



# ROTATIVE BLOW MOLDING MACHINES

## BRM SERIES



BRM series blow molding machines are fully **automatic** equipment for production of PET containers using blanks in the form of preforms.

### PREFORM FEEDING SYSTEM

Preforms are taken automatically from the hopper and fed into the preform positioning system, where they are administered to the rotary unit of the blow molding machine. The preform feed system can be equipped with the roundness control system of preform threads. The solution provides selection of preforms that have been formed incorrectly during the injection process or have been damaged in the production process.

### MACHINE CONSTRUCTION

The machine uses a rotary unit equipped with a **hybrid slewing ring with ceramic rolling elements**. The construction solution implemented enables long-term operation of the bearing system of the rotary unit without a major overhaul throughout the life of the blow molding machine.

The use of one slewing ring in the blow molding machine reduces the rotational mass of the rotary unit to which the blow molds are fixed. System of closing the blow molds is based on the cam system, so it does not require to be adjusted after the initial set up.

BRM series blow molding machines have an extensive **technological parameters adjustment system**, so there is a possibility to produce bottles with complex shapes. In addition, the machine is equipped with an advanced **system of diagnostics of operational errors** that allows the operator for easy analysis of the machine operation. Furthermore, remote diagnostics is also possible by connecting the blow molding machine control system to the Internet.



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## THE BLOWING SYSTEM

The blowing system uses Eugen Seitz valves which can be equipped with an air recuperation valve. Along with other elements of the pneumatic system, the valve creates the Air Recovery System. This system can significantly reduce the amount of air used by the blow mold machine as part of compressed air from the blowing system is re-used in the pneumatic system.

## PREFORM HEATING SYSTEM

The rotary blow molding machine uses **an innovative linear heating stove** consisting of 10 heating segments. Each segment is equipped with eight horizontal lamps heating preforms with infrared radiation. Each lamp level is controlled independently. The heating stove uses ceramic reflective screens, which results in increased energy of the reflected radiation.

An innovative, patented heating stove is equipped with the **Hot Air Recuperation System**. Hot air is drawn from the main stove and used for preheating the preforms. This reduces the energy required to heat preforms.

The blow molding machine is also equipped with automatic temperature control of preforms. It means that when the outside temperature in the production hall changes, the machine adjusts the preform temperature automatically.

**The new control system** based on the driver from an Austrian company **Bernecker + Rainer** has been designed to enable full control on the machine operation including analysis of operational errors. A touch screen is used for communication with the operator. The touch screen is integrated with an industrial computer in one housing and communication is based on CAN system. This solution provides a very rapid exchange of information and eliminates possible communication errors.

## USED COMPONENTS:

**Servo:** Bernecker (Austria)

**Control and control panel:** Bernecker (Austria)

**Pneumatics:** BoschRexroth (Germany), Metal Work (Italy), Festo (Germany)

**Electrical equipment, sensors:** Bernecker (Austria), Eaton (USA),

Balluff (Germany), Rockwell (USA)



## EQUIPMENT OF A STANDARD BLOW MOLDING MACHINE:

- Rotating unit with ten single-cavity molds
- Heating stove with ten heating sections
- Bernecker control system with an industrial computer and a 15-inch LCD panel
- Air preparation system with filter system
- Preform feeding system with a hopper
- Sound absorbing safety guards
- Set of key spare parts

## OPTIONS AVAILABLE:

- Hot Air Recuperation System – a heating stove equipped with a recuperation system of hot air
- Air Recovery System – compressed air recovery system
- Modem for remote control of the blow molding machine
- Air conditioning of the control cabinet
- Preform quality control system for checking roundness and the inner diameter of the preform thread
- Optical system to control the quality of produced bottles