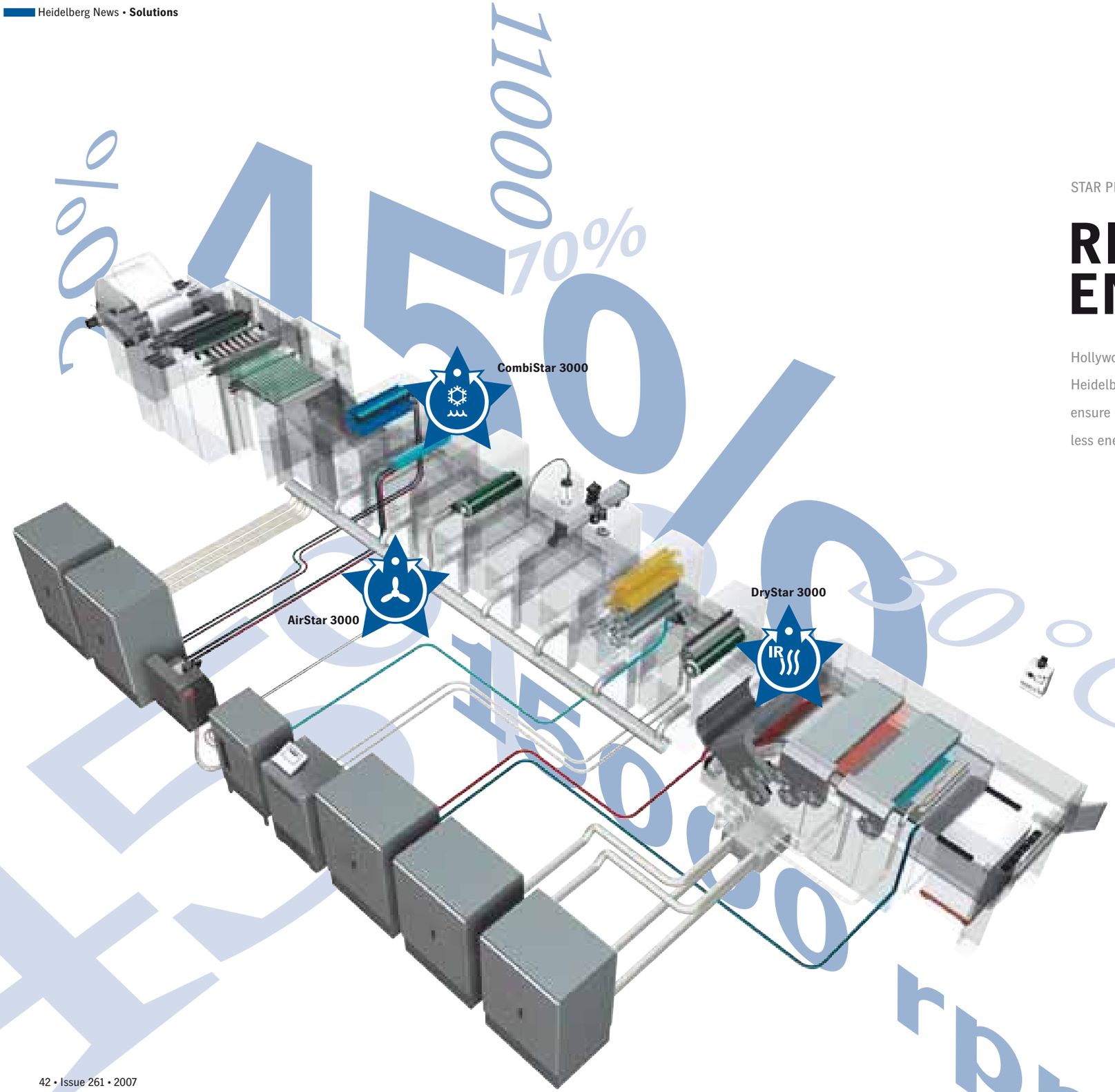

STAR PERIPHERALS

RIPE FOR THE ENERGY OSCAR

Hollywood may be the home of the superstars, but all eyes are on the Oscar-worthy candidates from Heidelberg: the new peripherals AirStar 3000, DryStar 3000 and CombiStar 3000. These performers ensure optimum printing conditions and increase production speed – and in so doing use significantly less energy to achieve greater performance.

