



Speedmaster Star System

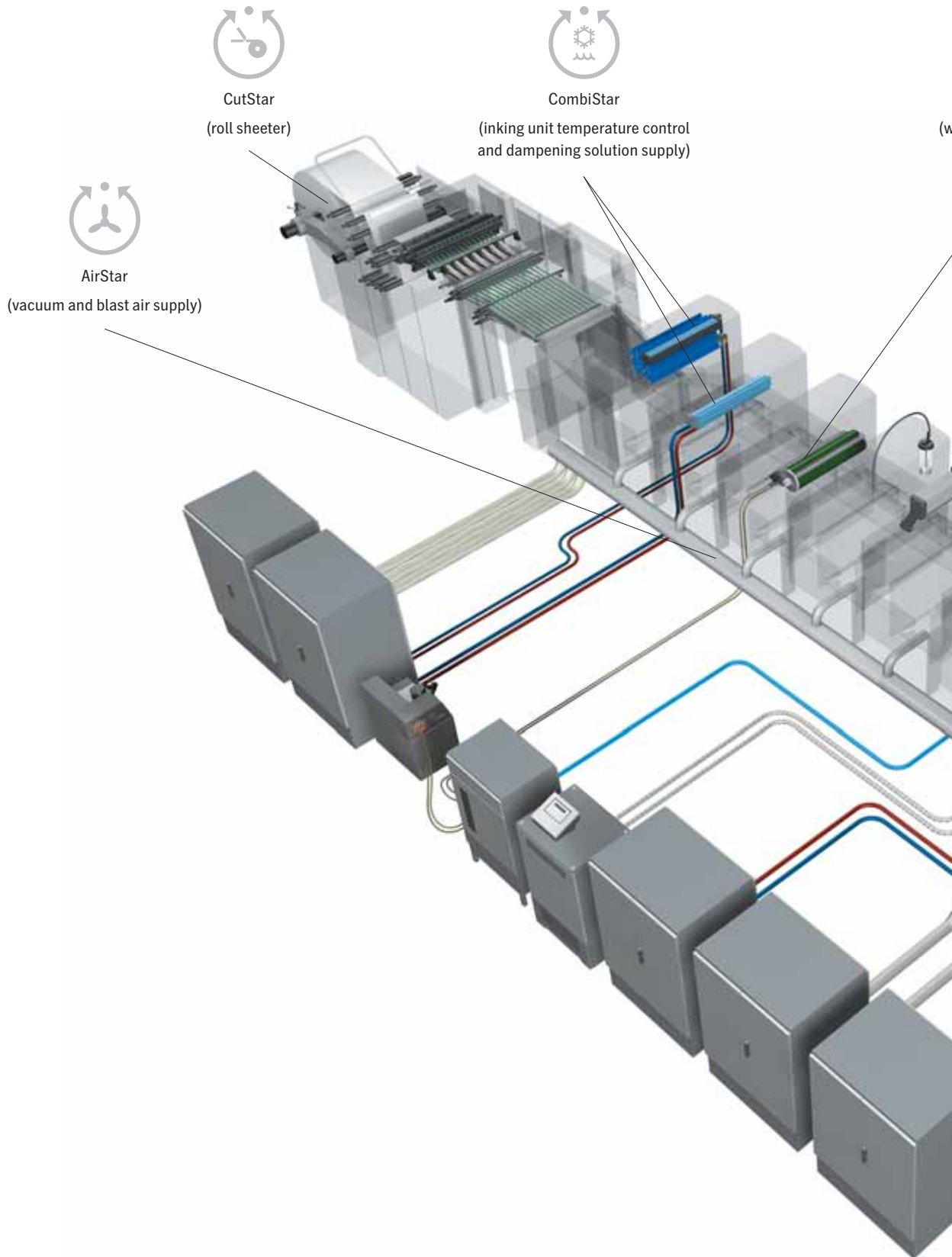
Printing in 12-Star Quality

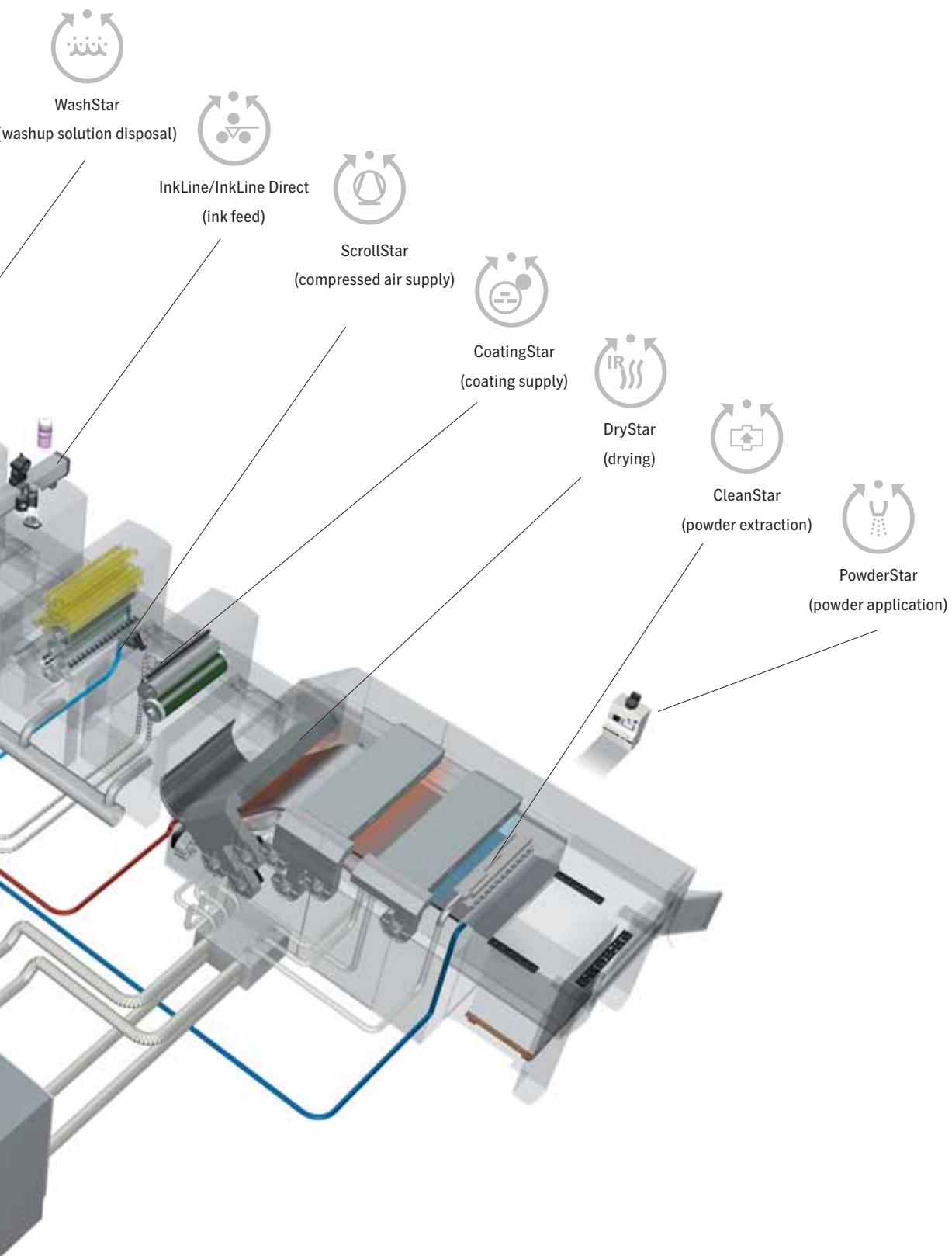
HEIDELBERG





The Star Family • Everything is possible, and each module enables profitable solutions.





Contents

Printing in 12-Star Quality

6	The Star Family and CANopen
9	CutStar
10	StaticStar
12	AirStar and ScrollStar
14	HydroStar and CombiStar
16	InkLine and InkLine Direct
18	WashStar and EcoClean
20	Modular Coating System
21	CoatingStar
23	DryStar
26	DryStar UV
28	PowderStar
29	CleanStar
30	Logistics
33	The Star Components
35	Heidelberg Solutions

The Star Family and CANopen • The integrated peripherals solution for successful print shops.

