KBA Cortina

Top-spec green technology for
newspapers and commercials

The KBA Cortina has redefined the quality benchmarks
in standardised print production

Newspapers and semi-commercials
of unprecedented quality

Our innovative Cortina has enhanced the quality of offset newspapers and semi-commercials to unprecedented standards. Day after day some 20 Cortina users in Europe and the Middle East demonstrate the scale of excellence possible in a raft of products. The Cortina's cost efficiency and environmental credentials are equally impressive, as is its ability to handle a broad range of formats and stock weights. Its practical automation modules, among them the PlateTronic plate changers that have proven their performance a thousand times over, represent key benchmarks in modern-day newspaper and semi-commercial production.

Enhanced quality
The unique design of the printing unit, which eases operator workload by dispensing with ink keys and dampeners, minimises wastage and guarantees a superb, predictable print quality in full-colour production. What is more, it delivers dot-sharp, brilliant images in 70lpc (175lpi) and FM screens. With a heatset capability the KBA Cortina can print coldset newspapers and heatset semi-commercials using the same ink, eliminating the time-consuming ink

changes necessary in conventional offset. This minimises makeready times and also simplifies operation. The press can even print hybrid coldset/heatset products on different types of stock and deliver them via a common former. All this makes the Cortina an ideal tool for streamlining and standardising the print run and thus increasing net production time – a key issue in the newspaper industry. It also supports the ongoing shift towards automated print production.

Enhanced cost efficiency
A total height of just 4m (13ft) means the tower press can be installed in standard industrial buildings, reducing the initial capital investment in buildings and climate control. The Cortina has a maximum rated output of 90,000 copies per hour and is available in three versions: four plates wide and one or two around, or six plates wide and two around. Like its conventional offset counterpart, the Commander CT, our waterless, keyless Cortina embodies an

advanced level of automation. The StepIN tower, which has lifts on either side and splits down the centre at the touch of a button for ease of access, is perhaps the most striking of its many practice-proven automation features. Others include dedicated shaftless drives for the cylinders, PlateTronic plate changers, RollerTronic roller locks and our unique NipTronic bearing units for setting printing pressure with absolute precision. PlateTrans is a new, modular logistics system for automating plate transfer from pre-press to press.

The KBA Cortina cuts manning levels and saves the press crew a lot of walking, cleaning and maintenance. The inking system contributes to a cleaner working environment by eliminating the ink mist so common in conventional offset. Calculations based on real values at diverse newspaper printing plants have revealed that the Cortina can slash production costs. We have developed a system that can generate a comparative

cost analysis for the Cortina and comparable conventional presses based on an individual prospect's actual materials consumption, labour input, job structure etc.

Enhanced sustainability
The absence of dampening additives and gear oil, the virtual elimination of platemaking chemicals and VOCs and the reduction in print waste, carbon emissions and cleaning agents promote a much greener production environment in anticipation of tougher legislation.

Enhanced potential with broader product palette
As a pioneer and longstanding supplier to the print media industry we created the Cortina to help newspapers, the traditional advertising and information vehicles, to exploit their strengths against competition from e-media. We have done this by cutting production costs, standardising production processes and enhancing quality. The Cortina's enormous potential

can be exploited to expand your print business and successfully differentiate your products in the marketplace. In terms of print quality, format and substrate flexibility it far outshines conventional newspaper presses, delivering images that are easily up to commercial standards. The many Cortina users who make the most of these capabilities have boosted press utilisation substantially.

Minimum waste

No water-based interference

The Cortina successfully marries waterless offset with newspaper production. In conjunction with keyless inking, dispensing with dampeners can signally enhance cost efficiency while delivering a uniformly high print quality. Products printed by Cortina users are regularly awarded top rankings by Ifra's Color Quality Club.

Less outlay, less stress
The absence of water, the elimination of presetting tasks and adjustments at the dampening and inking units, and the 100% uniformity of ink application with our Newsflow keyless inking system cut waste to around 60 copies during start-up or edition changes in full-colour production. This sharp drop in waste delivers substantial bottom-line benefits by cutting the consumption of paper, which accounts for as much as 80% of total material consumption.

Waterless offset with the Cortina means no more problems with achieving and maintaining the correct ink/water balance and web tension, no more fan-out and the associated misregistration in full-colour printing, no ink misting and no need for continual corrections. In other

words: consistently stable, stress-free production runs. The Cortina creates a more pleasant working environment for the press crew.
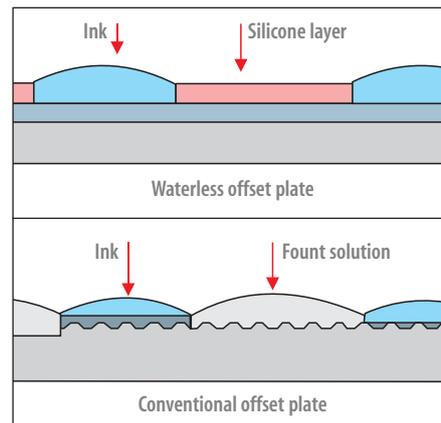
Mature process
The fact that the Cortina, and the waterless technology it incorporates, are now in daily operation is due in no small part to the broad alliance of leading consumables suppliers involved in its development. Thanks to them the flow properties of waterless inks in the ink ducts and units, their printability on standard types of newsprint, their density at different press speeds and their de-inkability all now conform to the relevant norms and tolerances. There is no tinting during ink application and less print-through of saturated solids than in wet offset.

