

**smf**  
GERMANY



SMF manages the two-step technology of plastic bottle production and is a market leader in PET blowing technology worldwide. Our key competence lies in providing the right solution to all of our customers' technical needs.

SMF manufactures linear stretch blow moulding machine of small and medium output with an excellent reputation for reliability, simplicity and high technological level. SMF delivers complete system solutions including preform design and supply, bottle design, bottle moulds, preform loaders, ready bottle conveying, air preparation stations and cooling systems. SMF installs their machinery at customers site worldwide and provides full technical and after-sale service.

**FULL SMF GERMANY OFFER INCLUDES:**

- PET/PP Stretch blow moulding machines
- Blowing Moulds / Containers design
- Unscrambling machines
- Conveyors
- PET Injection machines
- Packaging machines (Shrink wrappers, Handle applicators, Palletizers)
- Filling machines
- Labelling machines
- Turn key projects



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# JUMBO

**SERIES OF SEMI-AUTOMATIC BLOW MOULDING MACHINES  
FOR PET BOTTLES AND JARS PRODUCTION (0.25 – 20.0 L)**



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# JUMBO

## SEMI-AUTOMATIC BLOW MOULDING MACHINES



**JUMBO** is a series of semi-automatic machines designed for industrial production of medium size and large PET packages. **0.25 and 6.0 liters** bottles can be blown as well as **ONE-WAY USE or MULTIPLE-WAY USE 5 GALLON BOTTLES**. JUMBO machine can also manufacture **WIDE-MOUTH JARS** with the neck diameter up to 120mm. The machines are easy to operate and service. Robust construction of closing unit, easy regulation and efficient nozzle clamping system ensures production of bottles at highest technological level. Machines are manufactured with the usage of top brands components supplied by companies, which guarantee service around the world: TOSHIBA, MITSUBISHI, FESTO, NORGREN.

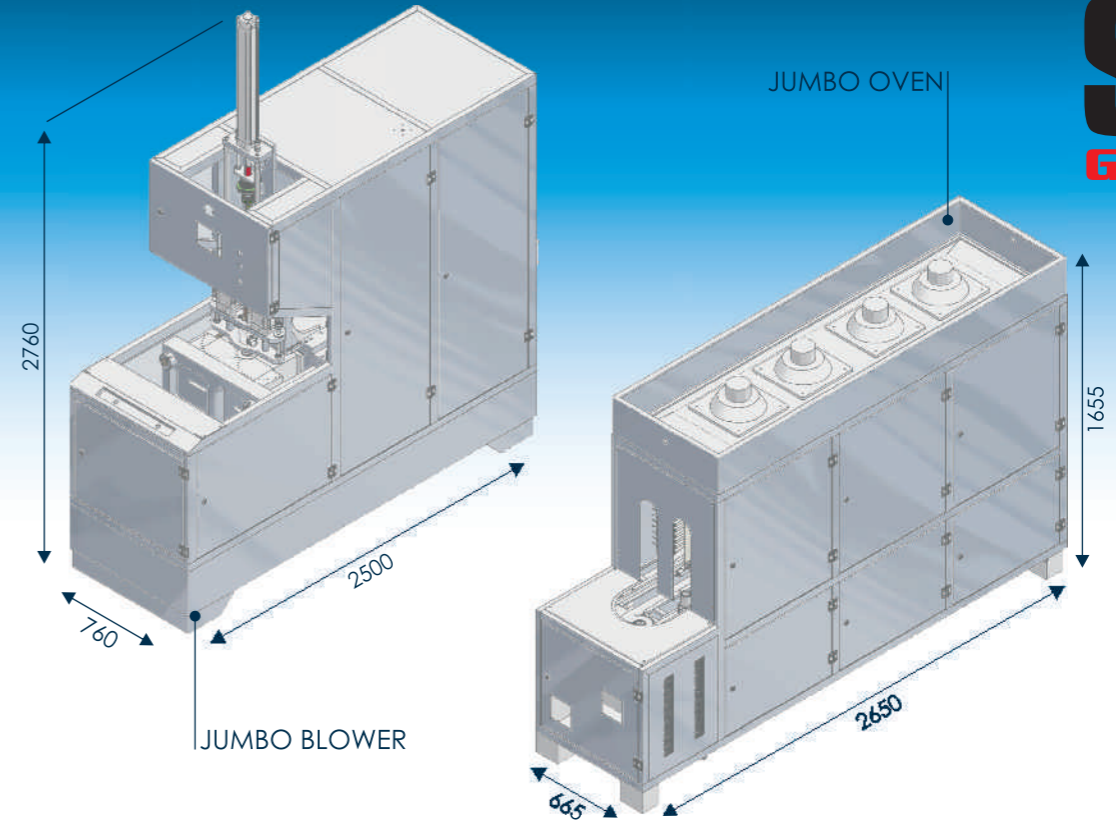
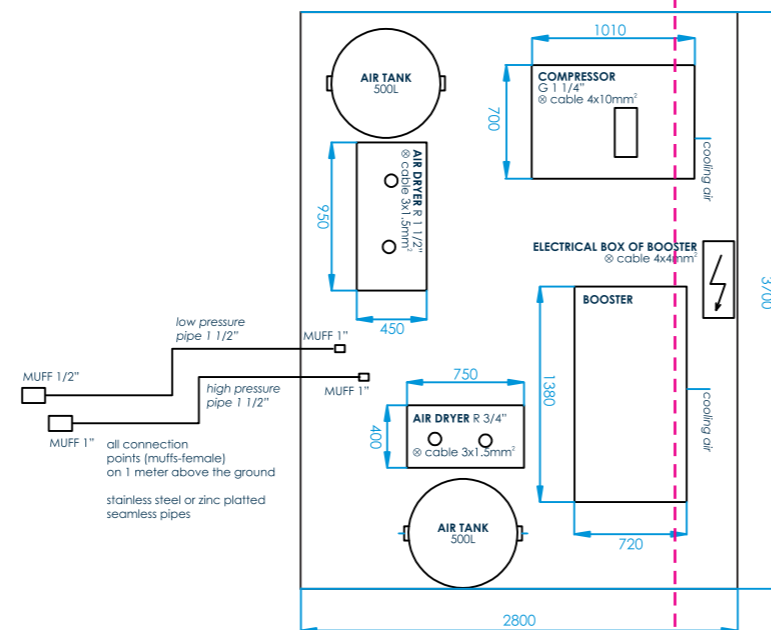
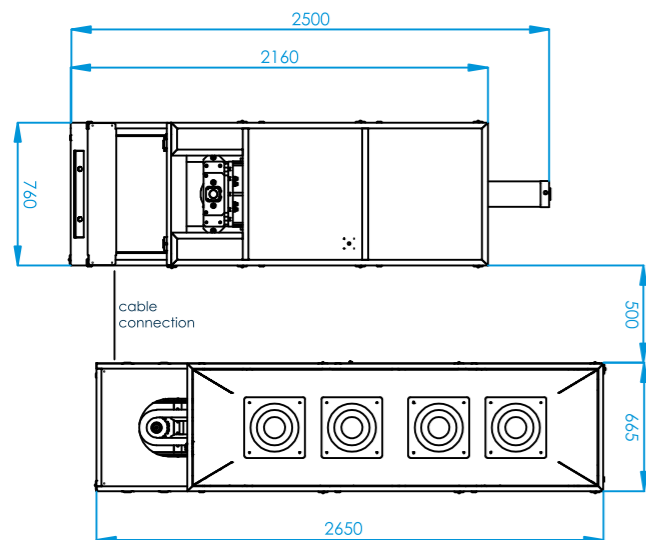
**JUMBO machines fulfill all the European standards and requirements also the EU machinery directive 2006/42/EC.**