Perfectly Coordinated Peripherals for the Ideal System Solution

Short setup times, high print quality and maximum productivity are essential to ensure a print shop's success. To achieve this, all press components must be perfectly harmonized with one another. Heidelberg® is the world's only manufacturer of presses and peripherals that offers all everything from one source.

The Star System is the complete system solution – including everything, from dryers and powder sprayers

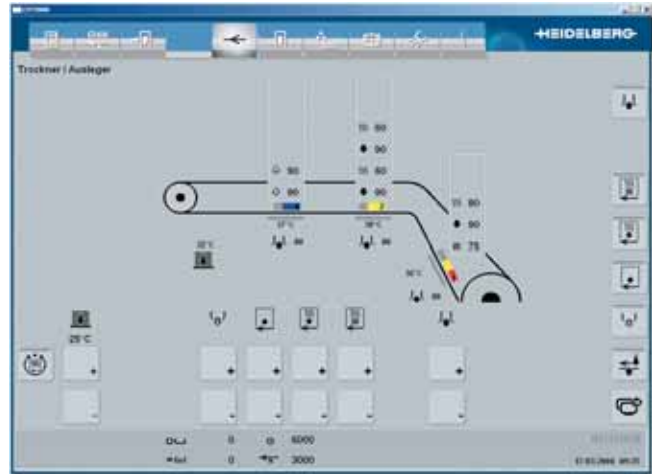
to the dampening solution supply. Heidelberg develops all of the units, either completely in-house or in close cooperation with well-known suppliers. Every Star component is geared to “its” Speedmaster® press. Installation and maintenance are handled by Heidelberg's proven customer service organization. Everything from one source: the Star System now makes this a reality with peripherals as well.

Comfortable operation and monitoring of the press via the Prinect CP2000 Center – this is made possible by CANopen.





Temperature control made easy: thanks to CANopen, the temperature of the dampening solution can be set right at the Prinect CP2000 Center.



Extremely easy operation using a touchscreen: IR, hot air, circulating air, or UV – thanks to CANopen, all components of DryStar dryers are automatically recognized.

CANopen – Straightforward Operation from the Start

An intelligent operating concept is essential for a fully integrated solution. Heidelberg therefore equips its peripherals with proven, forward-looking CANopen® technology. This lets you monitor and control almost all of the Star components from the touchscreen of the Prinect® CP2000 Center®. Operating them is therefore much easier. New employees quickly learn to work with the standardized user interface. Nor do they need to waste time checking the peripherals.

CANopen makes it possible, for the first time, to preset the peripherals for each job. Then, when a repeat job comes up the press automatically loads the right settings for the dryers, air and vacuum supply, and powdering. This saves a lot of time. CANopen also lets Heidelberg's Remote Service specialists directly access the peripherals via a modem link. They can then query a peripheral's condition and answer many questions over the phone. If it should then still be necessary for a technician to visit you, he can take along the right spare part. This saves you even more time.

Flexible Installation of Equipment

As productivity increases, so does the size of printing presses. There are worlds between a cylinder press built in 1935 and a modern Speedmaster. So that a Speedmaster will fit into even the smallest pressroom, Heidelberg has developed extension kits for the peripherals.

They contain all parts – from cables and hoses to more powerful pumps – needed to install peripheral cabinets as far as 25 meters (984.25 in) from the press. They can even be installed in the cellar or upstairs. Because CANopen lets the peripherals be operated from the Prinect CP2000 Center, it no longer matters where they are located. This frees up space in the pressroom for the essentials: presses and paper.

Outstanding Benefits of CANopen:

- Central operation of peripherals from the Prinect CP2000 Center
- No more time-consuming checks
- Standardized user interface, easy to learn
- Automatic presetting of peripherals for repeat jobs
- Peripherals can be queried by Remote Service
- Remote installation of peripherals possible



Powerful peripherals, many of them comfortably linked to CANopen. If required, most of the peripheral cabinets and consoles can be installed far away or placed on top of one another.

Water Cooling for a Stable Press Room Environment

Stable climatic conditions in the pressroom are a must for top-quality printing. Waste heat from peripherals used to be simply released in the pressroom, but today elaborate installations for ventilation and climate control have become the rule rather than the exception. With water cooling for the Star peripherals, you can avoid this added expense. It captures and eliminates as much as 50 percent of the total heat generated by a press, which noticeably cools down the pressroom.

Water can absorb four times as much heat as air, plus its density is a thousand times greater. This permits efficient removal of much more waste heat via smaller-diameter piping. There are no drafts that could stir up powder and dust or cause printing problems. The operating costs are also significantly lower than with air cooling – it is no longer necessary to move, cool, heat or moisturize large air volumes.

Please refer to the overview of Star components on pages 33-34.

Outstanding Benefits of Water Cooling:

- Noticeable reduction in pressroom heat
- More stable production climate
- Permits installation of high-performance presses in small rooms
- Greatly reduced air circulation, so there is less soiling of presses, peripherals and the pressroom
- Major cost savings possible
- Lower noise levels
- Simpler installation, easy to extend



CutStar • The Advantages of Web Offset in Sheetfed Offset.



The economic advantages of web offset and the flexibility of sheetfed offset - the CutStar has them all.

The Flexible Alternative

The cost benefits of web offset and the flexibility of sheetfed offset: the CutStar roll sheeter combines the best of both. CutStar is installed right in front of the feeder of the Speedmaster SM 102 or CD 102 and can process paper rolls with stock weights between 30 and 300 gsm. The short grain paper is unwound from the reel, cut to the required format by CutStar, then shingled. The resulting stream is fed into the feeder.

Cuts the Purchase Cost of Materials

The biggest advantage of CutStar is that it lets you buy inexpensive paper rolls rather than more costly presheeted material. This can bring cost savings of between 6 and 20 percent. Special printing stocks such as plastic sheet or metallized paper enable even greater potential savings.

The sheet length can be infinitely adjusted – CutStar is not confined to specific formats. This can slash your paper costs significantly. And because shingling is done right in CutStar, sheet feed is extremely reliable and constant. This is particularly advantageous with critical papers and special substrates.

Simple and Flexible

CutStar has flexibility built in. When starting a new job, either the roll can be changed in a matter of minutes or

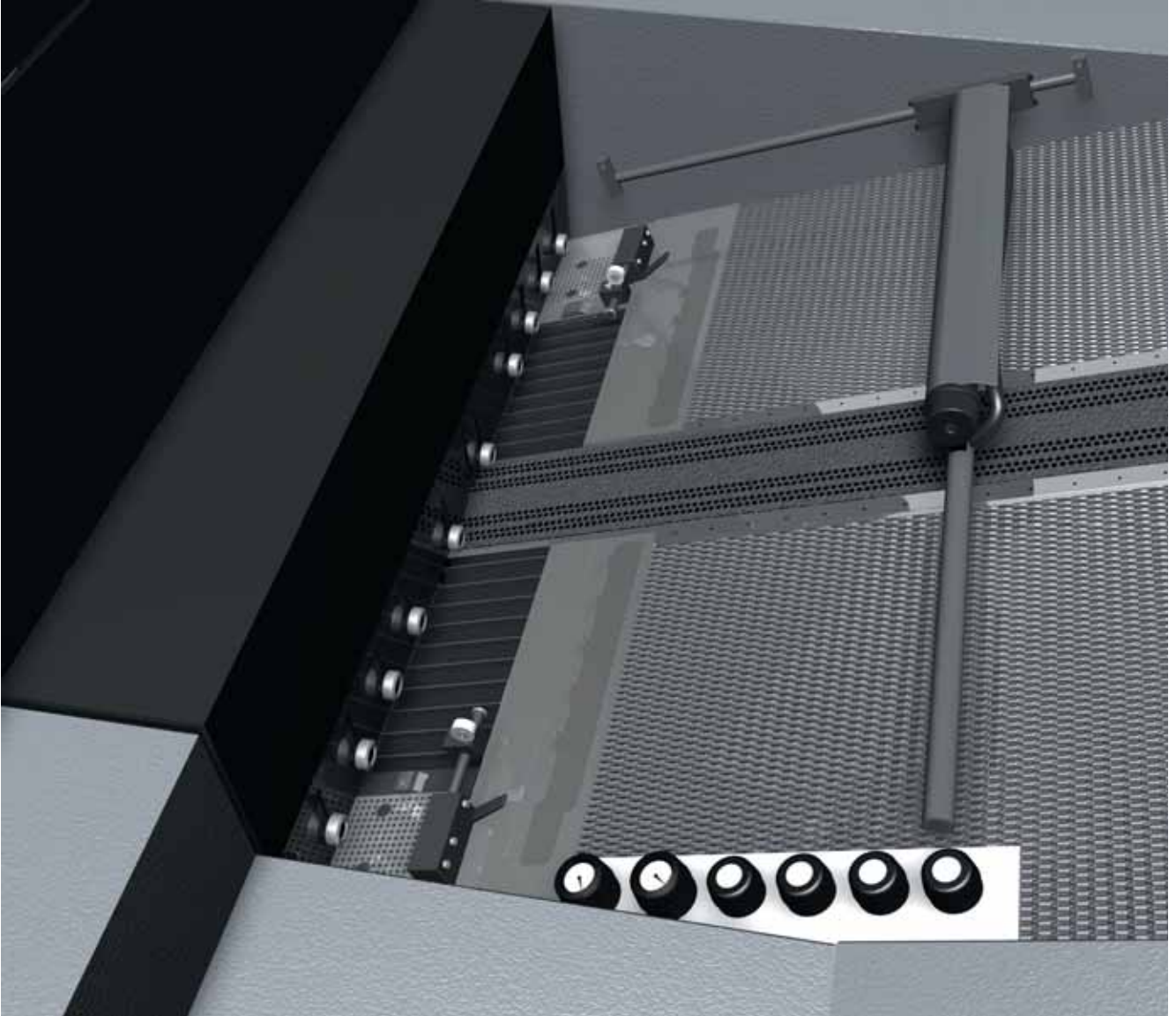
CutStar can be disengaged from the feeder at the press of a button. A motor moves CutStar's cutting unit to one side to allow easy access to the feeder. The press can then continue working in sheetfed mode.