Waterless offset plates have a service life of 120,000 to 150,000 cylinder revolutions, in ideal conditions over 200,000 revolutions. The frequency with which the blankets need washing depends on the type of ink and paper used, but is in keeping with efficient, cost-effective production.

Right: Just one operating level and convenient lifts to the upper printing couples make the Cortina a pleasant place to work

A service life of 120,000 to 150,000 cylinder revolutions is now the norm for waterless offset plates

Ink — Silicone layer

Waterless offset plate

Ink — Fount solution

Conventional offset plate

Cross-section of a waterless plate (top) and a conventional offset plate (bottom)

Benefits of waterless offset

- Minimum waste, less paper consumption
- Better, more consistent print quality (less dot gain, sharp detail, brilliant colour)
- 70lpc and FM screens on standard newsprint
- No problems with web tension
- No dampener, no water additives
- No problems with ink/water balance
- No fan-out, even on wide webs
- Easy, labour-saving operation
- High-speed changes between coldset and heatset (with dryer)
- Enhanced ecology

Whether coldset, heatset or a mixture of both: the Cortina can do it all – in a superior quality and with no change of ink

Supelative quality
in coldset and heatset

The Newsflow keyless inking units on the Cortina are specifically engineered for waterless web offset printing at high speeds.

The Cortina is the world's first coldset newspaper press with the ability to print 70lpc (175lpi) or FM screens as standard, though conventional screens are also possible. Brilliant colour, reduced dot gain, sharp detail, perfect legibility (even of small reverse type) and ghost-free images are the typical benefits of waterless offset.

Ink is pumped to the plates continuously, irrespective of ink coverage, via a doctor blade, an anilox roller and two ink-forme rollers. Two oscillating distributor rollers and two additional inking rollers ensure a perfectly smooth ink film. Emulsification – a familiar problem in conventional offset – simply does not occur with the Cortina.

No-sweat operation
Because the press runs up to colour in such a short space of time, start-up waste is reduced to just a few copies.

Since there are no ink keys or dampeners the press operator can concentrate on register. This makes handling much easier, reduces presetting tasks and eliminates fluctuations in ink application. Reducing the number of variables helps maximise net production time and promotes a faithful reproduction of the quality parameters defined in pre-press.

Temperature control for an optimum print
Anilox rollers for waterless offset have a service life of several hundred million cylinder revolutions and guarantee correct ink metering. The ones for the Cortina are manufactured in-house. They ensure precise ink metering by applying a fresh film of ink to the plates with each rotation of the cylinder. The ink not taken up by the plate is wiped off by the doctor blade and returned to the ink-circulation system.

The thickness of the ink film across the cylinder width can be controlled from the console by adjusting the temperature of the anilox rollers and plate cylinders. The entire temperature control system is integrated in the switch cabinets on the operating side of the printing unit. To support standardised production we recommend using the reference settings keyed in prior to shipment. The electronic temperature-control curve stored in the press software automatically regulates the surface temperature of the anilox rollers and plate cylinders relative to press speed. This safeguards a uniform, tint-free ink application (full-solid density as per Ifra norms) regardless of press speed.

Coldset, heatset or both – with no change of ink
One of the Cortina's unique properties is its ability to print coldset and heatset products, or a combination of both, with no ink change and no fan-out whatsoever. This, and the diverse types of stock it can handle, allows you to offer premium-quality ads, new ad forms and a brighter, web-oriented design. So you can attract younger readers with magazine-like newspapers and supplements.

A Cortina printing couple with keyless Newsflow inking unit and PlateTronic automatic plate changer

1 Blanket cylinder
2 Plate cylinder (temperature-controlled)
3 Automatic plate changer (option)
4 Ink-forme rollers (rubber-coated)
5 Oscillating distributor rollers (rilsan-coated)
6 Inking rollers (rubber-coated)
7 Anilox roller (ceramic, temperature-controlled)
8 Doctor blade
9 Feed pipe
10 Ink duct with integrated ink pump
11 Blanket washing unit

Fast makeready

User-oriented automation

The Cortina is available in three versions: for four plates across and one around; four across and two around; or six across and two around. It has a maximum rated output of 90,000 copies per hour in straight-run production.

