Multi Purpose Micronising Plant Meets Shirt Sleeve Processing Requirements for APL's

A multi purpose micronising plant for ultrafine grinding of active pharmaceutical ingredients, available from Hosokawa Micron Ltd ticks all the boxes for manufacturers looking for flexible operations, shirt sleeve processing and an alternative to dedicated single product facilities.

The combined expertise of a world leading pharmaceutical manufacturer and the technical design team at Hosokawa Micron have together created a highly flexible ultra fine grinding/micronising suite with high containment isolation that allows processing operations to be carried out without the need for special protective clothing or personal protective equipment necessary. An integrated CIP system ensures cleanliness between batches as well as operator safety during any dismantling operation.

The ultra fine grinding system consists of an enclosed drum tipping section for the uploading of the primary coarse product, a state of the art classifier milling unit and a final fill/weigh packing system for the end milled product.

Each of the drum handling operations is carried out in special, purpose designed negative pressure isolator where the requirements of the process equipment and operator activities were carefully considered. Each isolator unit was designed for optimum ergonomic accessibility for processing, cleaning and maintenance and each has its own internal CIP capability.

DRUM TIPPING SYSTEM

Designed for maximum product manipulation whilst maintaining product isolation the drum tip unit is totally enclosed in an isolator achieving barrier containment levels down to 5 microgrammes/ m?. Interlocked door access ensures each compartment is secure during processing and material from the drums is discharged into the next stage, the milling system.

FINE GRINDING/MICRONISING SYSTEM

In the initial design the customer requirement for a product having a steep particle size distribution free from oversize particles was best met using the Alpine 100ZPS Air Classifier Mill. The internal air classifier of this mill ensures a sharp cut off at the top size and a narrow particle size distribution. There is no oversize or coarse material tail, which would require further grinding. The low energy, air swept design of the 100 ZPS unit is also ideal for milling temperature sensitive pharmaceutical materials.

Full flexibility is achieved as this 100ZPS mechanical mill can be simply converted to a 200AFG fluid bed jet micronising unit using compressed air or gas by simple exchange of the

bottom section of the mill without the need to change any other component. This allows the processing of a range of products.

The containment philosophy allows operation in dual mode with laminar flow achieving operator exposure levels of 10 microgrammes/m? and full isolation achieving containment levels below 5 microgrammes/m^3.