

SYSTAG Automation “Easy accessibility”

100bar / 3lt / Ethylene polymerization /
Semi-Continuous / Calorimetry / On-Line FTIR

Objectives

- ▶ **Semi-Continuous polymerization system for Process Optimization and thermal safety investigation.**
- ▶ **Process control by on-line FT-IR integration for kinetic studies.**
- ▶ **3 liquid dosages (60bar), Ethylene dosage by Coriolis from storage tank, fill-level & drain control, product receiver & mass balance**



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Hardware Setup



3lt. / 100 bar reactor / Ethylene feed / autom. bottom valve / Ex-compliant



High pressure pumps up to 60 bar, pulsation free feeding, ex-proof



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Software functionality

- ▶ **Process control system with recipe control mode, on-line trend, data logging, Word based Lab journal.**
- ▶ **Process control system with recipe control mode**
- ▶ **Calorimetry: Heat & Power of reaction, Accumulation**
- ▶ **FT-IR on-line data transfer, process control depending on absorbance of selected wave length**
- ▶ **Total mass balance (feed vs drain)**
- ▶ **Fill level sensor with low and high limit**
- ▶ **Automatic gas exchange for inerting reactor (O₂ sensitive)**



Push Your Limits

