

your partner for Electrostatic and Web-Cleaning solutions

ACE FOR ROTOGRAVURE PRINTING INDUSTRY

ESA electrostatic assistance to printing

ACE ESA 24V TOP QUALITY AND TOTAL SAFETY



Your Global Partner for the Electrostatic and Web Cleaning solutions

ACE is the market leader, with its high technologies, in electrostatic systems and sheets and web cleaners, in dedusters, in vertical machines for cleaning large-format flexo plates, designed and manufactured in the factory in Legnano.

For years now the electrostatic solutions designed by ACE for the industry are synonymous with problem solving along all the production phases, with their efficiency and reliability. Today, ACE is highly valued as a supplier partner by leading manufacturers of printing and converting machines; thanks to the synergies and collaborations with these companies, ACE has developed the most advanced electrostatic systems and many systems to remove dust and contaminants, such as web cleaners.

The continuing development made by our own R&D on these products, have allowed us to add to the range new, sophisticated systems for applications in the areas of Non-woven, Tissue, Paper and Corrugated board. The product portfolio developed and presented by ACE is now the most comprehensive in the world market with regard to the solutions of dedusting and electrostatic charge and discharge of materials and substrates in various industries. To complete its product range, ACE has developed and made available on the market a new series of polymer cleaning machines, and a system that represents the State of the art for dust removal in continuous cutting groups.

Meeting the needs expressed by customers is the focus of attention of ACE, which with its network of agents and technicians is ready to follow the customer and provide assistance worldwide. Respect for the environment and for the health of the workers are very important factors for ACE R&D department in the preparation of new products and projects, to continuously increase our environmental friendliness.

NEW IDEAS FOR TROUBLE-FREE PRODUCTION











Genius the smart software to control the ACE ESA systems

ACE Genius is the most advanced software in the market to control the ESA systems, implemented by ACE on the remote control monitor type ASC44/T which can be installed in the main control desk of the rotogravure presses. The ACE software Genius offers several features.

Genius provides different menus displayed on the 8.4" touch screen. Larger screens (12" or 15") are available upon request.

The main screen shows all the printing units equipped with the ESA system. Then a detailed page shows each single printing unit with all the operating values.

The proper menu Recipe allows to record all the set-up parameters of that particular job, in order to recall it for future same productions.

A specific menu is dedicated to warnings and alarms. More menus and functions are available about the safety of the system, so that the ASC44/T monitor may be interfaced with signals coming from the press. Selection of the substrate to be printed this menu gives the possibility to choose the kind of substrate: paper, PET or other common plastic films. By selecting the substrate, the ESA system automatically sets up the more suitable operating values for the best printing quality and the higher operating safety conditions.

SCT System (Sleeve Control Technology): this special program automatically controls the conductivity of the pressure roller. In case the admitted range of values is not satisfied, a warning will be shown and the ESA system will not start. This feature of the Genius software is very helpful for both printing quality and safety issues.

Advantages

Despite the sophisticated system, the use of the ACE ASC 44/T remote control is simple and intuitive. In fact it is very appeciated by the operators because, thanks to the several features available, they can work to:

- Reduce downtimes from one job to the next one
- Set-up and adjust the working parameters easily and precisely
- Reduce printing waste

The ESA ACE systems, thanks to the Genius technology, can also be checked remotely by internet connection.



One of the most important and common problems during gravure printing process, is relevant to the "Missing dots". Typically the ink contained into the engraved cells cannot be completely transferred to the substrate to print, being it paper or film, thus generating the missing dots on the image resulting in a poor quality print.

ACE with its experience of many years in the sector, providing its ESA Rotostatic systems, 230V powered, both Top Loading and Direct Charge version, as from today offers the most advanced solution available on the market: the patented ESA 24Volt. ESA 24Volt will be installed on those printing units where the problem arises; system includes a first high efficiency low voltage antistatic bar to cut off all electrostatic charges created during the passage of the material against the rollers along the machine, effecting the substrate to be printed. A charging system, perfectly calibrated accordingly with the needs, provides a homogeneous and intense electrical field, between the pressure roller and the printing cylinder generating a polarization of the ink contained in the engraved cells, thus facilitating the ink complete transfer to the support in printing. One of ACE 24V System's advantages is that it is suitable either to brand new printing presses as well as a retrofit on used ones. Thanks to the features of its management software, the system grants the highest efficiency level and operations.

Maintenance and replacement of sleeves can be scheduled, thus reducing to a minimum the stoppages due to sleeves' degradation. ACE 24V, including all these features results to be the ideal system to increase the gravure printing press productivity.

ACE 24V is offered either in the model Top Loading and Direct Charge. These two versions differ for the technique used to electrostatically charge the pressure roller of each printing unit. In general terms choice between the two is given by the space available inside the printing unit to install the electrostatic charge element.

ACE ESA SYSTEM	New Press	Existing Press	Film	Paper	Cardboard	Non metallic laminates
Top Loading: TL24 and TL230	•	•	•	•	•	•
Direct Charge: DC50	•	•	•	•	•	•
Direct Charge: DC24 and DC60	•	-	•	•	•	•



Figure 1 shows a full rotogravure cell and the most typical surface resulting from the elimination of excess ink from the cylinder surface. Other than by increasing the pressure from the impression roller, it is difficult for the substrate to come into contact with the ink surface when located under the cylinder surface.



Figure 2 shows the ink in a rotogavure cell under the influence of an electric field created by the ACE Rotostatic system.

The change in shape of the ink surface draws part of the ink up above the surface of the cylinder, so as to guarantee perfect contact with the substrate.



