

Principal of Operation

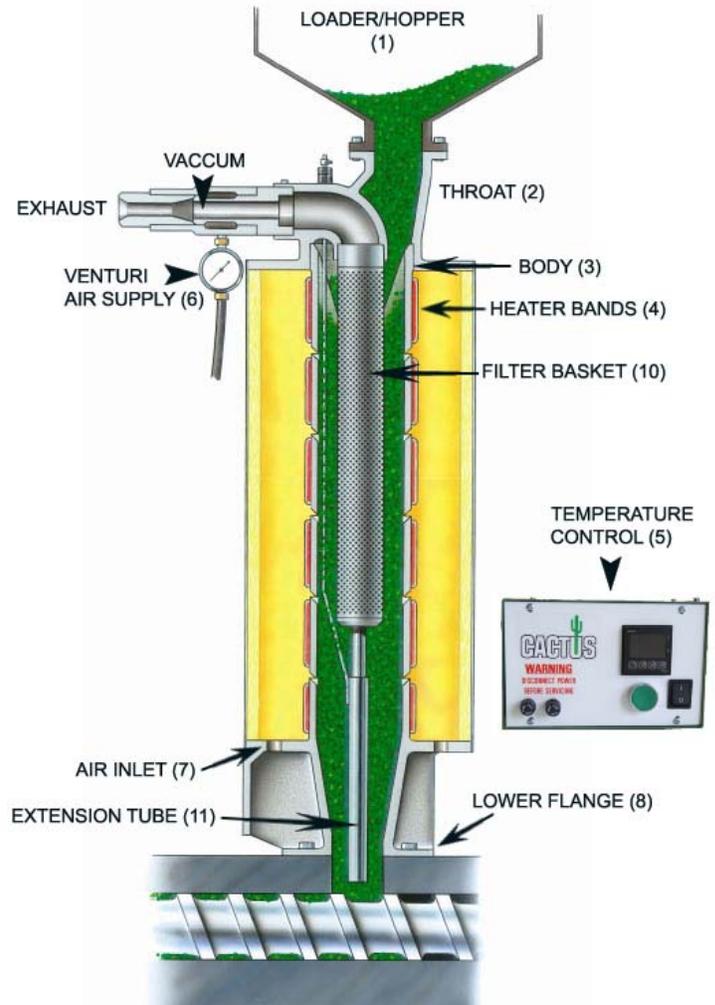
The Cactus dryer is mounted directly on the feed throat of the molding machine. A hopper or loader is mounted to the top of the dryer to provide a continuous supply of resin to the dryer. The resin is supplied directly from the bag, barrel or gaylord and does not require pre-drying.

In operation the plastic resin feeds continuously from the hopper (1) into the throat (2) and down through the body (3) of the dryer. The resin is heated by conduction and radiated heat at this stage. The heat is supplied by electric heater bands (4) mounted on the body. Heat is precisely controlled by a closed loop P.I.D. temperature controller (5). Simultaneously a partial vacuum is generated inside the body of the dryer. The vacuum is generated by a compressed air powered venturi (6). The fast heating causes moisture trapped within the plastic pellet to be forced to the pellet surface. This moisture is carried away by air. Ambient air enters through an inlet (7) in the lower flange (8), passes over the heater bands, through slots in the body (9) across the plastic resin, picking up the moisture, then, exits via the filter basket (10) and through the venturi to the atmosphere. By the time plastic resin is processed through the body of the dryer and down in the screw of the molding machine, most of the moisture has been removed. Should any remain, the action of the screw causes it to vaporize in the rear zone. These vapors are extracted by the extension tube (11) and out through the venturi.

As a result, all moisture is removed before plasticization and dry resin is injected into the mold.

Residence time of the resin in the Cactus dryer is normally 15 - 30 minutes.

The key elements of the system are; Precise temperature control, accurate air flow by the venturi, injection settings, and throughput lbs. (kg) per hour. If these elements are considered and adjusted for each setup, the Cactus will provide reliable and economical drying of most thermoplastic resins.



**CACTUS MACHINERY LLC. - 1570 Georgetown Rd.
Hudson, OH 44236 PN:330-650-9280 FX: 330-653-3052
Web: www.cactusmachinery.com
E-mail: sales@cactusmachinery.com**

