



Johnson Matthey  
Macfarlan Smith

## bulk production

Production is carried out in discrete production units, each unit coupled to a dedicated fully isolated finishing suite.

Glass-lined, stainless steel and Hastelloy reaction vessels in the 1,200-2,500 litre range are configured for multi-product synthesis at the 500kg to multi-tonne scale of operations. Purified water is used throughout the site.

Reactions include hydrogenation, alkylation, Friedel Crafts reactions and the use of Grignard reagents and acid chlorides. Reaction temperatures from  $-10^{\circ}\text{C}$  to  $250^{\circ}\text{C}$  are achieved using the latest DCS Control Systems.

Solids separation and drying is carried out in a range of tray ovens, stainless steel vacuum blender driers and stainless steel pressure filter/driers.

- Plant is operated to the highest standards of cGMP to satisfy both EU and FDA requirements
- Site is registered for the production of a wide range of controlled APIs
- Total Quality System controls the entire production cycle from raw materials through to packaging and despatch
- Full compliance with local and national environmental regulations

Macfarlan Smith continues to demonstrate its commitment to its customers through significant investment in additional production facilities. Between 2002 and 2005, reactor capacity was increased by more than 50%, further enhancing the capability and quality of service available.