Innovative features simplify operation...
These include RollerTronic automatically adjustable roller locks, PlateTronic automatic plate changers and new NipTronic bearing units, all of which cut makeready times, production waste,

manning levels and maintenance work. PlateTrans and Patras are optional tools for automating plate and paper logistics.

Automated roller locks allow the throw-on pressure to be preset precisely from the

console, which eliminates a lot of time-consuming maintenance work at the printing couples. Our revolutionary NipTronic bearing units allow the optimum nip pressure to be set with ease. This can be a huge advantage

The TemperaTronic inking-unit temperature controls are integrated in the switch cabinets

Our revolutionary NipTronic bearing unit guarantees an optimum printing pressure

RollerTronic automatic roller locks reduce maintenance

where production entails frequent changes of stock.

The PlateTronic automatic plate-changing system supports high-speed edition changes, and thus large numbers of split-run editions, by changing all 64 plates on a four-high tower or all 192 plates on a 48-page full-colour section in just two minutes, with no direct intervention by the operator at the printing couples. Depending on the type of production, all the plates in a four-high tower or a complete press line can be changed simultaneously, or individual plates for prespecified pages changed automatically, from the console. The plates for the next edition can be placed ready at the relevant couples during the current run, and the used plates disposed of manually when the new run has started.

Our compact, built-in blanket-washing system, CleanTronic, underscores the Cortina's environmental credentials and high level of automation.

Our PlateTrans system, which is available in a choice of automation levels, bridges the gap to pre-press by supplying the press with new plates and disposing of used ones. This relieves the operator of manual tasks during job changes and enhances productivity and cost efficiency, particularly where production entails frequent plate changes.

It is also possible to automate the entire paper flow, from the delivery truck to reel-stub disposal: our reel-handling system, KBA Patras, can be networked with the stores, the stripping station, splice-preparation units and the reelstands.

...and maintenance
Despite its compact design the Cortina can be easily accessed for cleaning and maintenance tasks such as blanket or washcloth changes by simply pressing the StepIN button, which splits the tower vertically between the blanket cylinders and drives the two halves apart. Once the work has been carried out the printing units are closed, locked and aligned by special guides.

A built-in lift affords easy access to the upper couples, eg to position the plates for the next plate change

Enhancing flexibility
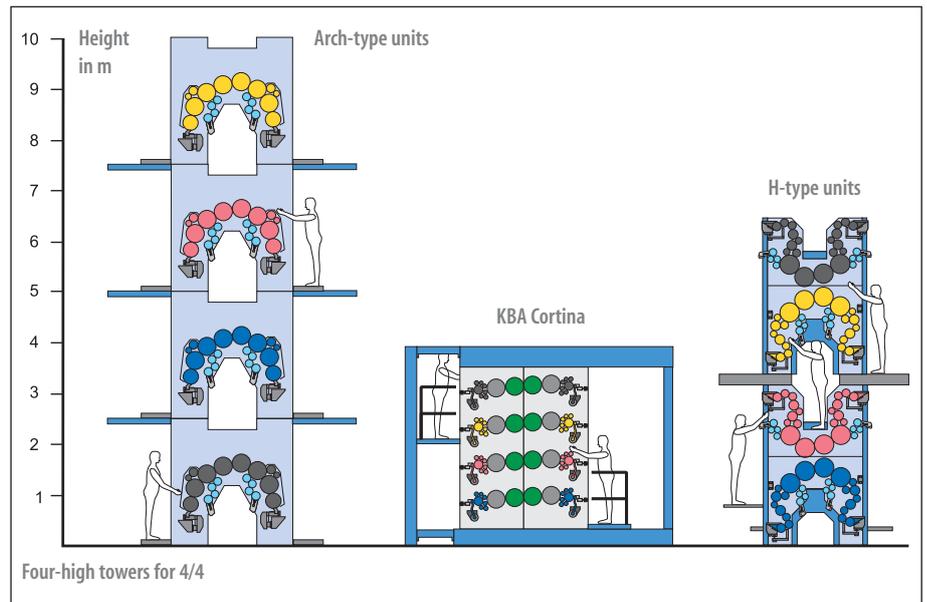
Compact four-high or eight-high tower

The unique, space-saving design of a Cortina four-high tower, which at just 4m (13ft) has only one main operating level, expands your options with regard to investment planning, edition splitting and handling.

Smaller capital outlay

Reducing press height can deliver substantial savings in capital outlay, not just for the press itself but for the relevant infrastructure as well, since it means that capacity upgrades are now possible in existing press halls and standard industrial buildings. It also cuts overheads for heating, cooling, general maintenance etc and allows the available space to be utilised to the full (*see next page*).

