30+ YEARS OF EXCELLENCE
Since 1993

STPL®
ENHANCING MEDICAL TECHNOLOGY

SBF-4

BALLOON FORMING MACHINE

IDEAL APPLICATIONS

- Balloon Catheter Manufacturing
- Angioplasty Balloon Production
- Medical R&D and Pilot Manufacturing Lines
- Precision Polymer Balloon Forming Applications

ISO 9001 : 2015 MANUFACTURING FACILITY

DSIR-GOVERNMENT OF INDIA CERTIFIED IN-HOUSE R&D UNIT

MADE IN INDIA

SBF-4 Balloon Forming Machine

Engineered Precision for Reliable Medical Balloon Forming

The SBF-4 Balloon Forming Machine is a high-precision, PLC-controlled system designed for forming medical balloons with accuracy, repeatability, and process stability. Built for demanding catheter manufacturing environments, SBF-4 combines precise thermal control, servo-driven motion, and intelligent process management to support consistent balloon quality across production cycles.

Key Features

High-Precision Axis Control:
Servo-driven motion with ±0.1 mm positional accuracy ensures repeatable balloon geometry.

Advanced Temperature Control:
Controlled heating from 20°C to 200°C with stable cooling integration for consistent forming.

PLC + PC-Based Control System:
Seamless operation, data handling, and network compatibility.

User-Friendly 24" Touchscreen HMI:
Intuitive interface for recipe selection, monitoring, and control.

Recipe-Based Process Management:
Enables repeatable balloon forming with stored process parameters.

Integrated Safety Architecture:
Emergency stop, curtain sensors, RCBO protection, and real-time error detection.

Horizontal Heating Block Configuration:
Supports customized heating blocks based on application requirements.

Advantages

Consistent Balloon Quality:
Precise control over pressure, temperature, and motion reduces variability.

Improved Process Reliability:
Automated control minimizes operator dependency and manual errors.

Reduced Development Cycles:
Recipe management enables faster setup for new balloon designs.

Scalable for Production & R&D:
Suitable for development labs as well as controlled production environments.

Compliance-Ready Operation:
Stable, documented processes support validation and regulatory expectations.

Enhanced Operator Safety:
Built-in safety systems ensure secure operation during high-pressure forming cycles.

Specifications

Machine Dimensions (L×W×H)	1560 × 975 × 1600 mm (Height adjustable up to +300 mm)
Machine Weight	Approx. 400 kg
Axis Travel	Left: 288 mm
Position Accuracy	± 0.1 mm
Maximum Axis Speed	Up to 200 mm/sec
Process Temperature Range	Up to 200°C (392°F)
Cooling System	External cooling integration (recommended 5–7°C)
Process Time	2 – 7 minutes
Process Pressure	0 – 50 bar (Nitrogen, N_2) ± 0.5 bar
Low-Pressure Supply	5.5 – 8.2 bar
Control System	PLC controller with PC-based user interface
Display	24" Touchscreen HMI
Operating Voltage	Single-phase 230V AC ±5%, 5000 W
Operating Conditions	20–30°C
Heating Block Compatibility	38 mm & 68 mm water-jacket heating blocks (customizable)
Safety Features	Tower light, emergency stop, curtain sensor, RCBO, error detection

STPL®

ENHANCING MEDICAL TECHNOLOGY

STPL MT aims to identify the automation needs of the global medical and healthcare industry and fulfill them by offering our world-class vision, laser and software technology. Our only goal is to become a value-added partner for our clients by providing innovative technology, an optimum level of service and continuous support to maximize our clients' business uptime.

STPL
INNOVATION • VALUE • SERVICE

DIAMOND TECHNOLOGY

- Pioneered the Laser in Diamond Industry in India.
- World's First to Introduce Robots for Diamond Processing.
- Having Customer Base in More Than 30 Countries & 5 Continents.

STPL 3D
THINK • CREATE • SURPRISE

ADDITIVE MANUFACTURING

- 3D Printers for Industrial Needs.
- World Class In-house 3D Printing Lab.
- Best FDM, SLA, SLM and SLS Technology.

STPL
INDUSTRIAL LAZER

INDUSTRIAL LASER TECHNOLOGY

- Fiber Laser Cutting Machine with Best Results.
- For Industries and Automotive.
- Accurate Cutting, Marking, Welding and Cleaning Laser Machines.

STPL
ENHANCING MEDICAL TECHNOLOGY

MEDICAL LASER TECHNOLOGY

- Range of Medical Laser Devices.
- Solutions for Stent & Catheter Manufacturing.
- India's First Dental Laser.

Head Office:

SAHAJANAND TECHNOLOGIES PRIVATE LIMITED.

Bldg A-1, Sahajanand Estate, Vakhariawadi, Near Dabholi Char Rasta-Ved Road, Surat 395004, Gujarat, India

+91-261-611 0711 | +91-90819 49000

contact@stplmt.com www.STPLMT.com

Like us | Follow us | Subscribe us

/stplmtglobal