Outstanding Benefits of CutStar:

- Use of economical paper rolls
- Substantial savings in paper costs
- Broad range of stocks supported (paper weights between 30 and 300 gsm, plastic sheet and metallized papers)
- Infinitely adjustable cutoff lengths
- Highly automated
- Paper rolls quick and easy to change
- Easy to switch between roll and sheet feed
- Highly accurate cutting
- Low-wear carbide-tipped blade
- No tracks need to be installed in the floor



StaticStar • Smooth sheet travel with difficult stocks.



Special blowing devices in the feeder form part of the special kit for printing on plastic.

Indispensable for High-Speed Printing

Unless the sheets being printed are free of electrostatic charges, it's impossible to achieve easy sheet separation, smooth sheet travel, and uniform stacking in the delivery. This is particularly important for substrates including plastics, coated papers and lightweight stocks. Low relative humidity or failure to condition the stock compound the problem.

StaticStar Compact from Heidelberg is the perfect solution. It reduces electrostatic charges in sheets to stabilize the speed of production. For especially difficult stocks such as labels, lightweight papers and coated materials, the StaticStar Advanced version is recommended. It adds a number of special features for printing on plastics.

Miniaturized Components Designed Right into the Press

Heidelberg has been able to miniaturize the electrodes used for StaticStar sufficiently that they can be mounted very close to the passing sheets, for example at the rear edge of the delivery pile. The systems simultaneously discharge the sheets from above and below, which ensures optimum results.

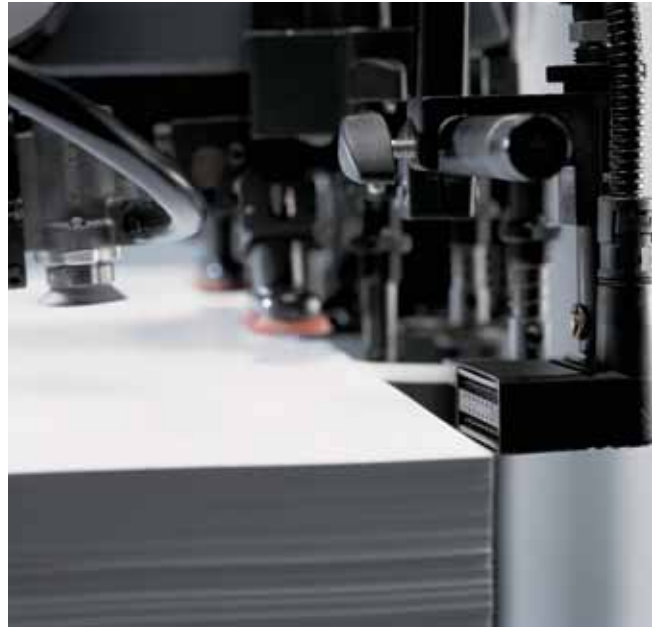
For printing on plastics, additional Heidelberg-specific components are available. A novel air blast device fans the shingled stream from below to prevent sheets from sticking together. Additional devices stabilize the second sheet in front of the front lays.

No Chance of Operating Mistakes

The entire system is designed to almost completely eliminate the need for operator intervention. The air feed rate to the fanning device underneath the shingled stream can be infinitely adjusted; all other system components only need to be switched on. This makes for very fast makeready, and there is virtually no risk of making mistakes.

Smooth Sheet Travel Under All Conditions

StaticStar, being a Heidelberg product, is optimally integrated into the press. The chief benefits: better separation of the sheets, fewer double sheets and jams – even at fast production speeds. Sheet travel stabilizes, pile formation in the delivery is more even, and you don't need to apply as much powder. Even difficult substrates



Ion blowers in the feeder area ensure a reliable sheet separation before they are picked up by the suction head.

such as PVC, polypropylene and in-mold labels can be processed using the special features for plastics. A gratifying side-effect: because the air is neutralized, electrostatically adhering dust is blown out of the press. Plates and blankets stay clean longer as a result – and you save even more valuable time.

Outstanding Benefits of StaticStar:

- Faster production, also with difficult substrates
- Fewer double sheets and jams, neater delivery piles and less need for powder
- Miniaturized components mounted very close to sheets for optimum effect
- Optionally available blast air device below shingled stream to ensure good sheet separation
- Easy operation, short makeready times



AirStar and ScrollStar • Always enough air at the press.

Soundproofed, Thermally Insulated and Maintenance-Friendly

The AirStar® and ScrollStar® systems together supply all of the vacuum and blast air needed at the press. AirStar combines nearly all individual blowers for providing vacuum and air in a single, central air supply cabinet. ScrollStar supplies compressed air that is completely free of oil and condensation to the press. These units are accommodated in cabinets to effectively eliminate noise, reliably filter the intake air, and efficiently remove waste heat.

Air Settings Right at the Prinect CP2000 Center

Heidelberg is the only press manufacturer that has developed its own air supply cabinets. For every size of press, we offer an AirStar model with just the right output and functionality. This is a prerequisite for smooth, practically contactless sheet travel.

We've also taken the differing job mixes of our customers into account: the characteristic curves used to control the blowers are optimized for all popular grammages and types of paper and board, thus reducing the required adjustments to a minimum.

Many Speedmaster presses let you save the air settings along with each job. Then if you produce it again later, all you have to do is press a button at the Prinect CP2000 Center to restore the same configuration. This does away with setting the air on the press by hand.



The entire press is supplied from a single air distribution pipe. Its redundant design let you continue producing even if a blower should fail.

Outstanding Benefits of AirStar:

- Optimally harmonized with sheet travel in Speedmaster presses
- Speed and blowers regulated according to need
- This lets you cut energy consumption by about 50%
- Remote control and presetting of air from the Prinect CP2000 Center
- Redundant blowers so the press can keep running even if one should fail
- Use of oil-free, maintenance-free and wear-free blowers
- Reduced noise levels
- Minimal space requirement
- Efficient heat removal possible by central water cooling

Energy Consumption Reduced by Half

AirStar uses only as many blowers as are needed to optimally supply the press. Fine tuning is performed by a speed regulator, which ensures that the ideal quantity of air is supplied to the suction head, governor foot, front lays, blower tubes, and sheet guide plates at any printing speed. Measurements show that this can cut energy consumption by up to 50 percent in practice while the output still remains high. And with the latest generation, we have succeeded in reducing consumption by another 20 percent.

