

PRESS ARTICLE

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CONSISTENT PRODUCTION OF HIGHER QUALITY PET BOTTLES WITH SIDEL MATRIX INTELLIBLOWER™



Sidel, the leading global provider of PET solutions for liquid packaging, has recently developed Intelliblower™ technology, a significant innovation which brings control and self-regulation to the blow moulding process. The patented technology ensures greater accuracy in distribution of material during the production of individual bottles, with the elimination of inconsistencies resulting in improved quality, regardless of bottle weight.

Bottle quality affects brand perception

The blow moulding process is becoming increasingly important as the drive for ultimate lightweighting of PET bottles within the industry continues. Poor or irregular material distribution within the production of bottles can adversely affect quality throughout the entire process and can even lead to a total shutdown of the line. Because the appearance and handling of the bottle is what ultimately affects how any brand is perceived, Sidel is continually striving to create the highest quality and performance possible in PET bottles. With the new Sidel Matrix™ blower, Sidel is challenging the conventions of production and manufacturers can rest assured that their beverage brand will consistently appear on the shelves exactly as they intended. With the introduction of Intelliblower, Sidel is also leading the way in blow moulding performance with this unique patented blowing process control and self-regulation system.

Embedded intelligence enables improved quality

Prior to Intelliblower, quality control for PET bottle blowing involved frequent sampling and laboratory testing of bottles. This was then followed by manual adjustments to the process. The procedure is lengthy and considerably reduces line efficiency. More importantly though, it does not completely remove the possibility that a number of bottles may still be produced outside accepted tolerances. By controlling parameters of the pre-blow phase that strongly impact final material distribution instead of simply focusing on regulation of heating, the Sidel Intelliblower uses PET material optimally and cost efficiently. It is therefore able to have a higher impact on production uniformity and packaging quality, irrespective of the weight of the bottle being produced.

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Self-regulating, the Intelliblower system automatically detects and corrects process deviations on the shape of each bottle being blown, adapting to maintain an even material distribution with only the most minor variations. This ensures that every milligram of PET is correctly allocated. With control of this level combined with the packaging expertise and process capability of the Sidel Intelliblower, waste is reduced and excellent PET lightweighting potential is possible, even with recycled material (R-PET).

A very responsive process correction

Inconsistencies of material distribution within the bottles are usually caused through incorrect blowing pressures of individual blowing stations, by inaccurate component calibration or through wear and tear of mechanical components. The self-regulation of Sidel Intelliblower avoids these deviations by analysing and controlling the blowing curve on each individual bottle. This produces accurate and consistent distribution with a closed loop on each blowing curve and adjustment of critical points during the pre-blow phase. This process regulation is managed in a responsive way by using decentralised and more responsive automation that allows faster and better exchange of information. As a result, only five consecutive bottles are produced at a blowing station before the necessary correction is validated. This self-regulation means far less sampling, testing and adjusting for producers, along with increased bottle quality.

Simple self-regulation of the blowing curve

Sidel Intelliblower is designed to be user-friendly. Its operation is based on continuous and automatic process regulation without the need for any manual intervention. This regulation is applied in three areas: pre-blow start, pre-blow flow and pressure. The line operator defines the blowing process that matches the technical specifications of the desired bottle shape and these parameters are used to define the pre-blow reference curve. Then the real blowing curve is systematically self-monitored at each blowing station during actual production of the bottles. If blowing deviates from the reference curve, a correction is automatically implemented. Finally, referenced and real blowing process phases are aligned in terms of pre-blow timing (start and duration) and the pressure at all the blowing stations. This continuous regulation is performed on every bottle to ensure each one consistently meets the necessary specification. With Sidel's Intelliblower, the standard deviation of material distribution between different blowing stations can be halved when compared to a machine without self-regulation.

A perfect way to anticipate maintenance

Through the Human Machine Interface (HMI) of the Sidel Matrix blower, process values of individual blowing stations are recorded, along with dedicated graphs. This gives operators a comprehensive overall picture of the process performance. It also alerts them to any potential inconsistencies, indicating those stations where any bottles are being blown outside accepted tolerances. They are therefore able to easily identify malfunctioning stations and plan any necessary maintenance in order to minimise impact on production. Even if maintenance is deemed necessary, production generally still remains viable. As a whole, the Sidel Matrix blower is reducing the amount of maintenance and manual operations required, while lowering labour and control costs significantly.

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With Sidel Intelliblower, beverage producers are able to enjoy improved bottle quality due to higher blow moulding performance along with an increased insight into the operation of their production equipment. Put even more simply, they will benefit from greater package consistency and subsequently, better brand value.

Sidel is constantly striving to challenge the conventions of PET production and rise above the expectations of beverage producers. For more information on Sidel Matrix blowers, please visit sidel.com/matrix-blower.



The Sidel Intelliblower™ eliminates inconsistencies of material distribution by analysing and controlling the blowing curve on each individual PET bottle.



By controlling pre-blow phase parameters instead of focusing simply on heating regulation, the Sidel Intelliblower™ has a stronger impact on production uniformity and packaging quality.

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Sidel Matrix™ blowers are engineered to create the highest PET bottle quality and performance.

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About Sidel

Our purpose is to help brands protect the product inside, preserve the planet outside and touch the lives of millions of people every day.

We do so by offering complete and modular PET packaging solutions, including people, services and equipment.

Sidel has over 165 years of industrial experience. With 30,000 machines installed in more than 190 nations, we have been helping producers fill beverage bottles for over 80 years, blow them for more than 50 and label them for more than 35. We have 40 years of aseptic packaging expertise, and were one of the first companies to introduce PET bottles to the beverage industry over 30 years ago.

Part of the Tetra Laval group and headquartered in Switzerland, Sidel has over 50 office locations, 13 production sites and 7 training centres worldwide. Each of our more than 3,400 employees, spread over five continents, is committed to creating the optimum liquid-packaging solution.

We call it **A Better Match** - for our world, our customers and ourselves.

Find out more at www.sidel.com and connect with us



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