

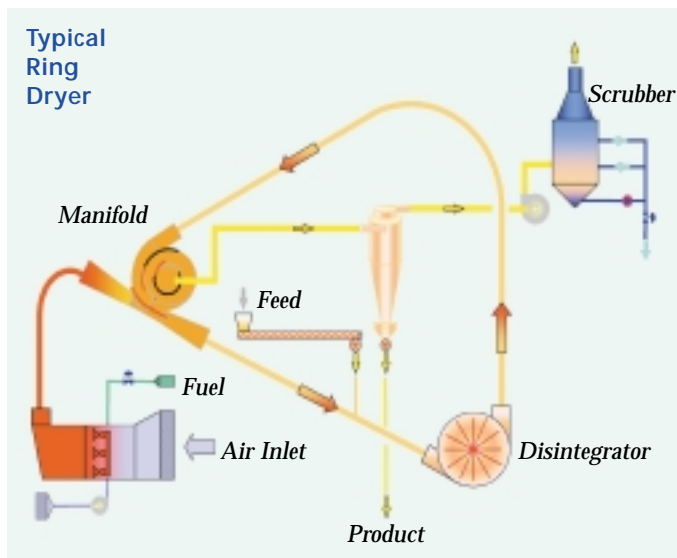
Ring Dryers

The *Ring Dryer* employs the same basic principle as the flash dryer in that the material to be dried is dispersed and conveyed through the dryer in a hot air stream. However the *Ring Dryer* incorporates a centrifugal classifier (either full or simplified) which allows selective internal recirculation of semi-dried solids, effectively lengthening the retention time of larger particles in the dryer, while finer material, which dries more rapidly, exits the dryer with the exhaust air.

The heart of the system is the *Manifold Classifier* which uses deflector blades to select and classify airborne particles based on individual densities. By centrifugal action, wetter (and thus heavier) particles follow the manifold contours more closely than the lighter and drier fractions which are carried along with the airstream. The blades are adjusted to direct the lighter, drier particles out of the dryer for collection, while the larger, heavier particles are recycled through the ring duct for an additional pass of drying.

Ring Dryers may be fitted with in-line disintegrator mills where de-agglomeration and a degree of particle size reduction is desired. Drying air with airborne recycled material continuously enters the disintegrator, located at the base of the drying ring, and provides for effective drying of difficult materials at higher capacities. The combined effect of the disintegrator and manifold assures excellent particle size control together with efficient and even drying.

For selective airborne product recycling without additional milling, we use our 'P-type' *Ring Dryer* with top recycle loop, via a simplified manifold, recycling the heavier material back into the warm air stream. Several different configurations of *Ring Dryer* are available to suit a wide range of products, drying requirements and site conditions. Examples of this are our *Low Melting Point (LMP)* and *Feed Type* dryers.



Low Melting Point (LMP) Dryer

The LMP dryer is a special *Ring Dryer* designed to handle, without thermal damage, materials that are extremely heat sensitive or have a low melting point. The wet material is introduced into a stream of warm recycle air, which carries it tangentially into a drying chamber incorporating a central hot air inlet. The hot air diffuses slowly into the swirling stream of recycle air, so that the product is gently heated and never subjected to the full dryer inlet temperature. In this way low temperature drying with maximum efficiency is assured. The *LMP Ring Dryer* can be used for metallic soaps, stearates or plastics, amongst other products.

Feed Type Ring Dryer.

The *Feed Type Ring Dryer* incorporates a top bend and simplified manifold, with the heavier material recycled via a chute into the wet feed disperser. This dryer is capable of evaporation rates up to 20 t/h, utilising maximum gas inlet temperatures of 650°C. The *Feed Type Ring Dryer* has been successfully used for waste products, sludges, animal feeds, organic fertilisers and chemicals.



Ring dryer with full manifold for vital wheat gluten