delta.line

OFFSET-TECHNOLOGY FOR PROFESSIONALS IN WEB OFFSET PRINTING APPLICATIONS
delta line: DAMPENING SOLUTION CIRCULATION AND INK UNIT TEMPERATURE CONTROL

POWEROUL DAMPENING SOLUTION UNITS
PRECISE INK TEMPERATURE CONTROL UNITS
COMPACT COMBINATION UNITS

VARIANTS WITH SYSTEM

Printing companies throughout the world benefit from the delta line units that incorporate the experience of more than 2,500 successful installations under various conditions.

The powerful and reliable delta line dampening solution circulators and ink unit temperature control units are specifically designed to be used with contemporary web offset applications. The proven technology meets the most exacting demands.

A wide range of options ensure that the unit can be configured to meet your specific requirements.

The easily understood control system multicom, with touch screen display gives the user full control over critical process parameters.

REMOTE DIAGNOSTICS

If required, a system check can be easily performed online by way of the technotrans remote diagnostics system. Following a release by the client, these records can be read on site or via the Internet by means of this remote diagnostics system. The technotrans service department specialists identify all potential sources of errors and then provide recommendations for uninterrupted, smooth operation.

Machine availability is considerably increased – the remote diagnostics can be performed without interfering with the running operations. In case of a fault, the remote diagnostics system enables a quick and precise analysis of the status of the entire system.

For the fastest possible response, a technotrans specialist can access the system via the Internet and promptly solve the problem together with the on-site contact person. You are the one who decides when to set up a secure connection to the support team by switching on the router.

The remote diagnostics system is based on a mobile phone or network connection that is set up via a secure VPN connection (end-to-end). The system uses the SSL/TLS protocol. This connection of the units can be either permanent or set up as required. The connection via a mobile router causes running costs on an ongoing basis. A network router only requires a connection to the Internet.
Digital-Scroll Technology – The new refrigerator with Digital-Scroll compressor regulates the refrigeration capacity as required, by pulse width modulation.

delta d eco is the first highly economical dampening solution circulator made available for web offset printing applications that meet all the requirements for cost-efficient and process-controlled production.

State-of-the-art technology maximises the savings potential without compromising performance of operating safety.

On many refrigeration systems including those for print applications, the load will vary widely, making the use of compressor capacity control necessary.

Traditional capacity control is done using variable speed drives, unloaders, hot gas bypass or paralleling. Some of these solutions have intrinsic problem.

DEVICES DATA

The delta line dampening solution circulators stand out because of their clear, space-saving and service-friendly design. Arranged in a sturdy, crane transportable unit cabinet with good access to operational controls, they are easy to handle.

The customised pump system guarantees optimum supply to the connected dampening units.

The components and materials used are resistant to dampening solution and fulfill the most stringent operational safety requirements.

REFRIGERATION TECHNOLOGY

As standard, the dampening solution is cooled by:

- integrated, water-cooled refrigeration unit with efficient scroll compressors
- dampening solution resistant and robust stainless steel coaxial evaporator
- a capacity control system to achieve a constant dampening solution temperature within very narrow limits

The refrigeration systems of the delta d 450/550 units are designed as 2-circuit systems and therefore offer very high operational safety. In the unlikely event of a failure of one of the units, the other unit can be used as a back-up. Optionally split versions with an air-cooled condenser for outdoor installation or units with a cold water/dampening solution heat exchanger are available.

delta d line units are equipped with an electronic water cooling monitoring system. This feature informs the press operator of any problems before the entire system is shut down.

Digital Scroll Technology – The new refrigerator with Digital-Scroll compressor regulates the refrigeration capacity as required, by pulse width modulation.

Energy consumption depending on refrigeration capacity

Digital scroll technology provides continuous modulation from 10% to 100%. Compressor cycling is reduced to a minimum, ensuring optimum system efficiency and longer life expectancy of the equipment.