Nearly Maintenance-Free Air Compression

ScrollStar has also been specially designed for Heidelberg presses. Its low-wear construction and the substantial performance reserves of the compressor mean high uptime with minimal maintenance. An extra buffer tank makes sure that there's always enough compressed air, even in extreme cases. This makes for failsafe production and consistently superb print results.



Contactless, oil-free air compression by the scroll method (worm compressor).

Outstanding Benefits of ScrollStar:

- Compressed air that is free of oil and condensation
- Large performance reserves, due to extra tank that permits connection of InkLine without an additional compressor (for example)
- Nearly wear-free compressor
- Barely audible noise level



HydroStar and CombiStar • Constant conditions in the dampening and inking units.



CombiStar Compact - the powerful and compact combination unit in console-type design

Geared to Speedmaster presses

Stable concentrations of alcohol and dampening solution additives, constant water temperatures, and clean dampening solution are all vital requirements for ensuring consistently high-quality print results. Heidelberg's HydroStar® for conditioning dampening solution and the CombiStar® for integrated dampening solution conditioning and inking unit temperature control ideally meet these needs: two proven systems that have now been improved further.

Innovative Dampening Solution Filtration

It costs time to frequently change the dampening solution. The new SoftFlow dampening solution filtration system can let you use it up to twice as long as before, while also reducing soiling of the water circuit. All coarse particles are removed by a prefilter in an intermediate tank; finer particles remain in a new filter element in HydroStar or CombiStar.

Improved Alcohol Measurement

The proven alcohol measurement system, AlcoSmart, has also been overhauled and improved once again for the new versions of HydroStar and CombiStar. The new AlcoSmart AZR measures the alcohol concentration at the surface of the dampening solution, which makes it insensitive to temperature fluctuations and contamination. An innovative new calibration mechanism (AZR = Auto Zero Calibration) automatically compensates for any inaccuracies caused by aging of the sensors. This saves you the trouble and expense of maintenance work and enables more precise metering of the alcohol.

Less Waste and Better Print Quality

Of crucial importance for achieving consistently high-quality prints at top speeds is efficient inking unit temperature control. Heidelberg's CombiStar is just the right system for this. It prewarms the ink train when starting up the press, then cools it during production runs. The temperatures of the plate, ink and blanket remain constant at all times – no matter whether you're printing the first or last job of the day. This cuts down on startup and production run waste. The consistency of the ink stays stable, so adjustments need to be made less often to the ink keys and dampening.

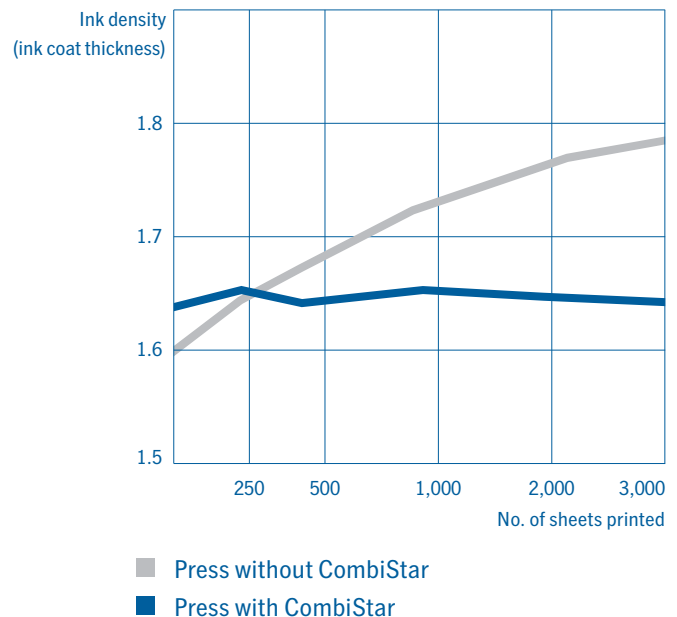
CombiStar is always combined with Heidelberg's patented, efficient ink oscillators. These hollow rollers have a very fine Rilsan surface layer and additional displacement bodies inside so the cooling medium absorbs more heat from the roller's surface. The system is more responsive and transfers heat about 350 percent faster than conventional systems.

Separate Temperature Control for Every Printing Unit

CombiStar can be combined with separate temperature control for each printing unit of a press (MultiTemp). This really pays off, especially with heavy inking at top speeds and in waterless offset.

Less Waste

Inking unit temperature control ensures constant ink densities and reduces startup and production run waste.



Outstanding Benefits of HydroStar and CombiStar:

- Consistently reproducible dampening solution quality
- Highly accurate measurement and metering of alcohol
- Automatic dispensing of additives
- Integrated conductivity measurement
- SoftFlow filter prolongs life of dampening solution
- Heat can be efficiently removed by water cooling

Outstanding Benefits of CombiStar:

- Saves energy and space by combining dampening solution conditioning with inking unit temperature control in one unit
- Consistently superb print quality due to constant temperature conditions in the ink train
- Reduces waste and saves time
- Essential for producing at high speeds
- New oscillator technology transfers about 350 percent more heat



InkLine and InkLine Direct • Automated, highly flexible ink supply.



Flexible ink supply: InkLine takes either cartridges or a valve insert for connecting to a central ink supply source.

Reliable Ink Supply Worldwide

InkLine gives printers all the benefits of fully automatic ink feed without having to sacrifice the ability to flexibly change the ink. Several thousand installations confirm the success of this approach.

The secret to this success is the internationally standardized Exact Cartridge. Practically all offset inks are available in these cartridges, which are easy to insert into InkLine.

Faster Makeready – Less Ink Left Over

InkLine uses a sensor to continuously monitor the ink level in the fountain. Whenever necessary, it replenishes it by adding ink from the cartridges. Because all of the ink fountains are initially filled at the same time, makeready is faster. The cartridges can be almost completely emptied, which reduces waste. It also saves costs by cutting ink consumption by at least three to five percent.

The cartridges have self-locking valves, so leftover ink won't dry and can be used up another time.

Special opaque cartridges are available for UV printing. An ink agitator is integrated as a standard feature to keep the highly viscous UV ink moving in the ink fountain – no special accessories are required for this. The ink agitator can also be used if no ink is metered. InkLine is also the ideal choice for readily oxidizing metallic inks. The air-tight cartridges let you store these especially expensive inks for years.

Flexible Color Sequences and a High Level of Automation

InkLine Direct is an enhanced version of InkLine. Instead of a cartridge, a valve insert can be inserted directly in InkLine and then hooked up to a central ink supply. This lets you economically supply the press from large containers holding anywhere from 25 to 1,000 kg of ink.

If special ink is required for a printing unit from time to time or another line of inks needs to be used, the valve insert employed in InkLine Direct can be removed in seconds and exchanged for an ink cartridge. This couples an exceptionally high level of flexibility with an equally high level of automation.

Display of Ink Consumption

InkLine and InkLine Direct are equipped with CANopen interfaces, so operation of them is integrated into the Prinect CP2000 Center, where all status and error information is displayed. When a cartridge needs to be replaced, visual and audible signals alert the operator in good time.

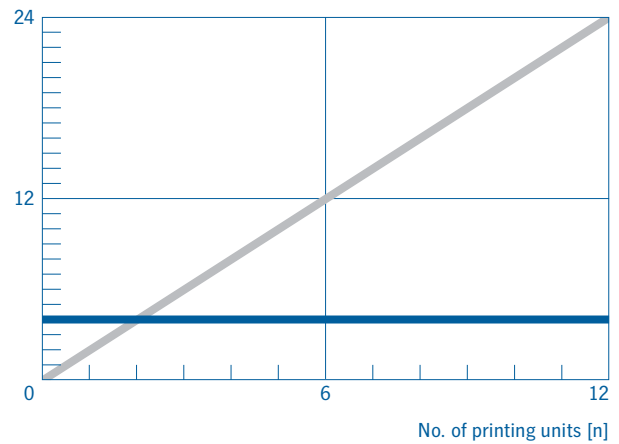
The ink level in the fountain can also be conveniently adjusted from the control console to account for ink consumption on a given job.

Ink consumption can also be viewed in the display, which greatly facilitates follow-up costing.