Eight-high tower no longer pie in the sky

A Cortina tower is so compact that a second tower can be stacked on top and the overall height will still be little more than 9m (29ft 6in). Adding an eight-high tower allows the capacity of existing press lines to be increased dramatically by utilising vertical space much more efficiently – and without interrupting production. An eight-high version of the Cortina is therefore considerably shorter than a comparable conventional tower or satellite press. There is a Cortina with this configuration in Switzerland.

Left: Easy access for maintenance
with the glide-apart StepIN system

Right: Cortina with eight-high tower (in background)

Space saver

Bespoke configurations

Size for size, the Cortina has a much higher pagination and colour capability than conventional tower presses. On top of this, its module-based system supports a wide choice of configurations to accommodate space constraints, with the 6/2 version delivering the biggest savings. Press lines include coldset, heatset and hybrid versions.

Superstructure and folder
The Cortina's innovative turner-bar deck is as compact and ergonomic as the rest of the press. Short ribbon paths and convenient operation make for fast edition changes, while the absence of ink keys and dampeners is a big advantage when handling webs of different widths. A chain web-up system is a standard feature.

A new design of turner bar allows the press to handle different web leads in a minimum of space. The slitters before the draw rollers are easy to access and, uniquely in newspaper printing, have cutting heads with automatic depth adjustment. They slit the web neatly into half-width ribbons or optional quarter- and half-width ribbons. Because they cut cleanly, like a pair of scissors, they generate very little dust so there is no need for dust extraction prior to turning. The ribbons are monitored by photocells and guided to the former infeed via air-blown turner bars. The draw rollers before the turner bars, the ribbon-gathering rollers and the RTF are remotely adjustable. The turner bars can be set from the console.

This ability to turn, shift and (as an option) insert individual ribbons promotes a high level of production flexibility and makes maximum use of limited space. Preset data for the next job can be keyed in at the console during production. With double turner-bar decks this enables the signature structure to be adapted rapidly to changes in product layout with no manual intervention.

