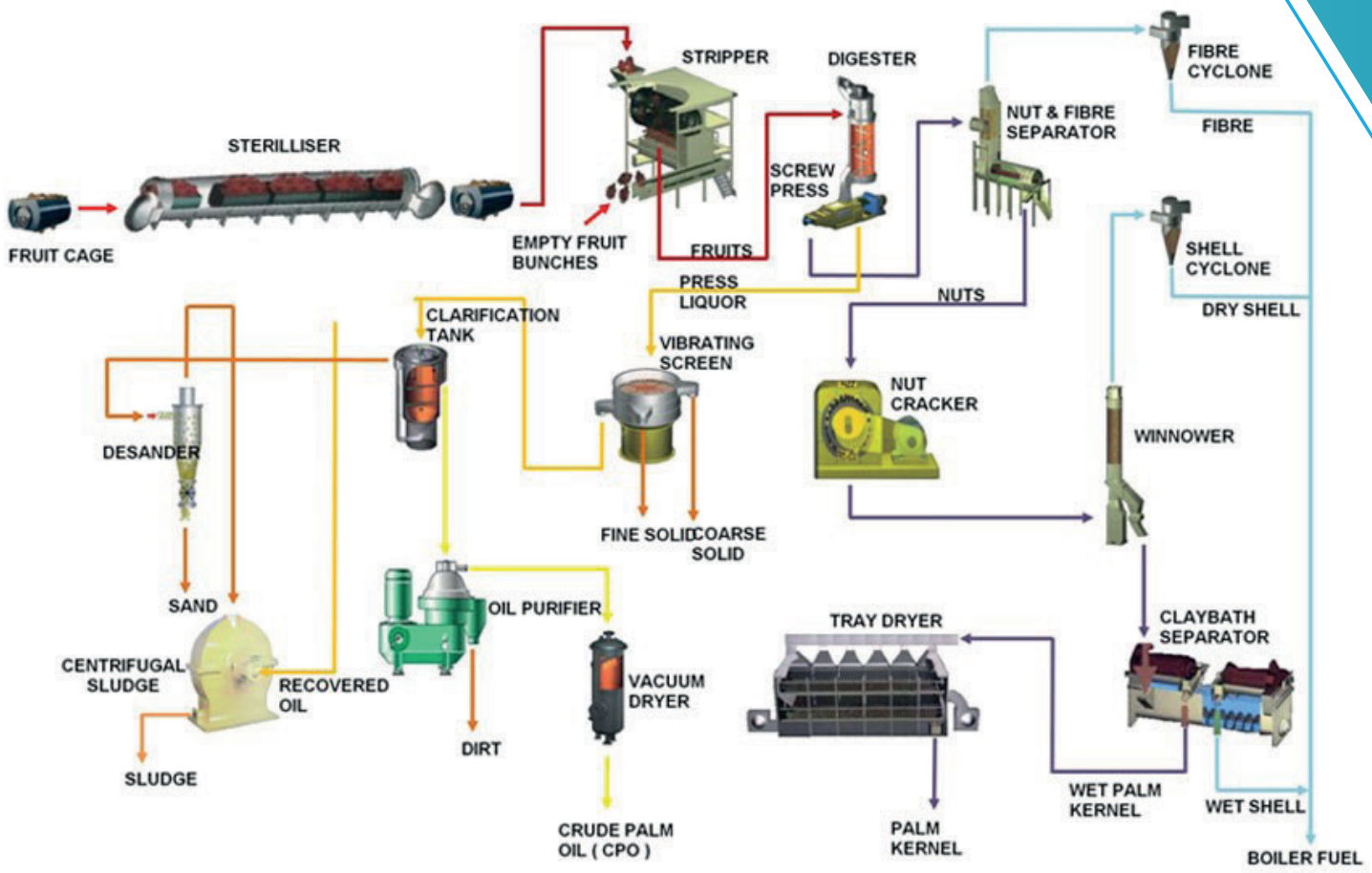
EFFICIENCY OF BIOREACTOR MONITORING

APPLICATION SOLUTIONS

ANAEROBIC DIGESTION TREATMENT

MONITORING SOLUTIONS FOR PALM OIL REFINERY

PALM OIL MILL PROCESS FLOW DIAGRAM



ANAEROBIC DIGESTION APPLICATIONS

Anaerobic digestion has been widely used for POME treatment as it is recognized as a clean development mechanism (CDM) under the Kyoto protocol, with large emphasis placed on capturing the methane gas released as a product of this biodegradation treatment method.

The digestion process follows four (4) major steps which are hydrolisis, acidogenesis, acetogenesis, and methanogenesis. Most of the dewatered POME dried sludge (the solid end product) can be recycled or returned to the plantation as fertilizer.

Factors of biogas production depend on anaerobic digestion temperature, retention time, organic loading rate and so on. The main purpose of measuring COD at this stage, besides the goal of meeting local effluent regulations, is to monitor the effectiveness of the bioreactor design in reducing COD and the results can be used as reference to optimize the anaerobic treatment of POME.

APPLICATION SOLUTIONS

PROCESS ANALYSERS AG

COD ANALYZERS

QuickCOD is suitable as LAR can measure the high COD without dilution, on the other hand, LAR can provide 6-stream analyzer to save money for end-user.

- Catalyst-free thermal oxidation at 1,200 °C
- Response time 3 minutes
- Simple and safe COD determination for complex water

MEASUREMENT PRINCIPLE

of the QuickCOD$_{ultra}$