Comparison of Makeready Times

Comparison of makeready times between manual filling and InkLine

Time needed to fill ink fountains [min]



- Manual filling (ink spatula)
- InkLine

Outstanding Benefits of InkLine:

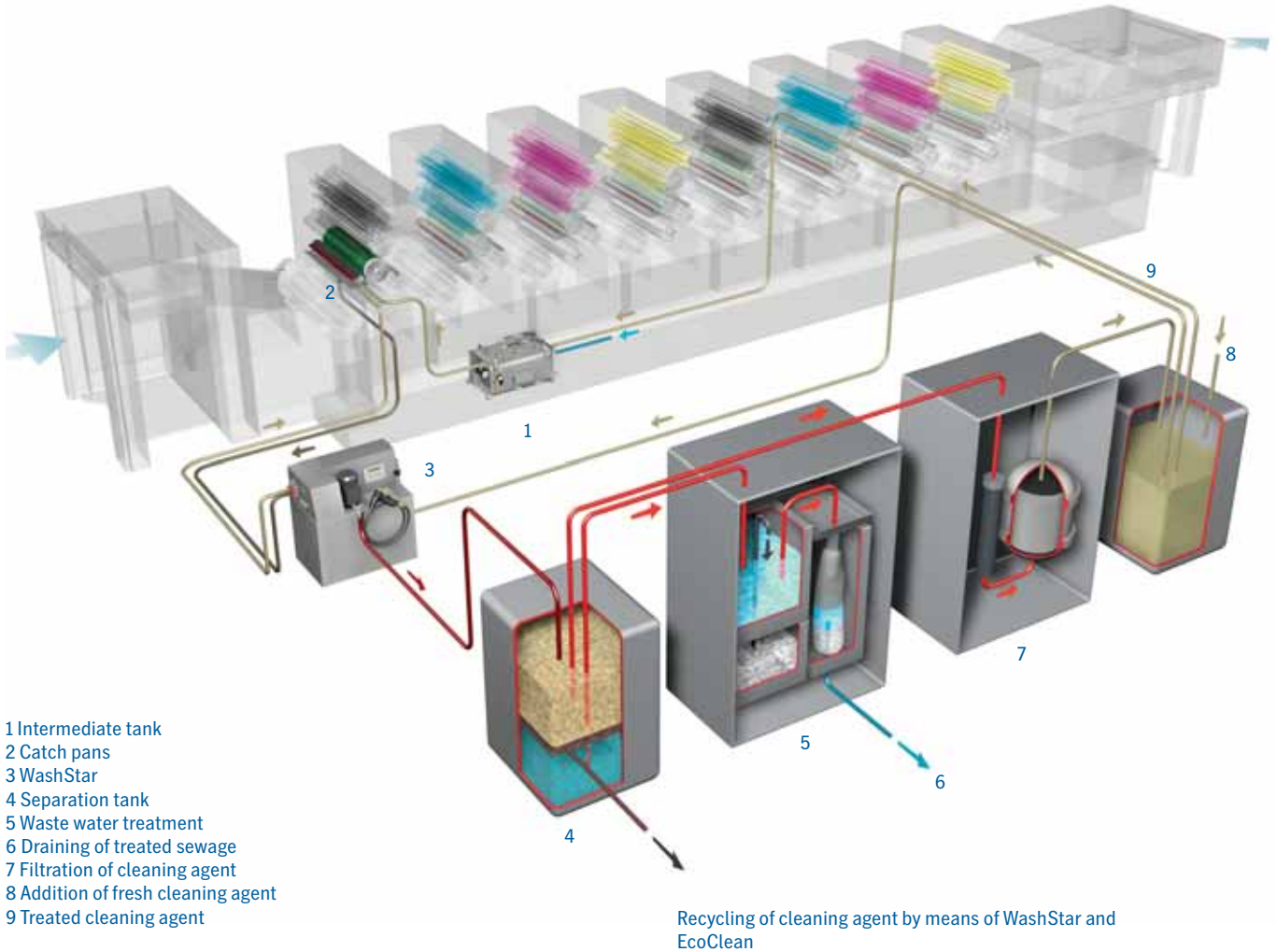
- Less time needed for makeready and other work
- All ink fountains initially filled at the same time
- Ink cartridges are emptied almost entirely for significantly reduced ink consumption
- No ink wasted when storing partially emptied cartridges for later use
- Constant ink levels in the fountains prevent color fluctuations in print
- Integrated ink agitator for UV printing
- Ink consumption displayed
- Can be upgraded at any time to InkLine Direct for connection to large ink containers

Outstanding Benefits of InkLine Direct:

- Lower ink costs
- Further reduction in makeready times
- Maximum flexibility for assigning colors, using either a central ink supply or cartridges
- Exceptionally high level of automation
- Less space required for storing inks



WashStar and EcoClean • Reduced consumption of washup solution.



Catch Pans Rinsed Out Fully Automatically

WashStar® means you spend less time cleaning your press. It replaces manual cleaning of the catch pans beneath the blanket and impression cylinder washup systems of the Speedmaster SM und CD 102 by executing a fully automatic washup program. This saves valuable time and increases press uptime – while WashStar is working, you can continue printing. This quickly pays dividends, not least for small runs requiring frequent washing.

WashStar makes use of the fact that cleaning agent does not use up all of its cleaning power in a single blanket washup. It can be collected in a tank to remove the largest particles by sedimentation, then reused to rinse the catch pans. This removes the coarser ink sludge from them. It is only rarely necessary to do a bit of additional scrubbing by hand. The result: maximum convenience for the operator and much less time spent servicing the press.



Without WashStar: manual cleaning of the catch pans required.



With WashStar: automatic rinsing keeps the catch pans clean.

WashStar Prevents Overflows

Instead of a number of smaller containers for used cleaning solution along the length of the press, WashStar uses a central collecting tank. This is large enough to need emptying no more than once a day, by turning a user-friendly hand valve. A level sensor causes the WashStar system to switch off as soon as the tank is full. This does away with the need to monitor and frequently empty individual containers. Sensors also prevent the catch pans from overflowing.

Higher Press Uptime and Time Savings

WashStar pays off quickly. Used with a single Speedmaster SM 102-8, for example, it saves over 100 working hours and up to 30 press hours per year with two-shift operation.

Coming Full Cycle

Used in conjunction with the EcoClean filtration and reprocessing system made by technotrans, WashStar performs another important function by automatically routing the mixture of used cleaning agent and water from the print shop to EcoClean. Around 90 percent of the used cleaning agent can be recycled and used again. This cuts purchase and disposal costs – thus doubling your savings.

A medium-sized company with 18 printing units in the 102 format and working double shifts can save up to 25,000 euros a year this way. So you can recover your investment in WashStar and EcoClean just in one or two years.

Outstanding Benefits of WashStar:

- Automatic cleaning of catch pans without using any additional cleaning agent
- Works while press is running
- Significant time saving and increased uptime
- Collection tank eliminates time-consuming emptying of smaller containers
- Sensors prevent catch pans and collection tank from overflowing

Outstanding Benefits of EcoClean:

- Purchases and disposals of cleaning agent can be reduced by up to 90 percent
- This cuts costs significantly
- Automatic filling of intermediate tanks at the press with recycled cleaning solution
- Self-monitoring system
- Significant contribution to environmental protection

Modular Coating System • Occasional coating without a separate coating unit.

Modular Coating System for Occasional Coating

Many printers have opted to forgo the option of equipping their Speedmasters with coating systems because they only apply coatings once in a while, and the jobs they handle wouldn't justify the expense of the extra unit. Heidelberg now offers these users a unique alternative: the Modular Coating System (MCS).

The MCS is a simple but very sturdily constructed device for applying water-based coatings. It is inserted into a conventional printing unit, thus enabling it to lay down either ink or a coating. To accomplish this, you pivot the blanket washup system out of the way before installing the MCS instead. It takes less than half an hour to switch between inking and coating.

Your company then profits from the enhanced flexibility of the press, and has the capabilities to accept a broader range of jobs.

Fast Changes – More Flexible Production

The MCS contains the basic elements of a professional coating system: chamber doctor blade, screen roller, catch pan, and coating pump. The speed-compensated pump ensures even coating at varying speeds. A CANopen link lets the press automatically detect whether an MCS is installed. Incorrect operation is out of the question.

Coating Before and After Sheet Reversal

The MCS is usually installed in the last printing unit. An MCS installed there is no replacement for a full-fledged coating unit, but it is a perfect solution for occasionally applying overprint varnish, matte or glossy coatings on jobs where precision isn't critical. Drying is done by a DryStar® dryer. The achievable production speed depends on the choice of coating, inks and substrate.

