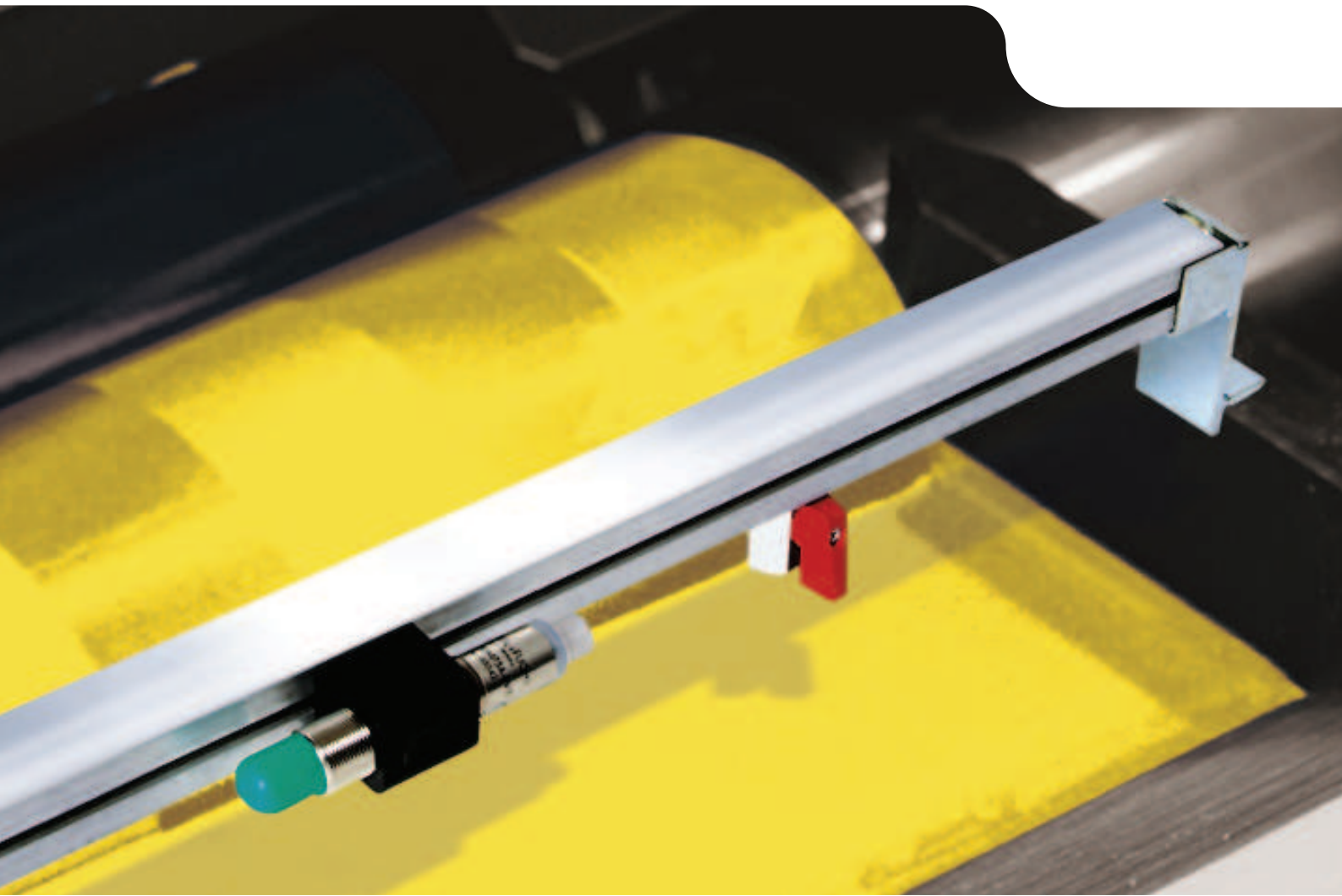


Ink supply systems for the graphics industry

System solutions for supplying ink to your press



Ink supply during the printing process

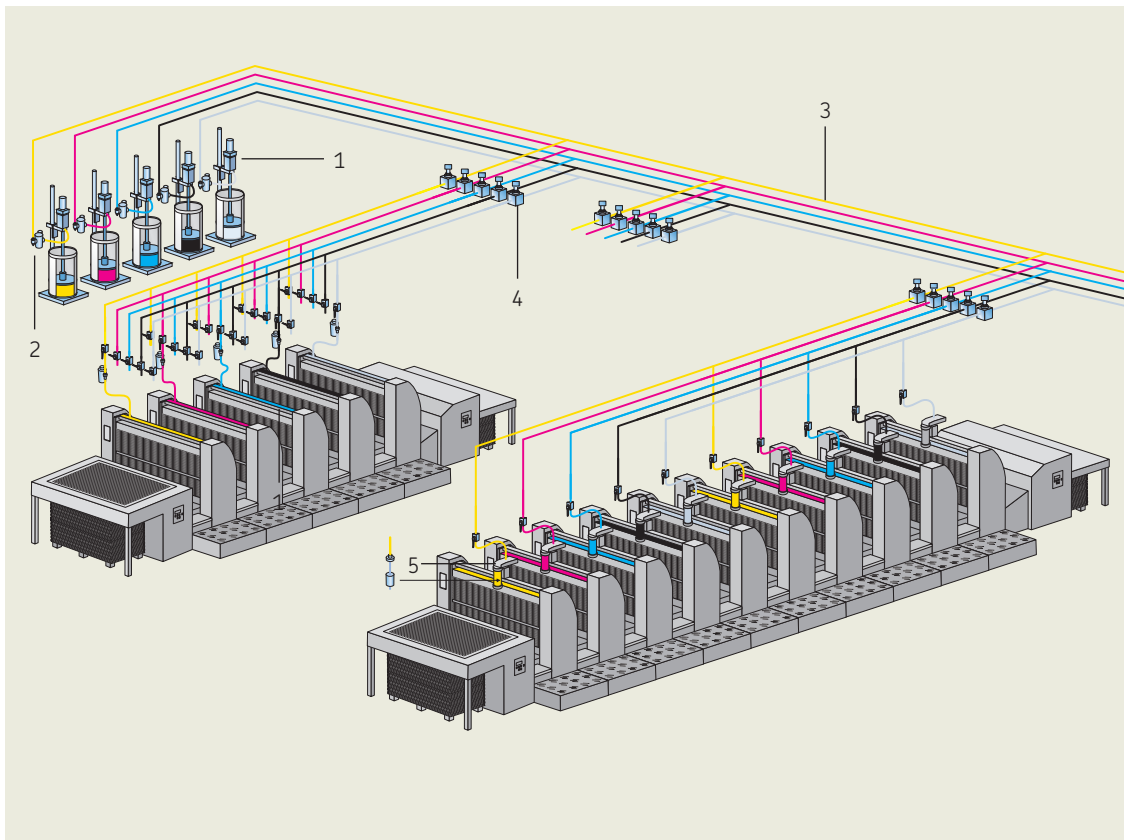
Perfect concepts for ink supply – the summation of many years' experience

We automate and centralize ink supply at your printing facility. Based on our experience, we offer tailor made system solutions for every process. Whether the supply is from cartridges, tins, exchangeable containers or larger containers for tank systems – SKF's Lincoln products offer the solution.

The ink is supplied directly from the ink supplier's container to the presses or ink fountains respectively, without additional intervention.