Humphrey Bogart has one. So does Charlie Chaplin. And of course Marylin Monroe. The biggest stars are immortalized with exactly that – a star – on the Walk of Fame in Hollywood. No Heidelberg Star has yet been given this honor – although the peripherals play equally convincing roles in many print shops. All together, Heidelberg offers 13 stars in different categories, which up until now were the following: AirStar for the air supply, CoatingStar for the coating supply, CombiStar for the inking system temperature control, CutStar as a role CutStar roll sheeter, DryStar and DryStar UV for drying, FoilStar for cold foil finishing, HydroStar for preparation of the dampening additive, InkLine for the ink feed, PowderStar for the powder application, CleanStar for the powder extraction, StaticStar for the electrostatic discharge of the sheets, ScrollStar for printing air supply and WashStar for disposing of cleaning agents.

50%

less electricity is needed for the new air supply system. This is because there are only as many single blowers in use as needed for an ideal supply of the press. AirStar 3000

The 3000 series became available several months ago. It includes the air supply cabinet AirStar 3000, the dryer DryStar 3000, the combination machine for temperature control in the inking system and dampening solution supply and the CombiStar 3000. The new Star generation is even more powerful than its predecessor and reduces production costs at the same time since it uses significantly less electricity and also helps to save resources like oil, alcohol and dampening solution. This of course also preserves the environment – a further plus.

AirStar 3000. Often the sequels of successful Hollywood movies don't live up to expectations, but it's a whole different story with the AirStar 3000, the successor to the most widely used air supply cabinet on the market, with its 15,000 installations. The AirStar 3000 uses up to 50 percent less electricity than comparable air supply cabinets – and that at higher performance. A newly developed turbo radial blower, which has a rotor that runs with speeds of up to 15,000 rpm, makes this possible. This high rotation speed is achieved through the use of new manufacturing techniques.

The AirStar 3000 is equipped with one to five such turbo radial blowers. The highlight of this system: The second or further blowers turn on automatically only when the machine needs a corresponding amount of suction and blast air. This is the case with very high grammages or a high printing speed, for example. "Since blowers are regulated according to need, a print shop with a Speedmaster XL 105-6+LX operating in three shifts saves around 82,500 kilowatt hours of electricity yearly," calculates Bernd Thuerauf, from product management for peripherals at Heidelberg. A further plus point: The blowers are very resistant to wear and tear and rarely need maintenance.

45%

less heat is released into the pressroom by the AirStar 3000. This in turn reduces energy consumption needed for cooling the cabinet and pressroom. AirStar 3000

The AirStar 3000, which is housed in a separate cabinet, is substantially smaller than other solutions and thereby creates space in the pressroom. The cabinet's sound insulation also reduces the noise level. Furthermore, the accumulated air is safely filtered and the heat well-dissipated. This contributes to a pleasant atmosphere in the pressroom. Even operation is comfortable: For each job, the printers can save the air settings so that they can recover the configuration with just one press of a button in the Prinect CP2000 Center for recurring jobs.

less electricity is consumed by the DryStar 3000 compared to the previous model – despite greater quantities of air and a higher printing speed. This is because roughly a third of the already used hot air gets recycled and used for the next drying process. DryStar 3000

20%

DryStar 3000. Even though it shouldn't be too warm in the pressroom, occasionally heat is desired: "Some like it hot." What was true for Marylin Monroe and Tony Curtis in Billy Wilder's classic comedy also holds true for printers during drying. Because of its diversity, the new generation of dryers from Heidelberg satisfies a large variety of needs: The DryStar Combination 3000 makes a suitable end dryer for all applications, while the DryStar 3000 UV was conceived especially for UV printing. And the DryStar 3000 LYYL is ideal for double coating applications.

With the DryStar 3000, up to 100 percent more hot air can be provided, thanks to the small round nozzles. The even-air application stabilizes sheet travel, and the sheet doesn't get smudged, since not as much air gets blown under the trailing edge of the sheet. This patented round nozzle field is at the core of every DryStar 3000. Because of the special nozzle form, the air is accelerated to 108 feet per second (33 m/s) – that's almost 75 miles per hour (120 km/h) – fast enough to break through the ambient air brought with the sheet, the so-called laminar layer, and make the water in the dispersion coating evaporate.

"Electricity consumption for drying sinks by 10 to 20 percent per sheet with the new DryStar – despite greater amounts of air and a higher printing speed," says Alice Weimer, product manager for drying technology. This is also because roughly a third of the already used hot air is recycled back into circulation and used for the next drying process in several of the DryStar 3000 Combination and DryStar 3000 LYYL models.

Flexibility and user-friendliness are further advantages of the DryStar 3000: Thanks to the modular technology, printers can remove the drying units on the operator side within seconds and thus obtain easy access for cleaning the sheet guide plate. The DryStar 3000 is operated comfortably from the Prinect CP2000 Center using CANopen, and the already programmed dryer configurations can simply be adopted on recurring jobs.

