SIAPI

Shaping your projects

Stretch Blow Molding Machines since 1992

SIAPI

SIAPI, founded in 1992,designs, manufactures and markets worldwide 2-step linear blow molding machines for PET containers.

All machines and molds are manufactured in San Vendemiano – Italy, thus guaranteeing smooth production process, with accurate tests, efficiency, and controlled lead times.

SIAPI's state-of-the-art technology is well known in the classic beverage market, as well as for the design and production of special PET containers: large bottles for water-cooler applications, beer kegs, jerrycans, wide mouth jars, detergents and personal care.

For this reason, SIAPI has become partner of the main actors in the food&beverage and chemical sectors.

The widespread **presence of SIAPI in all five continents** is represented by its installed base of more than 950 machines. SIAPI's customers can rely on constant support during the choice of a solution for a new production project, as well as for after sales and technical assistance issues. SIAPI's original molds are produced and tested in house.

Innovative design, resistance and durability guarantee the creation of perfect PET containers.

In 2019 SIAPI became part of CFT Group, consolidating its presence in the market thanks to the synergy with a technological group worldwide leader in the food process and packaging.

Then in 2021, as part of CFT Group, we joint ATS Company, an industry-leading automation solution provider, founded in 1978 in North America SIAPI is present in all five continents with group branches, offices, exclusive agents and service centers.

History

1992 The company, already active as third-party supplier in the blow molding industry, becomes independent and specialized in the production of blow molding machines.

1995 SIAPI is the first to propose a continuous preform transport system, thus guaranteeing perfect heating.

2002 First fully electrical machines.

2010 Established a new R&D department to expand activities with new research projects.

2013 New patents and technologies are developed in the R&D department. 600 machines installed worldwide.

2019 SIAPI becomes part of CFT Group.

2021 SIAPI and CFT Group become part of ATS Company.

2022 On 30th anniversary, SIAPI releases the new progressive blow molder: The Galileo!

2025 Reached the milestone of 950 machines worldwide.

APPLICATIONS

Beverage

Non Food

Blow molders for standard applications

Series S – SC – SE – Galileo

SIAPI's two-step linear blow molding machines are the most efficient solution for standard application in the beverage industry, as well as in the food and chemical sectors.

- Water
- CSD and flat drinks
- Tea
- Milk
- Edible oil
- Vinegar
- Beer
- Pharmaceutical
- Chemical products
- Cosmetics
- Personal care

All SIAPI machines are fully electrical and equipped with the most advanced technology for energy efficiency. The production process, up to 25000 bph, is smooth and reliable and the Total Cost of Ownership remains low and controlled.

All machines can be equipped the innovative ARS (Air Recovery System) 5.0, that can reduce the 40-bar air consumption down to 50%.

Special Technologies

Depending on the applications, machines can be equipped with:

PREFERENTIAL HEATING (PH): the ideal system for oval containers to obtain the correct material distribution

CUSTOM NECK DESIGN & ORIENTATION (NO): solution for orienting the preform before blowing

SUPER & DEEP GRIP (SG): to create deep pockets/ grips on the body of the container

HEAT SET (HS): technology to guarantee PET containers hot filling up to 90°C for microbiological sensitive product

POST BLOWING HANDLE INSERTION thanks to pocket creation during blowing phase by specific insertion device

DEDUSTING SYSTEM with UV lamps and ionized air

	S2	SC series	SE series	Galileo
Mold cavities	2	2 ÷ 5	3 ÷ 10	6 - 8 - 10
Maximum Container Diameter (mm)	190	90 ÷190	70 ÷ 210	125 (140[1])
Maximum Container Height (mm)	370	365	360	365
Maximum Neck Diameter (mm)	60	45 ÷ 55	45 ÷ 55	38 (48[1])
Maximum Container Capacity (l)	6	6	10	2 (3.5[1])
Maximum Nominal Productivity (bph)*	3.500	3.500 (2 cav) ÷ 8.200 (5 cav)	4.800 (3 cav) ÷ 15.000 (10 cav)	15.000 bph (6 cav) ÷ 25.000 bph (10 cav)

* productivity shall depend on the preform and bottle design, bottle capacity, preform thickness and PET resin quality

[1] only by specific request or project

Galileo

After an intense R&D activity, SIAPI introduces in the market the revolutionary technology of progressive preform feeding: an innovative solution with fixed molds and preforms rotary movement.

Based on a logic of modularity, the Galileo series allows the reduction of lead times for machine and spare parts delivery, as well as a general optimization of tooling times and costs.