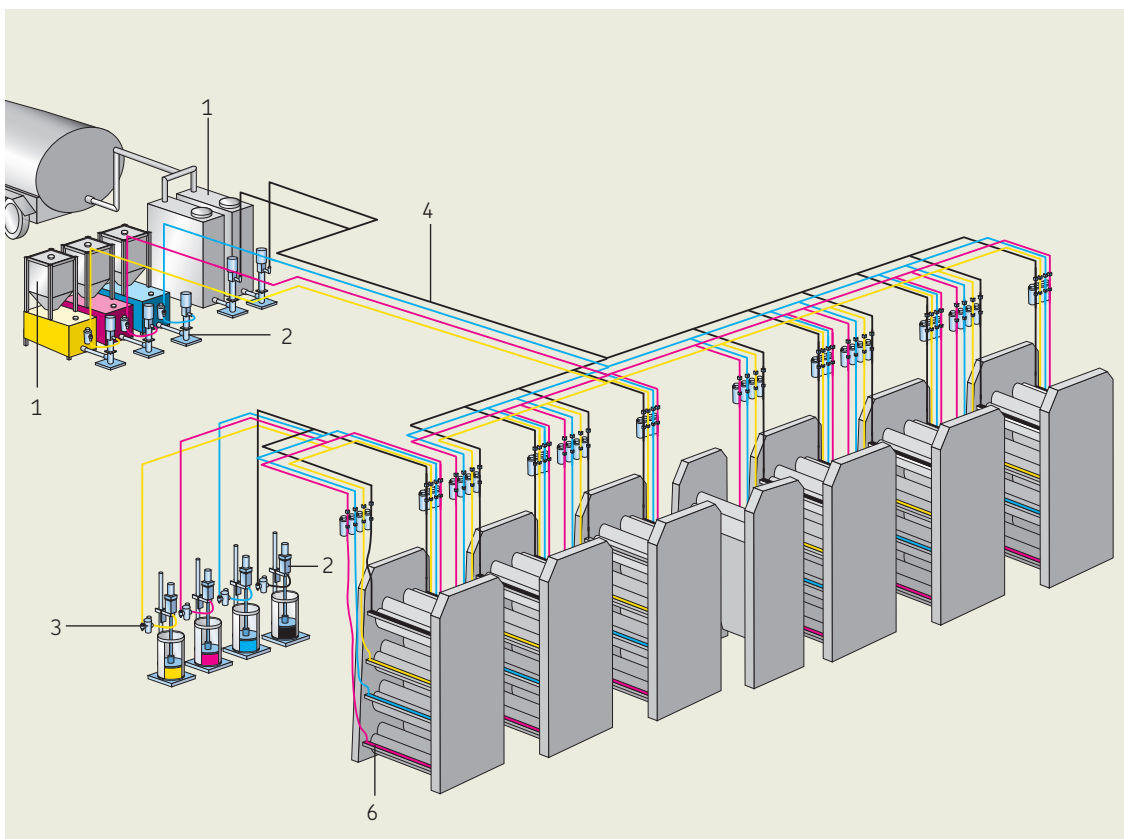
Features and benefits

- Ink supply systems are closed pump systems for the automatic feeding of printing inks. The closed system prevents any contact with the skin – especially important where UV inks are used, because these inks contain substances that may cause skin irritation
- Compared to manual ink fountain filling, automatic ink supply systems prevent possible soiling of the workplace from ink spilling. Thus pollution at the workplace is reduced
- Ink supply systems allow filling from bulk containers of 200 kg and more instead of small tins. In addition, rectangular containers (from 300 kg) are obtainable as returnable drums. This significantly reduces the amount of waste from empty ink tins (hazardous waste)



Sheet-fed offset

- 2 Ink pumps
- 3 Ink filters
- 4 Tubing
- 5 Consumption measurement
- 6 Level control



Web offset

- 1 Base and bulk containers
- 2 Ink pumps
- 3 Ink filters
- 4 Tubing
- 6 Level control

Complete pump range for all applications

SKF Lincoln ink pumps, proven in thousands of applications at printing operations worldwide.

SKF Lincoln has decades of experience in the design and manufacture of pump systems for highly viscous media, e.g. offset inks.

They offer both robustness and reliability as well as simple maintenance and servicing. Based on this experience, SKF has developed a revised range of pumps.

A distinction is made between:

- Pumps with hoist for 200 kg or 300 kg exchangeable drums
- Pumps for ink containers complete with pump foot stand
- Hydraulic ink pumps with foot stand and hydraulic aggregate for containers
- UV ink pumps for exchangeable and stationary containers

The performance of an ink pump is not dependent on the amount of ink transported per double stroke, but rather on the actual amount of ink supplied in a defined period of time. This is determined by the number of presses, their consumptions and levels of utilisation.

Features of the new ink pumps:

- Attractive modern design
- Robust construction
- Durable and reliable
- Simple maintenance and handling due to metric system
- Special sealing material to match the application concerned
- Pumps can be driven directly with 220 V
- Stroke frequency monitoring with possible simultaneous feed rate calculation
- Worldwide network of replacement parts dealers



Lincoln container pump LIP 6CO/400



Lincoln rectangular container pump LIP 6RC/400



Lincoln drum pump LIP 6FA/400

Accessories for all ink systems

Tubing

Tubing corresponding to the pressure loads concerned is installed to provide the necessary connection between the containers, pumps and presses. These systems are quick and easy to install and are flushed and cleaned at the time of installation. Different conditions and requirements are the criteria that determine the suitable diameter of tubing to be used.

Consumption measurement

Ink consumption measurement enables the ink consumption for each press to be recorded and displayed separately. Therefore the exact quantities of ink for each job are available and can be allocated directly to the individual jobs for calculation or costing purposes.

That means total cost accountability for each print job. Consumption recording is done via measuring heads integrated into the tubing at the press. A separate flow-meter is installed for each colour.

Consumption is shown on the control screen. If desired, this can be optionally integrated into the press control desk in combination with an additional line.

With certain prerequisites, it is also possible to connect it to an in-house network. In cases where the press is supplied with two different types of ink, the signals of the measuring heads are recorded and displayed separately.

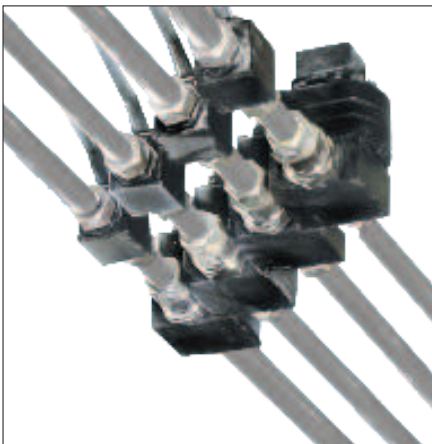
Control and monitoring (alarms)

A distinction is made here between different levels of control comfort. Simple control has no display and only offers standard control functions.

