

PRODUCT APPLICATION NOTE

SN0302

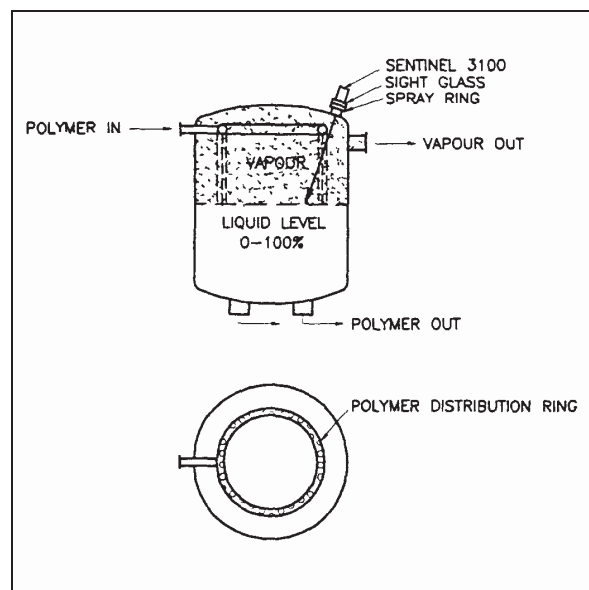
Industry:	Chemical and Allied Products, Petroleum Refining and Related Products
Application:	Level monitoring in a reactor vessel
Optech Equipment:	Sentinel 3100
Application Description:	The customer required continuous and accurate monitoring of the level of polystyrene polymer in devolumizing reactor vessels.

Production of food-grade plastic places stringent demands on continuous level monitoring instrumentation. Essential to quality control is devolumizing, which in this application involves stripping off unreacted ethylene benzene and styrene monomers from liquid polymer. Typical reactor vessels feed liquid polymer from the top through a distribution ring at temperatures of 450°F - 550°F. Critical to the quality of the finished product is carrying out this operation under vacuum, in a Class I, Div 2 hazardous location. The location of an existing sightglass forced the Sentinel 3100 to be mounted off-center, measuring through the falling liquid polymer and unreacted vapour that collected at the top of the vessel.

The Sentinel 3100 was easily integrated into the tight mounting footprint, with no significant modifications. The vacuum seal was maintained by the existing flange seal and not by the instrument, which is completely non-intrusive.

KEY ADVANTAGES OF LASER TECHNOLOGY IN LEVEL MEASURING A REACTOR VESSEL

- Measurements unaffected by off-gas layers
- Measurements unaffected by vapour pressure
- Measurements unaffected by high temperatures
- Measurements can be made even at non-vertical angles to the surface
- Measurements unaffected by vacuum
- Measurements unaffected by falling polymer



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