Right: A Cortina featuring a dryer for printing heatset copies with no change of ink is in operation at De Persgroep's printing plant in Belgium
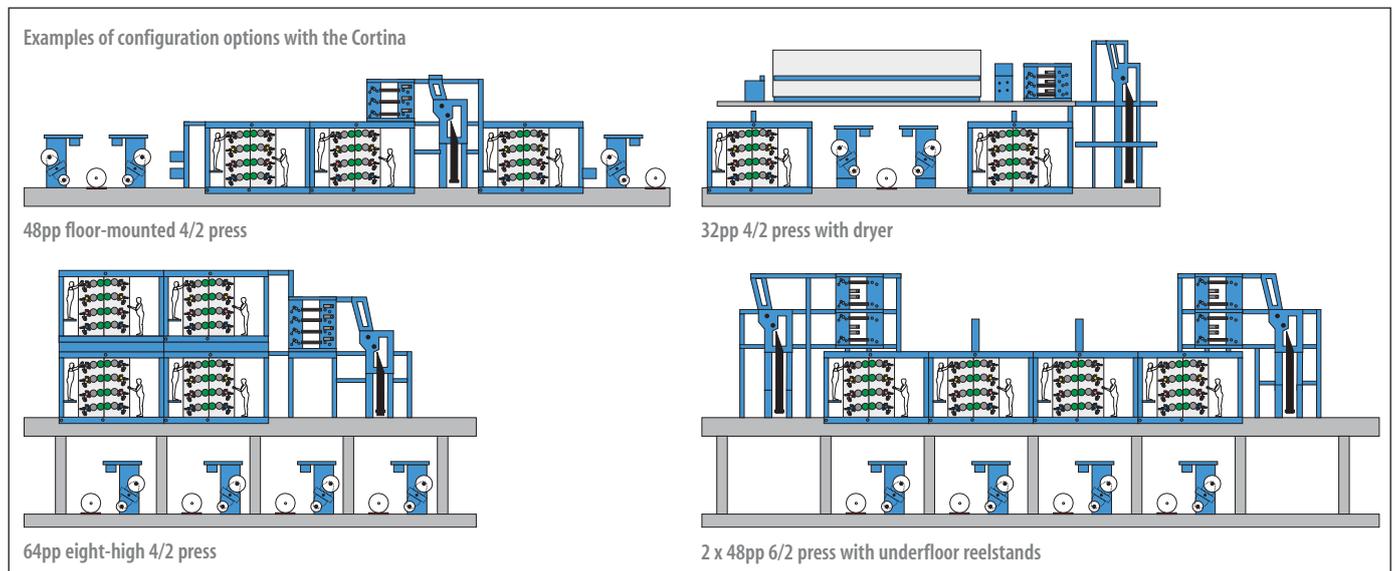
The Cortina can be configured with a KF 3, KF 5 or KF 7 folder, depending on the specified output and page count. For even greater flexibility we offer optional perforating, gluing, stitching and quarterfold modules plus a Zip'n'Buy capability.
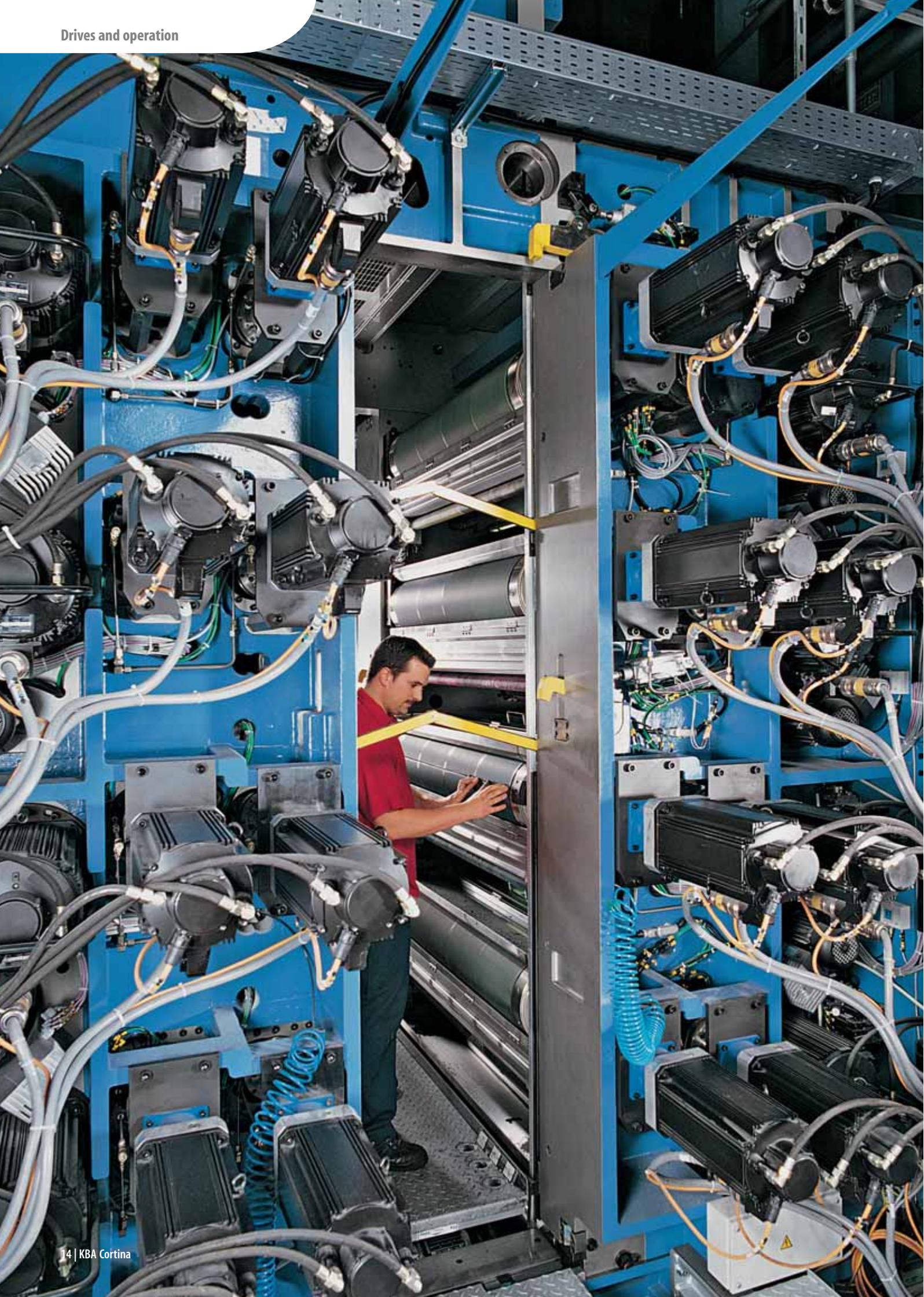
Custom-configured
The Cortina can be configured in various ways (with or without a substructure, as a four-high or eight-high tower) to suit production requirements and press-hall architecture, eg long and low, short and high etc.

Examples of configuration options with the Cortina

48pp floor-mounted 4/2 press

32pp 4/2 press with dryer

64pp eight-high 4/2 press

2 x 48pp 6/2 press with underfloor reelstands

Ergonomic, stress-free handling

The cylinders and other subassemblies in the Cortina printing units have dedicated shaftless AC drives for gearless, oil-free operation. The modular automation package, with distributed controls at subassembly level, affords enormous flexibility in accommodating individual customer specifications. Our cutting-edge ErgoTronic console is a standard feature and can be expanded with PressNet systems for press preset, process monitoring and control.

Shaftless drives

The printing units incorporate individual drives (24 drives per four-high tower) for the cylinders and inking units to facilitate handling during makeready and maintenance tasks. The shaftless drive system eliminates the need for oil lubrication.