- Digital-Scroll Technology for continuous adjustment of the cooling capacity to the actual demand
- power consumption decreases in proportion to the required cooling capacity
- reduces the annual compressor energy costs by up to 25%, depending on model, kind of operation and the load levels
- ensures an even higher control accuracy of the dampening solution temperature
Features, which have been standard on sheetfed offset presses for many years, are now also incorporated in the delta c for web offset printing.

delta c combination units combine the functions and features of delta d dampening solution units and delta t ink unit temperature control units in a single unit. Combined, compact and powerful.

All delta c units are equipped with a water-cooled refrigeration unit for dampening solution cooling and a stainless steel plate heat exchanger for ink unit temperature control (patented system). The ink unit temperature control system can be equipped with one or two temperature circuits for separate control to achieve different temperature levels for the ink ductors and ink oscillating rollers.

**CONFIGURATION OPTIONS**

Depending on individual needs delta d as well as delta c can be optionally equipped with different measurement, control, and dosing components.

**DOsing-SystemS**

**IPA-MEASUREMENT AND CONTROL TECHNOLOGY**

**PRE-FILTRATION SYSTEM**

Depending on specifications, requirements and installation circumstances there are different methods of filtration.

**CONDUCTIVITY AND PH MEASUREMENT**

pH measurement is an important instrument that indicates incorrect additive dosage or contaminants from the printing process, such as ink, paper, or washing agents.

Inductive pH measurement with an accuracy of +/- 50 μS takes place within a range of 100 – 5000 μS. The calibration-free conductivity probe requires minimal maintenance.

**HOT WATER WASHING DEVICE**

reduces biological contamination.

Efficient cleaning of units and alcohol-free dampening solution systems, is supported by the integrated hot water washing device of the delta d.

It cleans the unit or the entire system with fresh water of about 60 °C/140 °F or alcohol-free dampening solution.

**POWER DRAIN**

To make cleaning the unit and changing the dampening solution more easy, delta d units can be equipped with a pump for rapid and complete draining of the tank content into an external vessel.

Efficient cleaning of units and alcohol-free dampening solution systems is only used to clean the unit or the entire system with fresh water of about 60 °C/140 °F only for use on alcohol-free systems for safety reasons!
Dampening solution is subject to massive contamination, especially in heatset web offset printing applications. Solid paper particles and small oil deposits adversely affect the entire dampening solution circuit and negatively influence the printing process.

Productivity and process stability suffer notably as a result. Filtration with consumables such as filter bags, often has a limited cleaning effect and leads to increased operating costs.

With spinclean d printing companies use an innovative and unique solution without filters or other consumables.

The mix of dampening solution and contaminants from the return flow of the press are collected in an intermediate tank. Here the difference in density between water, as the main component, and the contaminants, consisting of oil sludge and solids, is used for an initial separation process. The dampening solution that has been retrieved in this step is then fed back to circulation.

At the same time contaminants floating on the surface of the intermediate tank are skimmed off and fed directly to the spinclean d separator. Here the centrifugal force provides an ideal separation process.

The separated contaminants are periodically discharged from the separator into a sedimentation tank.
INK UNIT TEMPERATURE CONTROL

Apart from a state-of-the-art dampening solution circulation system, a high performance ink unit temperature control system is also part of the standard equipment of today’s web presses. Stable continuous printing at high press speeds can only be realised with targeted heat dissipation from the ink unit.

The technotrans delta t unit gives printers the technology that will support the efficient management of ink unit temperatures to improve process control and stability.

The temperature of the water returning from the ink units is the standard control variable, as this can be measured in a particularly easy and efficient manner.

It is optionally possible to use the press speed as a reference variable or to supply an IR temperature sensor for a direct measurement of the roller surface temperature.

Two-circuit temperature control units
In general, the heat generated in the ink unit increases more than proportionally when the press speed increases, and the increase in heat generated is more intense on the oscillating rollers than on the ductor rollers.

The use of a two-circuit system ensures constant temperature conditions on the ductors and oscillating rollers, regardless of the press speed. This technology creates optimum conditions for constant, high-quality printing results.

The delta z is the ideal solution for applications requiring more than two temperature control circuits.