Flexibility is the peculiar element of the new Galileo series, both in the movements, allowing a blowing cycle adaptable to different needs and hourly productions, and in the management of machine data and equipment, which allows a high level of control of mechanical and electrical movements, of any non-working stations (reducing preform waste) and letting an accurate supervision of the production process.

APPLICATIONS

Beverage

Non Food

Blow molders for large containers

In the market of PET blow molding machines, SIAPI is the reference for large containers.

SIAPI's linear machines have made significant contributions to the history of PET applications ranging from 10 to 30 liters, including sectors such as water, beer, edible oil, and chemicals.

For the past twenty years, leading players in the large container filling market have successfully collaborated with SIAPI for R&D design, sampling, and the supply of dedicated blow molders.

Main Applications

- Water Cooler, 3-4-5 US Gal
- Water Cooler, 3-4-5 US Gal, refillable, with and without handle
- KEG for beer and wine, all solutions in the market
- Stackable bottles up to 30 liters

Special Technologies

SIAPI has developed special solutions and exclusive patented technologies to produce large containers.

PSB – Preform Stretch Booster: preform pre-blowing phase for refillable containers to ensure perfect textures and firm handle coupling through a correct stretching performance

HANDLEMATIC (HM): automatic handle insertion in the body of the containers: the handle is positioned in the blow mold just before the preform entrance, taking place during the blowing process

DEEP BOTTOM STACKABLE CONTAINERS: creation of the stackable base keeping the perfect material distribution along the body

EVS: This technology enables significant pressure reductions and energy savings through an optimized venting system between the bottle and the mold cavity. As a result, bottles are manufactured with exceptional accuracy and strength, while their weight is decreased and stability enhanced

TEMPERATURE FEEDBACK: constant monitoring of the preform temperature to guarantee the material distribution and resistance

	SX1K	SX1	SX series	S2M
Mold cavities	1	1	2 ÷ 5	2
Maximum Container Diameter (mm)	320	320	190 ÷ 320	220
Maximum Container Height (mm)	665	665	525 ÷ 565	470
Maximum Neck Diameter (mm)	65 (82)	75	55 ÷ 75	60
Maximum Container Capacity (l)	30	30	5 ÷ 20	12
Maximum Nominal Productivity (bph)*	250 (20 lt)	550 (20 lt)	1.100 (20 lt - 2 cav) ÷ 5.000 (5 lt - 5 cav)	3.200 (1 lt) ÷ 1.800 (10 lt)

* productivity shall depend on the preform and bottle design, bottle capacity, preform thickness and PET resin quality

APPLICATIONS

Food

Non Food

Blow molders for wide mouth containers

Conversion from glass, HDPE and metal to PET offers the challenge to explore new markets with innovative packaging solutions.

Many sectors are involved in this transition, e.g., food, pharmaceutical, chemical, paint, toys, pet food, etc.

Since 2004 SIAPI has developed the so called "wide mouth" technology, to replace glass jar with PET one, mainly used for dry food, jam, mayo, sauces, pills & powders.

This dedicated machine platform is "SW" series, from 1 to 6 cavities, for a maximum neck diameter of 180 mm and 12 l of capacity.
SIAPI supports the customer from the special preform design and the containers sampling to the production of the industrial blow molding machine.

SIAPI SW machines can be equipped with the HEAT SET technology for hot filling, SUPER & DEEP GRIP (SG) technology, POST BLOWING HANDLE INSERTION and HANDLEMATIC (HM).

	SW2	SW3	SW4	SW234	SW6
Mold cavities	2	3	4	2 ÷ 4	6
Maximum Container Diameter (mm)	220	135	95	220 ÷ 95	70
Maximum Container Height (mm)	395	395	395	395	390
Maximum Neck Diameter (mm)	180	120	90	180 ÷ 90	70
Maximum Container Capacity (l)	8	4	2	8 ÷ 2	1
Maximum Nominal Productivity (bph)*	1200 (3,5 lt)	2400 (2,5 lt)	4000 (0,4 lt)	1200 (2,5 lt 2 - cav) ÷ 4000 (0,4 lt - 4 cav)	8000 (0,15 lt)

*productivity shall depend on the preform and bottle design, bottle capacity, preform thickness and PET resin quality

Research and development

SIAPI works side by side with the customer starting from the design of the container.

