

INNOVATIVE DESIGN

Innovative features for a better controlled and faster balloon forming process.

HIGH QUALITY BUILT

The BFM-500-S is built with a very high-quality benchmark resulting in a stable and robust design with minimal cost of ownership.

OPTIONS

Additional options such as integrated high-pressure generation, Active Pressure Drop Control (APDC) and parison pre-heating can be added to the already complete basic machine.

CONTACT

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- Flexible Process Interface for virtual limitless process cycle options on large 19" full color touch panel interface.
- Fast and strong full servo-controlled axis for repeatable and reliable stretching of the parison materials during the forming process.
- Integrated safety light curtain with intuitive user interaction for safe operation.
- Optional High-Pressure system integrated eliminating the need for a high-pressure factory network or the use of N2-bottles.

The Balloon Forming Machine (BFM-500-S) is the first in a range of balloon forming machines that is being developed by Medical Production Technology Europe BV and has full servo control on the proximal and distal axis. This allows for precise and fast stretching of the parisons during the balloon blowing process. The axis have force control and individual loadcell systems allowing forces to be monitored and used as control parameters during the process.

Innovations on heating systems and optimized cooling provide a much faster and even heating and cooling of the parison and balloon materials, allowing for shorter cycle times, thus increasing production capacity.

For the first time ever a balloon machine is available where you can actively control the pressure drop during the balloon blowing process. This APDC (option) provides a significant control handle to the blowing process and allows for more optimisation of your balloons.

Another high impact design optimisation step has been made in the process control software with the Flexible Process Interface (FPI). This allows for an almost limitless process control environment. Every process cycle you desire or will desire in the future can easily be composed by yourselves. Furthermore the revolutionary but simple way of representing the process ensures you always know what is happening, what is going to happen and why. Additional software tools are available for developing processes off-line on your desktop computer.

Graphic representation of the measured values (pressures, strokes, forces) can be selected to be shown on screen during the process for the operators or engineers to monitor the process and interpret the behaviour of the balloon being blown.

SAFETY

Standard equipped with a safety light curtain with intuitive operator feedback.

COOLING UNIT

Delivered with standard high flow cooling unit for fast cooling of the mold assembly.

USER INTERFACE

Large 19" full color touch screen user interface for easy overview of the machine behaviour.

OFF LINE PROGRAM

Standalone Flexible Process Interface software package available for off-line development of the proces.

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Technical Specification BFM-500-S Balloon Forming Machine

Stretch force	500 N max
Stretch speed	250 mm/s max. (servo controlled)
Stretch acceleration	2000 mm/s ²
Stretch length	495 mm proximal and 500 mm distal
Clamping	Self aligning high force distal and proximal clamps
Inflation pressure	1-50 bar max +/- 0.2%
Pressure control	Active Pressure Drop Control (APDC)
Temperature heating system	20 °C - 220 °C +/- 0.5 °C
Preheat system	Proximal and mold preheating system
Mold diameter	24 mm
Block lengths	80 mm ,108 mm , other sizes possible
GUI	19" color touch panel
Control software	Flexible Process Interface (FPI) Zoomable process graphs with process markers Recipe based Password levels (operator, engineer, calibrator) External FPI software available for off-line development Remote support option
Indicators	Optional signal light / acoustic alarm (user programmable)
Ethernet	2x
USB	4x
Required air pressure	7 bar minimum (pre-dried in case of integrated pressure boosting system)
N2 system	Using external N2 system (bottles or factory line) / optional high-pressure generator system require 7 bar feed pressure with internal high pressure buffer vessel
Power supply	115 or 240VAC / 2kW
Cooling circuit	Cooler with 5L resevoir + temperature and level detection
Safety systems	Light curtain with intuitive operator feedback