Distributed drives make it much easier to upgrade automation and add direct imaging systems (computer to press) as the need arises. For economic reasons computer to press for newspaper production is unlikely to become a viable alternative to offline computer to plate in the foreseeable future.

Less stress for the press crew

Cortina operators neither have to set any rollers manually nor crawl into dirty tunnels. They do not constantly have to run up and down stairs, nor do they have to bend to change the plates, blankets or washcloths. As a result you'll rarely see them working up a sweat or smeared with ink. Older or less athletic members of the crew find the press a lot less tiring to operate.

Left: Automated plate changing reduces down times for edition changes to just a few minutes

ErgoTronic console: functional and ergonomic

Our cutting-edge ErgoTronic console can be raised or lowered electrically for ease of use by operators of different heights, and has a 19" touchscreen monitor for press commands. Visualisation software supports both copy- and press-oriented operation via simple function- or aggregate-specific data screens.

Left: The gearless and oil-free drive side of an open four-high Cortina tower showing the dedicated drives for the cylinders and inking units
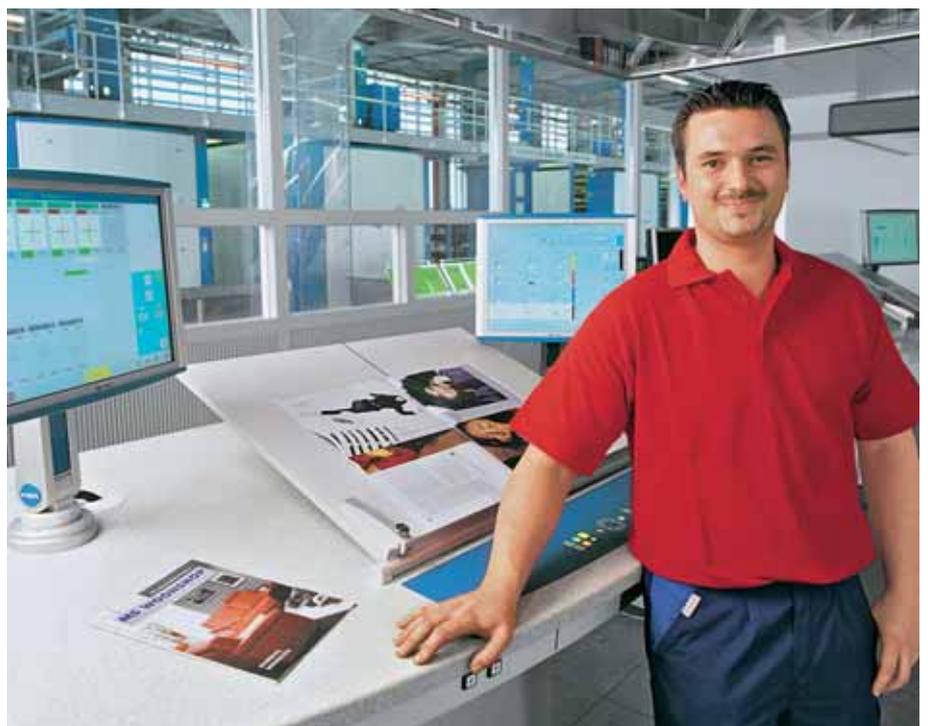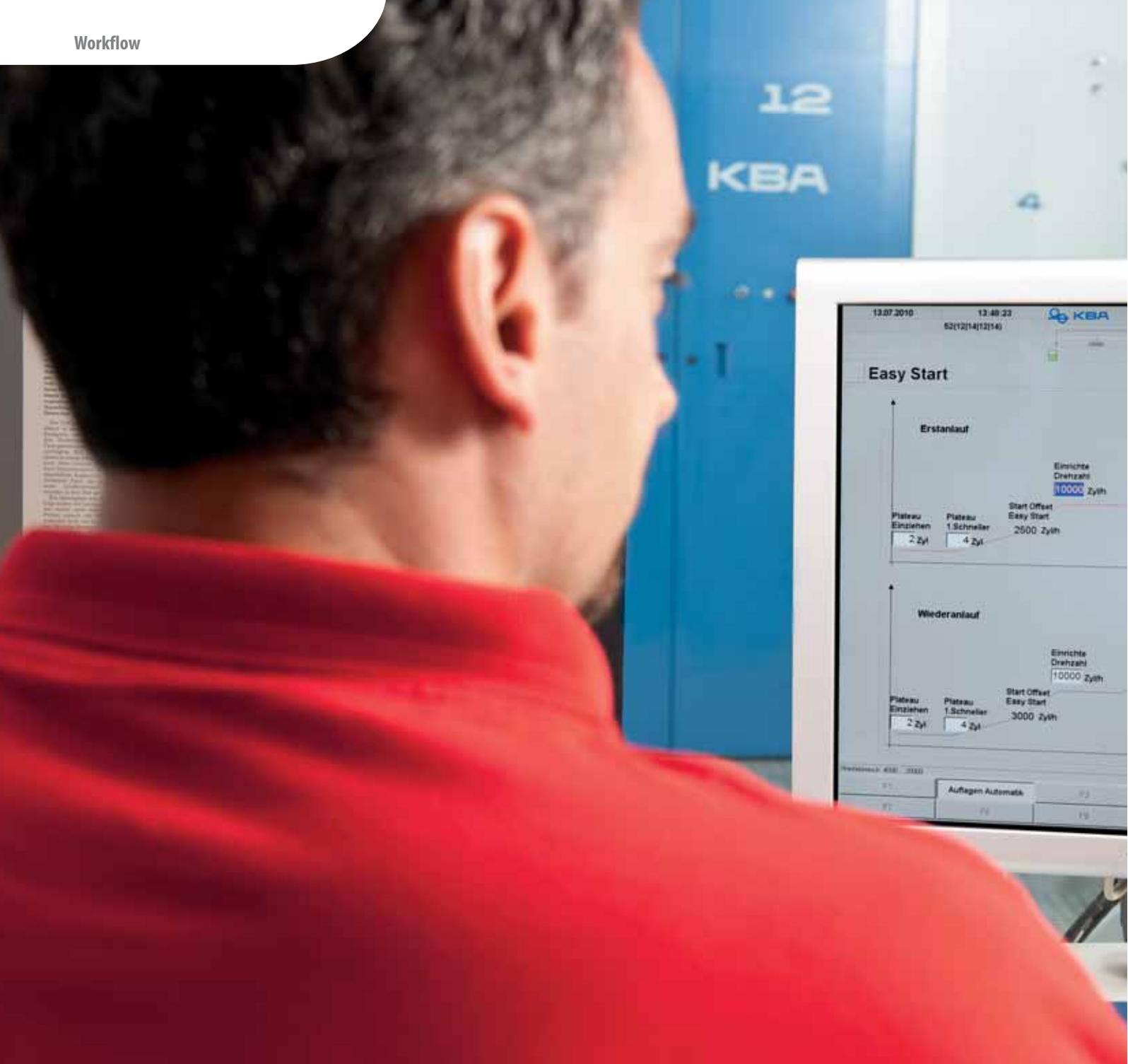
Right: Cutting-edge console technology is a standard feature on the Cortina, as it is on all KBA high-performance presses