The R&D service can:

- **Develop or optimize preform design**, for special applications
- **Develop a container design** based on the market requirements and on the unique feature of the application
- **Produce samples and conduct tests** in the LAB about material distribution, top load resistance, controlled deformation and filling
- **Design and manufacture pilot and industrial molds**

After sales and service

SIAPI after-sales and service department collaborates with customers from start-up phase of the blowing machine. Our specialized engineers provide support during the initial days of production, testing the machine, molds and accessories and train the operators.

Customers who purchase a SIAPI solution will receive support throughout the machine's lifespan.

SIAPI after-sales department also assist customers with new containers projects, providing design and brand new molds supply.

Dedicated maintenance contracts guarantee:

- Scheduled visits of SIAPI engineers
- Availability of spare parts when needed
- Continuous firmware updates
- Training
- Special offers (recommended spare parts list, preventive plan maintenance and upgrades...)

Illuminate™

Illuminate™ Manufacturing Intelligence LITE software simplifies the collection and analysis of data from SIAPI blow molding machine manufacturing systems so that operations team can quickly understand what is going on and prioritize actions.

Benefits

- **Visibility into key factors affecting OEE:** Quickly view accurate performance, uptime and quality trends.
- **Enables asset monitoring:** Collected machine data and OEE metrics can be stored locally or in the cloud for remote monitoring.
- **Improves incident response:** IIOT Gateway deployments simplify remote access and issue resolution.

Quickly identify and address machine issues to maximize performance

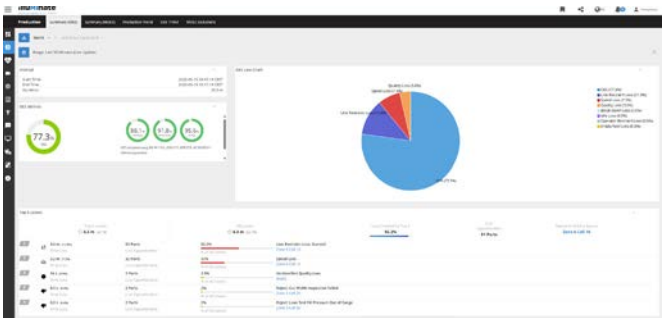
- View OEE metrics and relationship to availability, performance and quality. Illustrates duration and machine state changes with color key to know if planned or unplanned.
- Understand total amount of time lost and top issues that account for highest downtime losses.
- Identify which station or cell within the line has the longest takt time. Isolate highest reject rates from a particular transport, carrier or part nest.

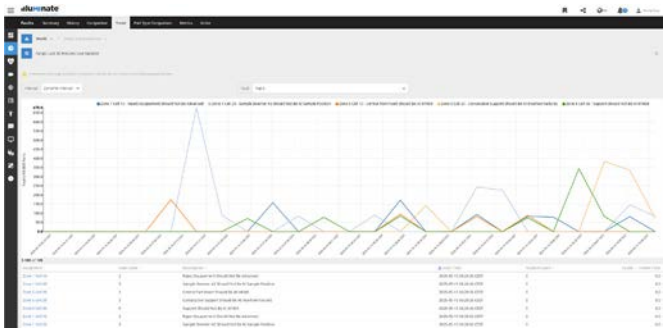
Popular use cases

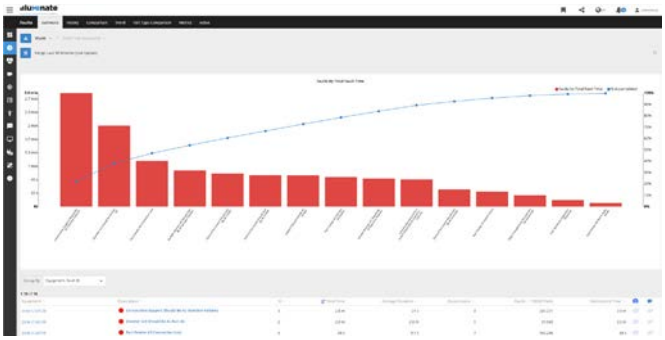
- Fault detection and isolation: Detect faults in the system and isolate the specific component or process causing the issue. This speeds up troubleshooting and minimizes the impact on production.
- Performance optimization: Identify inefficiencies by collecting and analyzing system performance data. This information can be used to adjust system calibration and operating procedures and improve overall production efficiency.
- Proactive maintenance: Monitor machinery conditions and prioritize maintenance tasks based on urgency and impact, ensuring that the most critical issues are addressed first.