70%

is the AirStar 3000's efficiency level – compared to 30 to 35 percent in traditional air supply cabinets. Thus the energy used is efficiently consumed. AirStar 3000

CombiStar 3000 Advanced. The CombiStar 3000 Advanced – like its "little brother," the CombiStar 3000 – maintains constant temperatures during printing and provides the machine with dampening solution.

"The cycle in which the dampening solution has to be changed lengthens three to four times with the CombiStar 3000 Advanced. Thus the print shop saves valuable time, the machine doesn't stand still as often and not as much special waste is accumulated," explains Bernd Thuerauf, the responsible product manager. This is ensured by the two-step filtration of the dampening solution. All course pollution particles such as paper fibers remain in the inexpensive prefilter, which can be changed within a few minutes. The main filter, on the other hand, sorts out the finer elements and is usually changed only once a year. Because the quality of the dampening solution is more constant, print shops can lower the concentration of alcohol in the dampening solution. ▸

15,000 rpm

is the maximum speed of the revolutionary turbo radial blowers. This speed was first made possible with new manufacturing techniques. AirStar3000

The printer reads all relevant process parameters from a color display, for example the temperature profile, pH or electric value. In this way, it can determine when the dampening solution needs to be changed and recognize typographic errors early on.

The so-called free cooling in the CombiStar 3000 Advanced saves a lot of energy by making use of the outside temperature. In the case of temperatures of up to 68 degrees Fahrenheit (20 °C), the machine is cooled by means of an external cooler (heat exchanger). A cooling unit is activated only when it is warmer than 68 degrees Fahrenheit (20 °C) outside. This feedback control system is particularly suited for print shops in moderate and cold climates.

Allstars: A Top-Notch Cast of Characters. It's not just the new youngsters of the 3000 series which help print shops save energy and resources, however the usual "Allstars" do this, too! The automatic ink supply InkLine ensures that ink cartridges are virtually completely empty, for example, thus making ink consumption sink significantly. PowderStar enables the amount of powder on straight printing machines to be reduced by roughly 30 percent. And WashStar minimizes the consumption of cleaning solution.

"Heidelberg is the only manufacturer which offers printing presses and peripherals all from one source. This ensures that all components of a press are as coordinated as possible," emphasizes Eike Frühbrodt, director of product management for peripheral systems. Print machines are networked with peripherals over the standardized data bus system CANopen (Controller Area Network). Almost all Star components can be monitored and operated from the central touch screen in the Prinect CP2000 Center.

68 °F

is the minimum outside temperature.
Only then does the energy intensive cooling unit switch itself on. With temperatures under 68°F (20°C), the CombiStar cools the press' inking unit directly with a cooler (heat exchanger) outside the print shop. CombiStar 3000

And the Oscar goes to ... "In terms of economic energy consumption, our printing presses are in the lead as well," explains Frühbrodt. But this isn't always clear at first glance when reading the manufacturer information. This is because Heidelberg always lists the maximal performance consumption under power consumption, for example at full speed and with the highest grammage. Furthermore, most peripherals are already included in the calculation. "Other suppliers, on the other hand, often only list the average consumption of the printing press alone. But this is only about 30 to 60 percent of the maximum energy requirement. If you don't question the given values, you run the risk of comparing apples and oranges," says Frühbrodt. But in any case, one thing is for sure: The stars from Heidelberg are ripe for the Energy Oscar. ■

3.1 inches

(80 mm) is the distance between the dryer and sheet today. Before, it was 5.1 inches (130 mm). This increases drying performance by 25 percent, while energy consumption remains the same. DryStar 3000

Saving Electricity

It's found, among other things, in all soft drinks, where it is pleasantly refreshing. Without CO_2 in our atmosphere, the average temperature would lie not at a comfortable 59 degrees Fahrenheit (15°C) but at a frosty -0.4 degrees (-18°C) – thus making our earth outright uninhabitable. In excess, however, it warms the planet too much, with climate change as the result. Scientists now argue about what exactly constitutes too much CO_2. About 330 million years ago – a relatively short time span in the history of the earth – the percentage of CO_2 in the atmosphere was multiple times higher than today. At that time, it was around 1,400 ppm (parts per million), today it's 380 ppm. That in turn means that roughly 0.04 percent of the air encircling our earth is from CO_2. And from the 0.04 percent CO_2 in our atmosphere, approximately 93 percent is from natural sources, such as volcanoes or the respiration of people and animals. Nearly half of the carbon dioxide burden caused by people is due to coal and gas burning power plants. The increasing demand for electricity by the world's growing economies and rising population will strengthen this trend. That's why saving electricity is so important.

Facts & Figures

www.heidelberg.com/hd/Star

Eike Frühbrodt, director of product management for peripheral systems, Bernd Thuerauf, product management for peripheral systems and Alice Weimer, product manager for drying technology at Heidelberg (from left).