Alternatively, the MCS coating station can be installed in the last printing unit prior to sheet reversal. This lets you very quickly convert a 10-color Speedmaster SM 102 into a press that can print four process colors plus overprint varnish or a matte coating on both sides of the sheet – in just one pass through the press. The advantages of coating perfecting jobs: greater protection against abrasion, less powder, better print quality, and the ability to take freshly printed jobs and finish them right away. This increases the flexibility of our long perfectors.



Additional flexibility for commercial printers: The MCS allows to conveniently apply water-based varnish in an offset printing unit.

Outstanding Benefits of the Modular Coating System

- Transforms a printing unit into a coating unit
- Requires no extra space or investment in a separate coating unit
- Fast changing between inking and coating
- Significantly increases the flexibility of the press
- Enables coating on both sides of the sheet in one pass (on perfectors)



CoatingStar • Fast coating changes and top-quality results.



Flexible operation possibilities of the CoatingStar via the Prinect CP2000 Center, the operation display at the coating supply unit or by means of a remote control supplied as standard equipment.

Fast Makereadies When Changing Coatings

More and more companies are offering their clients not only straight printing but also finishing. To do this, they need to ensure optimum coating quality while remaining very flexible. Many printers – depending on what their customers want and their job scheduling – have to

change the coatings used several times a day. These can range from high-glossy water-based varnish across UV coating to metallic finishes during the course of a single day. Profitable production is only possible if this can be done quickly.

Maintenance-Free Annular-Piston Pumps

Heidelberg's CoatingStar is the flexible universal coating supply unit you need. It is designed to be connected to a conventional coating unit with two-roller system, chamber doctor blade, or Flexokit. The entire spectrum of coatings – from water-based coatings across UV to special-effect coatings – can be handled by a single system.

Thanks to a new annular-piston pump, the first time this technology has been used in the printing industry, CoatingStar can pump washup solution into the coating unit at rates up to 1,000 liters an hour. This quickly cleans the hoses and coating fountain.

The pumps work without seals, are solvent-resistant, and achieve maintenance-free running times of over 10,000 hours.

The pump technology employed in the CoatingStar also lets it work without pulsing. This largely prevents foaming and ensures even distribution of the coating.

Minimal Coating Residues

The fast coating changes are additionally supported by other functions of CoatingStar: because the pumps can run both backward and forward, any coating left in the hoses and coating unit can be pumped back into the coating supply container. This not only facilitates cleaning but also reduces the amount of coating residues requiring disposal. This can save major sums, especially with expensive special-effect coatings.

Now, for the first time, CoatingStar makes it possible to heat the rinsing water. The warm-water rinsing program can greatly improve cleaning efficiency. A CANopen link lets up to eight different user-definable washup programs be stored for different coating types at the Prinect CP2000 Center. A teach-in function makes it child's play to define the programs. Each washup program is executed fully automatically: from rinsing with used water, across cleaning with fresh water, to suctioning off the water: the coating supply unit takes care of everything.

For especially fast changes, such as between water-based and UV coatings, it is also possible to supply a coating unit from two different coating supply units. Then all you have to do is select the desired unit at the Prinect CP2000 Center.



The CoatingStar as the universal coating supply unit is designed to accept all well-known types of coatings: two-roller system, chamber doctor blade or Flexokit.

Outstanding Benefits of CoatingStar:

- Universal system for all coating types and coating units
- Annular-piston pumps without seals for low-maintenance operation
- Fast makereadies when changing coatings, thanks to high pump volume, reversible pumps, minimization of residues, and warm-water rinsing program
- User-definable washup programs
- Residues reduced by pumping coating out of hoses and the coating pan back into the supply container
- Convenient controls on the unit, also remotely operable from the Prinect CP2000 Center (CANopen)
- Two coating supply units can be connected to one coating unit



DryStar • For optimum drying, from the same manufacturer as the press.



The new DryStar 3000 dryer generation. Round jets for hot air integrated in the dryer modules increase the efficiency of coating drying and ensure smooth sheet travel.

Also the Market Leader in Dryer Systems

Over 6,000 units installed worldwide – the figures speak for themselves. DryStar dryers have proven themselves in practice. Heidelberg is the only press manufacturer that develops and manufactures its own dryers. This ensures that the sheet guidance and the dryers are perfectly coordinated with each other.

Smear-free sheet deposition in the delivery is ensured, even at top press speeds and with heavy inking. The dryers are integrated in the press control system, which permits presetting of them by automatically loading configurations for repeat jobs.

Dryers are installed in the factory, so no additional work is required in your facility; the press and dryers are ready to run right away.

Optimum Accessibility and Operation

Our line of dryers is designed for maximum flexibility. Standardized modules make it easy to install, remove and exchange dryers without any special tools. It takes only minutes to switch them from IR/hot air to UV.

Via a CANopen link, the press automatically recognizes which dryers are installed. They can be operated either at the delivery control panel or at the Prinect CP2000 Center. All dryer modules are well accessible and simple to service. A water-cooled sheet guide plate gently deposits sheets in the delivery, thus ensuring maximum availability and a long press life.



The DryStar UV interdeck dryer on the CD 74 can be pivoted up out of the way for easy cleaning of the transfer cylinder.

DryStar Combination: the End Dryer for All Applications

The most frequently used Heidelberg dryer is the DryStar Combination, end dryer. It is indispensable for drying water-based coatings in the extended delivery.

The latest dryer generation, DryStar 3000 Combination, delivers twice the output and air volume of its predecessor model. Instead of blowing air knives onto the sheet through slots, the DryStar 3000 employs an array of round jets distributed evenly over the entire width of the dryer. The IR lamps are located between the jets.

Because air is applied to a much greater surface area than in the past, drying is much more efficient. The array of round jets also creates an air cushion that effectively

counteracts fluttering of the sheet. Even when switching from heavy to light stocks, it's only necessary to minimally alter the dryer's basic settings to ensure nonsmearing sheet travel.

DryStar Combination comprises – depending on the press model – two or three modules. In the last module, cool ambient air is blown into the press to reduce the sheet temperature and remove water vapor.

Coinciding with the launch of this new dryer system, the flow profile of the gripper assemblies was optimized. The distance between dryers and gripper assemblies was also reduced by several centimeters/inches. All of this translates into more uniform, even better drying.

DryStar Combination enables you to apply matte, glossy and high-gloss coatings at high production speeds to heavy board, thus meeting the prerequisites for maximum productivity and brilliance.

DryStar Coating: the Right Solution for Occasional Coating

If only part of your jobs require coating, and if you don't need to run the press at top speed, a good solution is to work with a short (standard) delivery and the DryStar Coating dryer. This consists of only one module that combines IR and hot air. This reduces the output, air volume, and length of the drying section, which is why the press must run at a lower speed.

But if you attach greater priority to reducing your investment costs than to maximizing flexibility, speed and brilliance, DryStar Coating is perfect for you. It is fully adequate for drying matte and glossy coatings on light to medium-weight substrates.

DryStar Ink: Support for Oil-Based Inks

DryStar Ink comes into play whenever you need to make oil-based printing inks dry faster. Its four IR lamps heat the substrate to facilitate ink absorption and oxidation in the delivery pile. Jobs can then proceed to finishing sooner.

DryStar LYL: a Brilliant Solution for Double-Coating Applications

Heidelberg's DryStar LYL is a flexibly configurable dryer for installation between units. It dries the primer laid down by the first coating unit before the second unit applies another coat. This makes it possible to apply UV coatings on top of conventional inks. It also allows you to use gold, silver, metallic or functional coatings, or to combine matte and glossy coatings.

DryStar Perfecting: Adequate Drying of Coatings Before Sheet Reversal

Heidelberg's new Modular Coating System (MCS) now permits, for the first time, coating of sheets on both sides (see page 20). To ensure adequate coating, Heidelberg offers the DryStar Perfecting: a special interdeck dryer that is installed just before sheet reversal and after the last printing unit. It supports drying of the coating to enable reliable production without marking sheets or soiling the cylinders more heavily than usual.

DryStar Advanced Software: Unprecedented Possibilities for Dryers

The new DryStar Advanced Software adds more functionality to all DryStar 3000 dryers. This includes presetting; dryer settings are saved to the machine's job memory at the end of a job. If the job comes up again, the press then automatically restores all of the drying and air settings, without requiring any operator intervention.