### MAIN PARAMETERS

	<b>JUMBO-5</b>	<b>JUMBO-20</b>	<b>JUMBO-J (JARS)</b>
Bottle capacity	<b>0.25 ÷ 6.0L</b>	<b>10.0 ÷ 20.0L</b>	<b>0.25L - 6.0L (63 - 120mm)</b>
Bottle dimensions	D <sub>max</sub> - 170 mm H <sub>max</sub> - 350 mm	D <sub>max</sub> - 250mm H <sub>max</sub> - 555mm	D <sub>max</sub> - 170mm H <sub>max</sub> - 350mm
Output *	5.0L - up to 600 BPH	20.0L - up to 50 BPH	5.0L - up to 150 JPH
Quantity of cavities	2	1	2
Moulds material	FORTAL	FORTAL	FORTAL
Power installed	55 kW (nominal), max. 97kW	55 kW (nominal), max. 97kW	30 kW (nominal), max. 65 kW
Blowing pressure	25 bar - stable ± 2 bar	25 bar - stable ± 2 bar	25 bar - stable ± 2 bar
Working pressure	10 bar - stable ± 5%	10 bar - stable ± 5%	10 bar - stable ± 5%
Pneumatics	FESTO + NORGREN	FESTO + NORGREN	FESTO + NORGREN
Controller	PLC Mitsubishi	PLC Mitsubishi	PLC Mitsubishi
Control panel	HMI Mitsubishi	HMI Mitsubishi	HMI Mitsubishi

\*depends on bottle shape

### LAYOUT JUMBO-20 WITH COMPLETE COMPRESSOR STATION



### BRIEF DESCRIPTION OF BOTTLE PRODUCTION PROCESS

Jumbo machines are designed to work in double stage process of containers production. First step is preform manufacture with the usage of PET injection machines. Jumbo's role starts in the second stage. Firstly, preforms are loaded into the oven where

the process of thermal softening takes place. Then, heated preforms are manually moved into the blower. With the usage of high pressure air the bottle are being formed inside the mould. Afterwards, the operator takes out the ready bottle.

### KEY FEATURES

- WIDE RANGE OF POSSIBILITIES
  - 0.25 - 6.0L BOTTLES
  - 10 - 20L BOTTLES
  - 0.25 - 6.0L WIDE-MOUTH JARS (UP TO 120MM NECK DIAMETER)
- EASY CHANGE-OVER OF BOTTLE SIZE AND NECKRING TYPE
- TEMPERATURE CONTROL INSIDE THE OVEN
- ONE PROGRAMMABLE PLC CONTROL PANEL FOR BOTH SECTIONS (OVEN AND BLOWER)
- SIMPLE CONSTRUCTION, EASY OPERATION AND MAINTENANCE
- LOW ENERGY CONSUMPTION
- SPACE SAVING
- COST EFFECTIVE SOLUTION