Comfortable control and monitoring works with compatible modules and therefore permits various levels of operating comfort.

All system modules can be integrated into a network, i.e. the alarm message from the basic container then also appears on the display of the ink level control at the press desk. All displays are designed as touch screens and thus allow a very high level of operating comfort. Interfaces to in-house networks are prepared and can be integrated at any time.

The visualisation of the tank systems is also realised via a colour touch screen. All relevant information is displayed in a well-organised and easily identifiable way at the central control cabinet. In principle, any customer wish can be implemented in such a control.



Control



Ink fountain filling options

The ink fountains in the press can be filled in different ways

Manual systems

The ink fountains can be filled manually. For example, for this purpose a system using a hose reel is available. The operator takes the hose and outlet tap directly to the ink fountain and carries out the filling operation. The simplified version would be a hose of a fixed length and shut-off tap with antidrip valve at the end.

Another variation is filling via an ink filling tube that is integrated into the ink fountain. The operator opens the ink feed via a ball valve and the ink flows directly into the ink fountain. In this case, the filling process is monitored by the operator.



Semi-automatic system

Here the filling is also performed by the printer. By pressing a button at the printing unit, the operator opens the ink valve and keeps it open until the desired level in the ink fountain has been reached.

The filling is done via an ink filling tube with an upstream ink valve that is integrated into the ink fountain. In this case, the operator also monitors the filling process.

Automatic system

The automatic version is certainly the most comfortable and technically most advanced solution. A sensor monitors the ink level in the fountain. If the level drops below the set standard, the ink valve is opened and ink flows into the fountain.

An ink filling tube installed across the ink fountain with separately controllable outlet nozzles ensures the even distribution of the ink across the full width of the fountain. The operator can fill the ink fountain by hand at all times, but that is usually not necessary.

In the event of a fault, e.g. minimum level alarm or overflow alarm, the system control emits an acoustic alarm signal.



Cartridge systems

The 2 kg ink cartridge is firmly established as an innovative system especially for sheet-fed printing operations with low ink consumption and frequent colour change.

Whether pneumatic hand-held control handles or automatic compressing devices for dispensing: both systems offer a high degree of user-friendliness, working comfort and, last but not least, ink economies due to very small amounts of ink residue in the cartridge.

When emptying via the simple handheld control handle, the compressed air is opened via a pushbutton and the ink squeezed out of the cartridge by the pressure. The operator distributes the ink directly during the dispensing process across the entire ink fountain. The other alternative is a dispensing system integrated into the printing unit.

The emptying of the cartridge is also performed either at the push of a button or can be continuous. For continuous dispensing, the compressed air pressure is set such that a small amount of ink constantly runs into the ink fountain while the valve is open. Ink distribution is done via the rotating fountain roller.



Tap stations, mixing stations, UV ink supply systems

Tap stations

A further manual filling variation is offered by tap stations. The most commonly used colours are pumped from the containers to the tap stations at the presses. The operators there fill the corresponding small containers that are then used to transport the ink into the fountain. Tap stations can be installed with semi-automatic or manual filling. To facilitate cleaning, the tap station is made mainly of stainless steel and offers sufficient shelf area for the ink tins to be filled.

Mixing stations

Packaging printing operations require an especially large number of special colours. In order to reduce the resulting vast quantities of residue inks and therefore the amount of required storage space, many printing operations have started to mix these special colours themselves.

Benefits

- Reduced storage
- Ink production to match jobs
- Inks available on short notice (no problem due to possible delayed delivery from the ink manufacturer)

These colour mixing systems are matched to the basic colour mixing systems and recipe software of the ink manufacturer concerned.

UV ink supply systems, special features and application

UV inks have up to now confronted all pump manufacturers with problems that are almost impossible to resolve. However, with intensive research and development work, Lincoln has succeeded in finding a way to handle even the highly sensitive UV ink in ink supply systems. A special control of the pumping strokes, seals to match the ink including lubrication and a changed surface in the pump tube permit the pumping of highly viscous UV ink. This is especially important for personnel working with UV ink, which may cause skin irritation.

The options for UV ink supply are almost identical to the conventional systems and range from the pumping station with adjoining tap station, ink stirring in the fountain up to automatic ink fountain filling within the press. The ink supply system allows several presses to be supplied with ink from one pumping station.



! Important information on product usage

SKF and Lincoln lubrication systems or their components are not approved for use with gases, liquefied gases, pressurized gases in solution and fluids with a vapor pressure exceeding normal atmospheric pressure (1 013 mbar) by more than 0,5 bar at their maximum permissible temperature.

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