The Advanced package also delivers a major value-add by allowing more convenient, more comprehensive control, such as infinite adjustment of lamp output, setting of the sheet guide plate temperature, and maintaining a constant hot-air temperature independently of the flow rate.

Outstanding Benefits of the DryStar System:

- Ideal harmonization of dryers with each press model for nonsmearing sheet travel
- Large performance reserves for optimum drying and brilliance
- Minimum distance between dryer and sheet for high effectiveness
- Patented round-jet array (DryStar 3000) doubles air volume and dryer output
- Automatic presetting for repeat jobs (DryStar Advanced)
- Flexible modular technology
- Simple operation from delivery control panel or Prinect CP2000 Center (via CANopen)
- Efficient removal of waste heat by air or water cooling system



DryStar UV • Modular UV technology for creative applications.



Modular technology ensures excellent accessibility and complete flexibility for deploying different dryers.

Reliable Drying of UV Inks and Coatings

The advantages of the DryStar system – outstanding flexibility and reliable production – are now also available for UV printing. DryStar dryers and UV dryers from qualified suppliers are fully compatible and interchangeable. This level of integration is achieved by features ranging from a common cooling concept across ozone extraction to the possibility of controlling the UV dryers via the CP2000 Center.

Efficient Temperature Management

Sheet temperature plays a crucial role in UV printing. Because UV lamps also emit infrared (heat radiation), the substrate heats up. The heating effect can be so great that it becomes necessary to let the pile cool down for several hours before proceeding to finishing. When printing on temperature-sensitive plastics, too much heat can cause registration problems. With many dryers, the only

remedy is to reduce their output, which means slower production speeds – not a very satisfactory solution.

While developing the DryStar UV, Heidelberg attached great importance to efficient temperature management. To achieve this, the UV radiation is reflected onto the sheet by a special patented “cold mirror reflector” (CMK).

The heat-inducing IR radiation passes right through the mirror and is absorbed by the metal dryer enclosure behind it. This has channels through which water flows to efficiently remove heat from the press.

The lamps are cooled by a continuous stream of air. This keeps them at a constant temperature to ensure consistent drying and brilliant results, while also extending their service life.

CoolCure UV: Pile Temperature = Room Temperature

Thanks to CoolCure UV, it's no longer a problem to reduce sheet temperatures even more. This inertization device, developed in cooperation with the company IST Metz, supplements known UV interdeck dryers.

CoolCure UV seals off the space between the UV dryer and the substrate, creating a chamber. Nitrogen is then blown into it, displacing the oxygen and improving curing of the inks. This improves polymerization of the UV inks so much that the dryer output can be significantly reduced. The amount of heat that penetrates into the stock is also greatly diminished.

CoolCure UV is recommended for all plastic and board printers. It speeds production, shortens waits, and significantly improves print quality when working with temperature-sensitive materials. Hard-to-dry inks, for example opaque white, can be printed in the same pass – this has never before been possible. A positive side-effect: the typical UV odor is greatly reduced.

Instant Start UV: Up to 25 Percent More Productivity

If you use cleaning agents on a UV press, you have to comply with strict requirements designed to prevent the risk of explosions. Until now, this has meant switching off all dryers before starting a washup program. This caused long waits to let the lamps cool down, suction off solvent emissions after washing, and then turn the lamps back on.

Instant Start UV shortens the blanket washup process by a total of eight minutes by eliminating all waits. The prerequisites for its use are CANopen-capable UV dryers, a cleaning agent with a flashpoint over 55°C, and individual checking and modification of the press by Heidelberg's service specialists. If you wash your blankets twice an hour, this will boost your productivity by 25 percent.

Outstanding Benefits of DryStar UV:

- Efficient temperature management permits printing on temperature-sensitive substrates
- Flexibly exchangeable for other dryer technologies
- Separate water-cooled shutters and even cooling of lamps to prolong their life and keep printing conditions constant
- Infinitely adjustable lamp output
- Standby mode with output at 20%
- Pile temperature at room temperature (with CoolCure UV only)

Outstanding Benefits of Instant Start UV:

- No waits when washing blankets
- Dryer remains in standby mode
- Significantly shorter waits when washing impression cylinder
- Up to 25 percent more productivity
- Longer UV lamp life



PowderStar • Only as much powder as necessary.

Efficient Powdering – Less Contamination

Heidelberg has the right powder sprayer for every application. The models of the PowderStar™ series are optimally integrated into the Speedmaster press to ensure a perfect pile with sheets lie flat in the delivery. They can cut powder consumption by up to 30 percent.

Most of the powder sprayers of the PowderStar series can be controlled from the Prinect CP2000 Center via CANopen. Integrating them into the press control system in this way allows PowderStar to preset itself automatically when required. In several models, for example, the powder spray nozzles automatically travel to the correct format width – doing away with manual adjustments. The amount of powder is also automatically preset in case of repeat jobs.

The PowderStar DuoPlus for Perfecting

Heidelberg developed PowderStar DuoPlus specifically for perfecting presses. It is based on Heidelberg patents. PowderStar DuoPlus is the world's only powder sprayer that applies powder to both sides of the sheet at once. Because the lower spray nozzles are integrated into the sheet guide plate, the distance between the nozzles and sheet is minimal. This prevents powder from finding its way into the press or its surroundings.

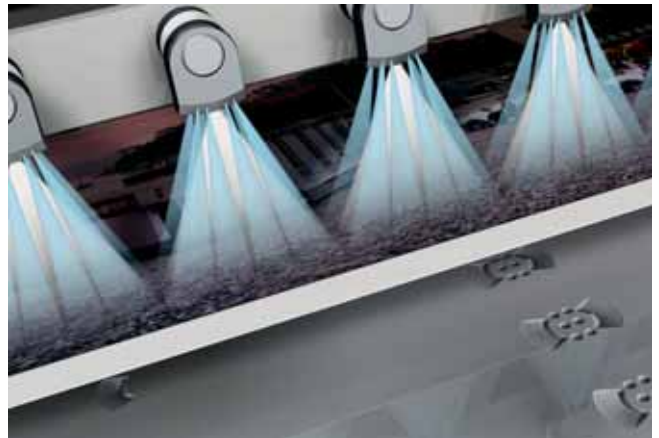
In the latest generation of presses, the nozzles in the sheet guide plate have been optimized to achieve even better powdering from below.

The PowderStar AP for Straight Printing

The PowderStar AP is recommended for presses used exclusively for straight printing. Its key feature: the powder streams are enveloped by air to prevent eddying of the powder particles. This, in combination with a highly precise roller-type metering module, ensures very efficient powder application and minimizes the amount of powder that escapes to contaminate the press and its surroundings.



PowderStar DuoPlus: The sheet is powdered from above and below from very close – the ideal solution for perfecting.



PowderStar AP: The streams of powder are surrounded by air jets to prevent eddying of the powder particles – the optimum solution for straight printing.

Outstanding Benefits of PowderStar:

- Optimally integrated into the Speedmaster for ideal sheet travel and perfect, flat stacking
- Up to 30 percent less powder required
- Less eddying means less powder finds its way into the press and surroundings
- Easy operation from the Prinect CP2000 Center
- Fully automatic presetting for repeat jobs (via CANopen)
- Modular design facilitates maintenance and servicing



CleanStar • 80 percent less powder dust around the press.

Powder Extraction Made by Heidelberg

Heidelberg is the first press manufacturer to develop its own powder extraction system. CleanStar® largely prevents "stray" powder from escaping from the delivery unit. This reduces the amount of dust in the press and surroundings by more than 80 percent.

Unimpaired Sheet Travel

CleanStar tackles the problem at the source. The delivery is enclosed, and powder-laden air is extracted from it and fed to a waste air cleaning cabinet, where a particle filter removes all of the powder.

The latest generation of presses makes it possible, for the first time, for CleanStar to clean waste air not only from the delivery but also from dryers. This prevents powder dust from contaminating the neighborhood – the print shop stays clean, inside and out.