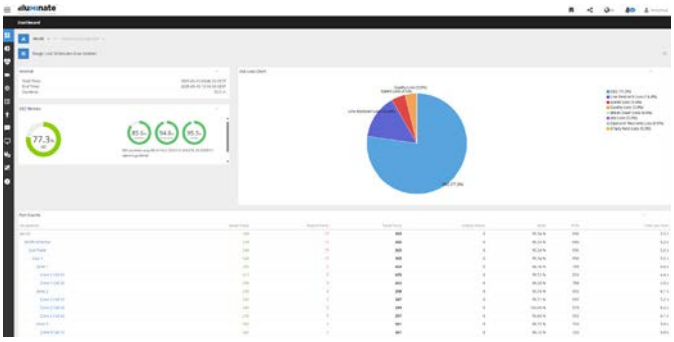
ARS 5.0

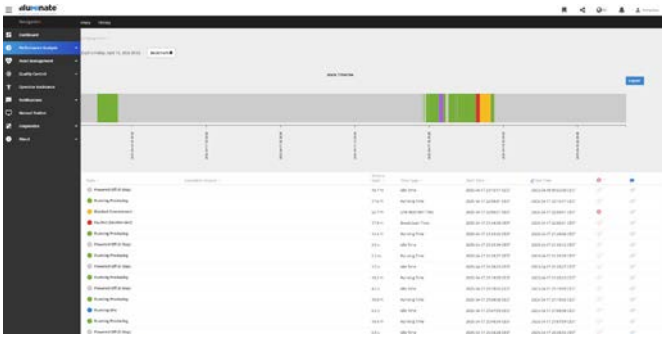
Through a recent research and development initiative, SIAPI has introduced a new blow molding system that prioritizes flexibility and energy conservation. The **ARS (Air Recovery System) 5.0** incorporates three recovery phases, with two specifically dedicated to blow air recovery. This system **allows the complete recycling of the blowing air** in both the primary and intermediate phases of the blow molding process. The benefits of the **ARS 5.0** extend beyond the significant reduction in blowing air volume required. system installed **demonstrate a remarkable recovery rate up to 50%**, showcasing the system's efficiency. This not only translates to energy savings but also contributes to a more sustainable production process. Ultimately, **reducing blowing air consumption** leads to **lower energy costs, reduced high-pressure** system installation costs, and **decreased maintenance expenses**. The ARS system's layout, meticulously designed and developed by SIAPI, ensures complete **freedom and simplicity in adjusting all blow molding parameters**. The pressure and flow of primary, intermediate, and secondary air are precisely managed by a PLC. These settings are stored in recipes, guaranteeing total repeatability of the blow molding process without any manual intervention from operators.

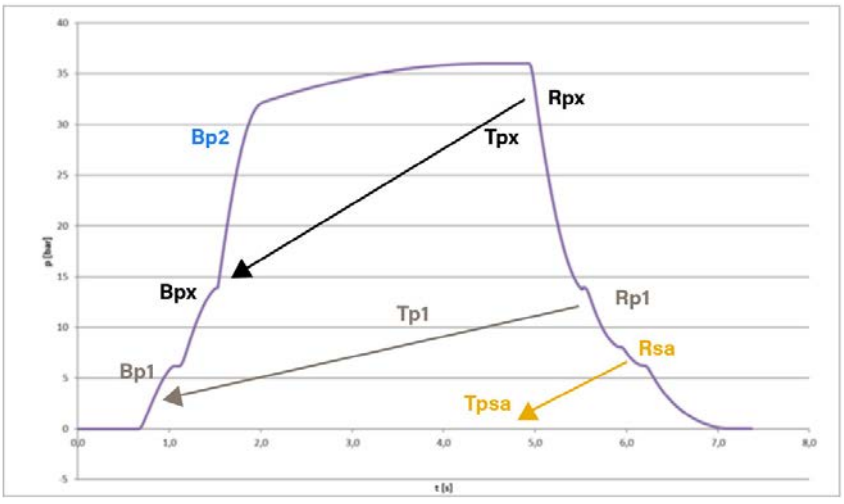












Legend

Tpx: tank pressure intermediate
Tp1: tank pressure primary
Tpsa: tank service air

Bpx: blowing pressure intermediate
Bp1: blowing pressure primary
Bp2: blowing secondary air

Rpx: recovery intermediate air
Rp1: recovery primary air
Rsa: recovery service air

SIAPI S.R.L.
Via Ferrovia Nord 45, 31020
San Vendemiano (TV) - Italy

Tel +39 0438 4096
Fax +39 0438 401016

info@siapi.it
sales@siapi.it
www.siapi.it

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