KBA PressNet

Fast presetting

Producing newspapers efficiently and cost-effectively demands more than extensive, practice-driven automation: digital networking – the integration of the individual production sequences into a single, computer-assisted workflow – also plays a major role. It can deliver substantial savings by automating production scheduling, press preset and start-up, edition changes and press run-down.
KBA PressNet is a bespoke workflow package that maximises the performance of our compact and highly automated Cortina by optimising production sequences.

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  EasyReport            ┌─────────────────────────────────┐
                        │       Report / statistics        │
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KBA PressNet: a few simple steps to the print run

Alongside production scheduling with EasyPlan and press presetting with EasySet our PressNet suite includes EasyStart and EasyStop for automated press start-up and run-down, and EasyReport documentation software.
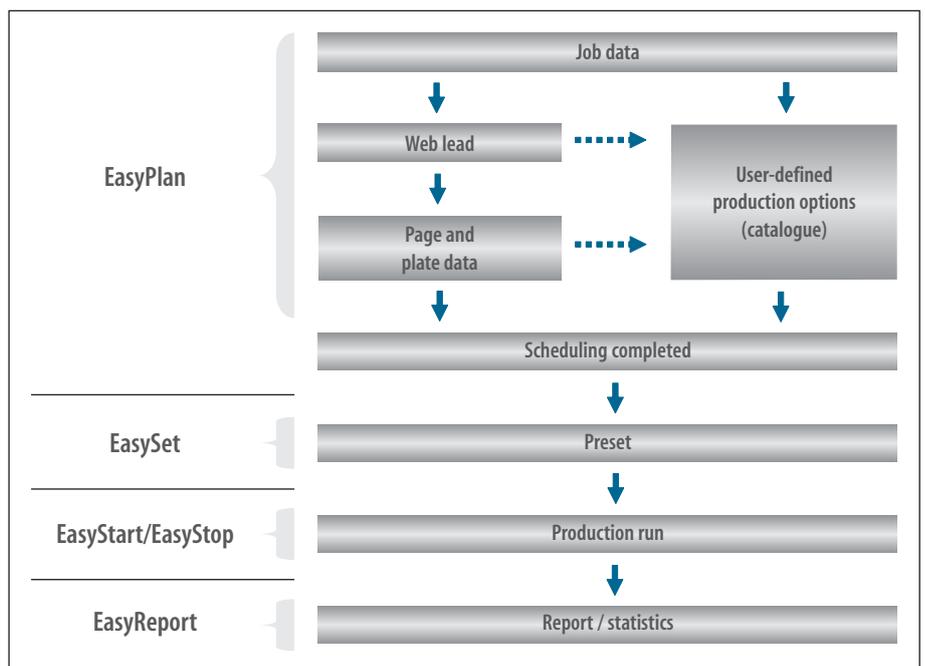
KBA EasyPlan
Good planning is key to success. EasyPlan is a scheduling program that includes a dynamic catalogue of originals with predefined production data which the operator can use when presetting the press. Alternatively, he can key in the data individually.