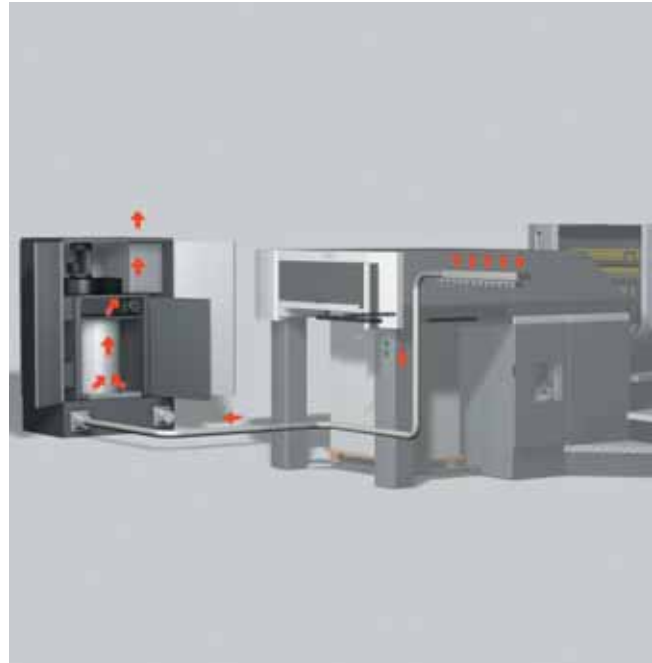
Heidelberg designed CleanStar specifically for the air flows typical of Speedmaster presses. It does not interfere with sheet travel, paper stacking, or powder application.

The new CleanStar Compact

As of now, the CleanStar Compact is available for printshops which can extract the powder-laden air without filtration. It includes the same components as for the CleanStar, however without a waste air cleaning cabinet.

CleanStar Pays for Itself Fast

The resulting reduction of cleaning work in the pressroom, coupled with shorter downtimes, mean that a CleanStar powder extraction system installed in an eight-color Speedmaster SM 102 will pay for itself in just six to eight months when used in double-shift operation. More than 40 percent of all Speedmaster SM 102 and CD 102 presses are already fitted with CleanStar before they leave the factory – and the figure is rising.



CleanStar extracts powder-laden air from the delivery and cleans it in a separate waste air filtration cabinet.

Outstanding Benefits of CleanStar:

- Reduces dust in the pressroom by more than 80 percent
- Less cleaning required in the pressroom
- Shorter press downtimes
- Perfectly coordinated with sheet travel and pile formation
- Dirt particles and dust that could otherwise be inhaled are extracted in a waste air filtration cabinet
- Self-cleaning particle filter
- Good accessibility of the sheet guide plate and powdering bar – just swing the suction conduit out of the way

Logistics • Optimum material flows in the pressroom.



Heidelberg's Logistics system stands for optimum material flow around the press.

Great Savings Potential in the Pressroom

At many print shops, material flow costs account for up to 30 percent of total production costs. It takes a lot of manpower and tied-up capital to supply stocks, remove and temporarily store print products and empty pallets. This especially applies to packaging specialists, where it can be necessary to change piles every seven to 10 minutes.

Nonstop Production

The Nonstop components of the Speedmaster CD 102 ensure a continuous supply of stock to the press. And Logistics ideally complements this system.

Logistics includes all components needed to automate materials handling between the storeroom, the press, and finishing machines. It can be flexibly configured to meet your specific needs and extended at any time.

Automatic Transport to and from the Press

The basic system Logistics Compact automates pile changing at the feeder. A transfer conveyor takes the pile from a forklift or handling system, buffers it, and then passes it to a feeder conveyor at the right moment. This squares the pile and passes it to the Nonstop feeder. Then the empty pallet is taken away from the feeder and routed to another roller conveyor system. The entire process takes place fully automatically, requiring no operator intervention.

Logistics Advanced also integrates the delivery into the system. Printed product is taken out of the Nonstop delivery fully automatically. There is no need to provide empty pallets, because the system automatically fetches these from the delivery via a conveyor section underneath the control console.

The most complete configuration is achieved with Logistics Automation. Here two revolving conveyors let the press be supplied with stock in the direction of production. The press can then be configured more tightly to improve utilization of available space. Additional buffers at the feeder and delivery support the process and permit longer work cycles, independently of the press speed.

CANopen Integration

The entire material handling system is equipped with open interfaces. Operation of it is conveniently integrated via CANopen with the Prinect CP2000 Center. From there, its status can be queried, pallet loads checked, and the direction of travel changed. The pallets used by Logistics are identical with those widely employed in the industry, so the system can be easily connected via conveyor sections with finishing or Heidelberg's driverless transport system, AGV.

Flexible Deployment of Personnel

The benefits of Logistics are obvious: the press is supplied with stock without the operator having to worry about it, letting it run continuously at top speed. The operator has less to do at the feeder, and physically strenuous work is eliminated. Thanks to the many buffer slots, the required manual handling can be efficiently combined; a single assistant can easily supply several presses. Automatic removal of empty pallets takes even more work off his hands. If required, the conveyor system can be extended to the finishing department or the storeroom.

Piles are positioned with an accuracy of one millimeter, and high print quality with minimal waste are a matter of course. The feeder and delivery remain freely accessible. The overall effect is to dramatically increase the flexibility of the press.

Outstanding Benefits of Logistics:

- Nonstop supply of stock to the press
- Flexible organization of work, because manual supply work can be done anytime instead of being tied to the press cycle
- Less personnel needed, operators are freed of physically strenuous work
- Minimal handling and storage times
- Prevents handling damage and reduces rejects
- Excellent accessibility of feeder and delivery
- Clear, convenient operation via CANopen
- Space-saving
- No floor modifications required
- Conveyor system extendible to finishing and storeroom



The Star Components • Overview

The modular Star System lets you flexibly equip your Speedmaster press with Star components to meet your specific needs.

This will boost your output and print quality while allowing more reliable production. Every single module of the Star System is precisely tailored to Heidelberg's presses and delivers substantial benefits for the complete system consisting of the press, peripherals, and press-room.



Speedmaster Star System

Press range	Number of printing units	CutStar	StaticStar	AirStar*	ScrollStar	HydroStar*	HydroStar Compact	CombiStar*	CombiStar Compact
Speedmaster SM 102	up to 2	•		•	•	•	•	•	
	from 4 on	•		•	•	•	•	•	
Speedmaster CD 102	up to 2	•		•	•	•	•	•	
	from 4 on	•		•	•	•	•	•	
Speedmaster SM 74	2			•			•		
	from 4 on			•	•	•		•	
Speedmaster SM 74 DI				•	•			•	
Speedmaster CD 74			•	•	•	•		•	
Speedmaster SM 52	up to 2						•		
	from 4 on						•		•

• Available

* Also available in water-cooled version

•¹ Only with high-pile delivery

•² Only with extended delivery



The Star system emphasizes the enormous productivity and the high level of automation of our Speedmaster presses.

InkLine	InkLine Direct	WashStar	DryStar Perfecting (MCS)	CoatingStar	DryStar	DryStar LYL	DryStar [*] UV	PowderStar DuoPlus	PowderStar AP	CleanStar	CleanStar UV	Logistics
•	•	•	•	•	•		• ^{2/3}	•	•	•	• ²	•
•	•	•	•	•	•		• ^{2/3}	•	•	•	• ²	•
•	•	•	•	•	•	• ²	• ^{2/3}	•	•	•	• ²	
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•³ In cooperation with selected manufacturers

Heidelberg understands its customers' needs •

We employ innovative technologies to drive progress in the print media industry.

Only Heidelberg supplies genuinely integrated, open solutions to the print media industry. From prepress data management all the way to finishing, we deliver forward-looking technology for every stage of the production process. Heidelberg's software and services help customers optimize processes and print quality. We also sell consumables in many countries to enable customers to consistently achieve best results and reliable production.

We understand that our customers' profitability depends on optimizing two factors: equipment and overall workflow. That is why we developed Prinect, a seamless workflow management system that gives printers greater efficiency and transparency to speed job turnaround.

Extensive training offerings round out the Heidelberg portfolio of solutions. Our Print Media Academy, an international forum for communication and industry knowledge, with branches around the world, offers management seminars and technically oriented product training.

With 250 customer centers around the globe, Heidelberg operates the print media industry's most extensive service network. Our services cover the entire workflow, and high-quality original Heidelberg Service Parts are delivered quickly to destinations anywhere in the world.

Left page: Print Media Academy, Heidelberg

This page, below left: World Logistics Center, Wiesloch; below right: Heidelberg Speedmaster



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