

VERTICAL ROTARY BLOW MOLDERS

7.5 TON WHEEL

Number of Stations: 9, 12, 15, 18
Maximum RPM: 6
Chordal Mold Length: 10.5" - 15"
Mold Width: 14"
Mold Height: 12"
Stroke: 16"

10 TON WHEEL

Number of Stations: 9, 12, 15
Maximum RPM: 6
Chordal Mold Length: 12" - 16"
Mold Width: 20"
Mold Height: 12"
Stroke: 18"

EXTRUSION SYSTEMS

#1 - 3.5" 30:1 L/D (450 - 600 lb/hr)
#2 - 4.5" 30:1 L/D (750 - 1200 lb/hr)
#3 - 6" 30:1 L/D (1200 - 2000 lb/hr)
#4 - 175mm 30:1 L/D (1500 - 2700 lb/hr)

HEADS

'A' - Single, Dual, Triple Parison
Tooling Size: .25" - 2.75"
Pitch: 6" Dual Parison
4.5" Triple Parison

'B' - Single, Dual, Triple Parison
Tooling Size: .50" - 3.5"
Pitch: 7.5" Dual Parison
5.5" Triple Parison

CONTINUOUS ROTARY BLOW MOLDERS

Processing & Construction Features

WHEELS

The Wheel is an all electric type with a series of smooth, fast acting toggle clamps actuated mechanically by a stationary cam. The clamp is designed to provide clamping forces directly to the center of the mold platen. A unique "Radial Positioning" feature is standard on most models and permits the mold circle to be made larger or smaller for different size products to minimize scrap. All bearings in the clamp are a self-lubricating type with excellent life characteristics.

The rotating assembly is supported on large pillow block bearings and precisely driven by an AC electric motor direct coupled to a helical gear reducer.

Dual rotary water unions provide more than adequate coolant flow to molds and help to maximize the productive potential of each mold. Pneumatic and coolant connections to the molds are conveniently located for ease and economy of plumbing.

The machine frame is a tubular steel fabrication with provision for right to left and vertical adjustments. A motorized traversing mechanism moves the wheel to and from the extruder/die. The moving components of the wheel are well guarded by heavy gauge sheet metal panels with generous windows. Access doors have safety interlocks for added protection.

Processing on the Wheel is made easy by the simplicity of its design. Controls are conveniently located and easily adjusted (examples: wheel speed, blow needle extend/retract, blow air on/off, clamp close position, pneumatic eject, vacuum assist, etc.).

Mold changeover is simplified by locating devices and accessibility. Typical time is approximately hour per mold in and out.

The diagnostics control system monitors the motor, blow air, safeties, etc. to provide early warning of any process or equipment malfunction.

EXTRUDERS

The extruders are made by Wilmington and are a low speed, high torque type designed to effectively process low melt index or heat sensitive (ie. PVC) materials.

L/D ratios of 24:1 or 30:1 are selected to match the melting characteristics of the material (ie. 30:1 for HDPE and 24:1 for PVC). Barrel materials are selected for wear or chemical resistance. Xaloy 800 (or equivalent) barrels with Colmonoy 56 feed screws are standard for HDPE. Liquid barrel cooling is standard on all models.

Gear reducers are typically a helical type with minimum 1.5 service factors. Thrust bearings are sized for a minimum 100,000 hour B-10 life at 5000 PSI and 100 RPM.

Drives are sized to provide approximately 25% additional torque than required and are a DC electric type.

Feed screws are designed and constructed to the material being processed (ie. chrome plating, Colmonoy or Stellite flight tips, etc.). Mixing sections are standard.

A manual (quick change) screen changer is standard on most models. Hydraulic screen changers are optional.

The extruder base is a machined steel structure with several convenient leveling points to assure continued alignment of barrel and drive components. All couplings, sheaves, etc. are well guarded.

A diagnostic network on the extruder monitors all heaters, barrel cooling devices, hoppers, pressures, speed, etc. for failure or process variations.

DIE HEADS

Die heads are designed to match the extruder output and the flow characteristics of the various materials processed. They are precision machined with hardened wear and moving surfaces. A side fed design is used for Polyethylene or Polypropylene and an easily cleaned top fed type for PVC.

Profiling (100 points is standard) is accomplished by a hydraulic closed loop servo system.

Tooling for round, ovalized or rectangular shaped bottles is designed to the application.

CONTROL

The control panel on the molding system is the nerve center of the operation. It presets, monitors, diagnoses, warns (or shuts down) all equipment components and process variables.

It uses a microprocessor based computer system with a large CRT for displaying all temperature, process, safety and other functions. A cartridge loading system is standard for presetting machine conditions at the start of a production run.

The diagnostics system constantly monitors all process and equipment variations on the extruder, die head, wheel and accessories. It locates a problem before the product has been affected and pinpoints the corrective action required.

The control system has the ability to communicate with a host computer for total data acquisition of critical production data for quality control or other reasons.

Control panels are constructed to latest NFPA Standards and are mounted prewired to the extruder base. All components are selected for availability and long life.

TRIMMING & ACCESSORIES

The system utilizes two types of commercial trimmers. The hot blade "spin-off" type is used for non-handleware applications. It is extremely simple in design, setup and operation and provides a superior neck finish. For handleware and offset neck applications, the popular trim and ream method is used in conjunction with in-line leak detection.

Molds are usually machine tool grade Aluminum with hardened Beryllium Copper pinchoff and threaded neck inserts. Unique designs usually permit demolding and trimming without ejector pins or shearing knives. Molds are pretested to assure dimensional product accuracy before full mold production.

Material handling equipment (grinders, vacuum loaders, pneumatic conveyors, storage bins, etc.), chillers, automatic packing, in-mold labeling are all available system accessories.

KNOW HOW & TRAINING

The Continuous Rotary Blow Molder is a versatile systems approach to high quality, volume blow molding. Wilmington will carefully mix and match the various elements that will assure the greatest economy and future flexibility. Comprehensive training with initial and on-going technical support are included with all systems.