KBA EasySet
In order to minimise edition changes and waste, and also guarantee production stability and quality, various press parameters must be preset ready for the next print run. With KBA EasySet the press can be preset quickly and easily in accordance with the specified configuration and production schedule. The multi-stage presetting system stores the preset data for register, web tension, dampening and temperature control, along with process-specific acceleration graphs and the pertinent offset values. Once optimised, the values can be stored and downloaded for identical or similar print runs, making print production much more efficient.

KBA EasyStart
EasyStart allows the press to be run up to production speed at the touch of a button. The acceleration ramp is freely configurable with regard to the ultimate speed to be attained and the length of time that any specific speed is to be maintained during run-up to the ultimate speed.

KBA EasyStop
With a KBA press, pushbutton run-down is no longer a distant vision. EasyStop incorporates predefined sequences for automatically running the web free, cleaning the inking units, dampeners and blankets, and removing all the plates. This gives the operator more time to prepare for the next job.

KBA EasyReport
Detecting, analysing and remedying errors – and learning from them – are key factors in enhancing productivity and cutting costs. KBA EasyReport is a valuable aid in documenting print production. All messages are recorded in a long-term history log. This, plus the ability to export and filter messages, supports error analysis and minimisation. KBA EasyReport's message system also allows the complete documentation of all print jobs, with detailed production logs for each one.

Production scheduling and press presetting are much easier with KBA PressNet automation tools

Green technology

Caring for the environment

The current climate debate has shifted the focus in newspaper production onto environmental issues. Our strong commitment to the environment is the driving force behind the pioneering role we play in enhancing sheetfed and web ecology. This embraces newspaper production with the Cortina.

Waterless printing, in tandem with keyless inking units, minimises paper waste, thus conserving one of our most valuable resources. The elimination of fount water, additives, ink mist, oil in the printing couples and virtually all platemaking chemistry substantially reduces emissions, as does automatic blanket washing. New consumables support this greener concept and allow VOC-free operation. For example, a Cortina at Freiburger Druck has cut annual carbon emissions by 3,500t (3,850 US tons) and the consumption of water by 730,000 litres (193,000 US gallons), additives by 28,000l (7,400gal), developer by 15,000l (4,000gal) and washes by 24,000l (6,340gal). 210,000 fewer cleaning rags have been used and the volume of waste generated has fallen by almost 1,300t (1430 US tons).

Although our waterless offset Cortina requires a temperature control system, overall energy consumption during production is roughly the same as with a conventional offset press because higher consumption at the press is balanced by energy savings in the presshall environment and from systematic heat recovery.

The Cortina unites ecology, economy and quality with innovative technology and a space-saving design.

KBA Cortina

At a glance

Winning features	Specifications	
Compact design	**KBA Cortina 4/2**	
• Four-high tower approx. 4m (13ft) high	Maximum rated output*:	90,000 cph (straight production)
• Eight-high tower approx. 9m (29ft 6in) high	Maximum web width:	1,680 mm (66.14 in)
	Cylinder circumference:	900 - 1,197 mm (35.43 - 47.12 in)
Printing units		
• Dedicated drives for cylinders and inking units	**KBA Cortina 4/1**	
• Oil-free operation	Maximum rated output*:	86,000 cph (straight production)
• KBA PlateTronic automatic (option) or semi-automatic	Maximum web width:	1,680 mm (66.14 in)
plate changing	Cylinder circumference:	470 - 598.5 mm (18.5 - 23.56 in)
• KBA RollerTronic automatic roller locks		
• Revolutionary KBA NipTronic bearing units	**KBA Cortina 6/2**	
• KBA CleanTronic integrated blanket washing system	Maximum rated output*:	90,000 cph (straight production)
• Newsflow keyless inking units	Maximum web width:	2,100 mm (82.67 in)
• Waterless offset	Cylinder circumference:	900 - 1,197 mm (35.43 - 47.12 in)
Print quality	**Printing units:**	4-high or 8-high towers
• 70 lpc (175 lpi) or FM screen on newsprint	**Reelstand:**	Pastomat C or Pastostar CL
• Good semi-commercial quality in heatset mode	**Folder:**	KF 3, KF 5 or KF 7
with no change of ink		
• Problem-free hybrid coldset/heatset production		

* depending on format and folder
Other formats upon request

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