ACE ESA24V Top Loading is equipped with DC-Pulse 24V technology antistatic bars type BB londual for high performance at the printing unit inlet and outlet. In fact, the antistatic bars equipping our system became a standard outfit for any Electrostatic Print Assistance System in 24V version, which include low tension cables with high tension feeder integrated inside the bar's body.

New generation antistatic bars BB londual 24V are equipped with double rows of discharging pins and LED signals to indicate the working status.

The use of double polarity in the BB londual bar offers the advantage of complete elimination of all static charges immediately before and just at the exit of the printing unit, in order to perform the highest efficiency of the ESA system, further to granting the top safety working conditions. The BB londual body structure, sturdy and robust, is designed and manufactured to be ink and solvent resistant and has been thought to allow an easy and fast clean up.

The new static charge bar type DE-R24, patented, based on low tension 24V technology, installed on top of the pressure roller, generates and applies a homogeneous and intense electrical field over the semi conductive pressure roller sleeve's layer. That grants the needed polarization of the ink contained in the engraved cells, which is then completely transferred to the substrate during printing process. Thanks to 24V technology, safety inside printing unit achieves maximum level, due to absence of high tension cables which in the past were used to wire static and antistatic bars; if damaged the high voltage cables were a source of electrical shocks and potential triggers of fire within the printing unit.



ACE ESA 24V Top Loading

A BB londual antistatic bar installed at printing unit entrance, provides the substrate to be neutral and completely charge free. Substrate is then passing through between the pressure roller and printing cylinder, being correctly charged by an efficient and safe 24V charging bar installed over the pressure roller. So far, an intense and homogeneous electrical field is created (ACE Total Charge 24V Technology), which polarize the ink allowing its easy and complete transfer to the substrate.

A second BB londual antistatic bar, installed at printing unit exit, is used to eliminate all residual static charges.



BB londual 24V antistatic bar part of ESA 24V





The patented ACE ESA Direct Charge 24V system is equipped with antistatic bars type BB londual, using DC-Pulse 24V technology either at printing unit inlet and outlet. The high efficiency of these bars guarantee total effectiveness of any residual charge elimination from the substrate to print. Immediately after the material has been freed from the static charges, in all DC50, DC60 and DC24V Direct Charge, a homogeneous and intense electrical field is generated between pressure roller and printing cylinder. This electrical field is the means by which the polarization of the ink in the engraved cell is granted and the total transfer to the substrate in printing, being it paper or film, takes place.

ACE ESA 24V Direct Charge System is available in the version with and without pressure roller insulation, in order to meet all major gravure printing presses manufacturers' needs. Thanks to the 24V technology, safety inside printing unit achieves maximum level, due to absence of high tension cables which in the past were used to wire the static and antistatic bars.



ACE ESA24V Direct Charge

System feeds with static charge directly the inner side of the sleeve / pressure roller. Charge is then transmitted to its external semi conductive side, granting a specific ink polarization, thus leading to facilitate the ink transfer to the substrate. ACE supplies either DC 50 model which doesn't need the pressure roller to be insulated or alternatively the DC60 needing the pressure roller to be insulated. At printing unit entrance and exit, two BB londual 24V antistatic bars completely free the substrate by any residual charge accumulated along the processes.





ACE DC24 - Patented ESA Direct Charge System 24V



ACE DC50 - ESA Direct Charge not requiring pressure roller insulation



ACE DC60 - ESA Direct Charge System requiring insulation

A special model of ESA System is dedicated to gravure proofing presses.

Gravure printers more and more recognize the need of using devices to define a common degree of standardization of their production in printing or even to produce high quality printing proofing, overriding the influence of the press operators, their different interpretations of how the individual press settings for different sizes of cylinders should be made. This results in the achievement of repeatability in printing quality. Specifically designed, the ACE ESA systems for proofing machines stand out for their qualities and the safety level offered, setting the proofing machine free from missing dots problem, thus capable of reproducing the highest quality printing ever.

Proofing presses, even more than real production lines should be equipped with ESA system, in order to reproduce the samples of the ended product perfectly. Therefore, ACE R&D designed a specific ESA line for new and existing proofing presses.

The ACE ESA system for proofing presses is compact, power saving, easy and quick operating and it does not require any particular maintenance.



Color proofs with ACE ESA system in operation (left) and without ACE ESA (right).



ASSISTANCE

ACE products are conceived and designed to improve production performance of the lines on which they are installed in order to solve problems of static or antistatic, or remove any type of dust or contaminant from virtually any substrate, but also to improve the working environment for the benefit of the health of employees.

For these reasons, ACE wants to make sure that all its installed equipment reach 100% of its performances. A key role in this regard is the assistance service, which responds to the needs of our customers with competence and professionalism. Experienced technicians are always available, either by phone or with remote access, as with our ESA systems, or with the direct presence at the premises of customers to provide maintenance, repair and consulting.

Our technicians are always available to reach the Customers to offer assistance of all kinds, instruction and support.

- Immediate response to support requests
- Computer devices like the ESA monitored and assisted online 24/7
- Readily available spare parts for worldwide shipping
- Revision/repair and shipping Service for static and antistatic bars
- Customer satisfaction is the prime objective of ACE!



REMOTE AND ONSITE TECHNICAL HELP DESK

TESTING ON YOUR SUPPORTS BEFORE PRODUCTION



DEMO LINE

ACE invests in the new R&D Department of the factory in Legnano. A very important strategic decision, in response to the continued growth of our company and the acquiring of new market shares worldwide. This is a further step in the qualification of the Brand as an international Partner of machinery manufacturers, but also of the end users of our systems. At ACE, we build our success day after day, gaining the trust of our customers thanks to the performance of our static and antistatic solutions, web cleaners and dust collectors. With the aim to achieve the highest quality standards, we believe that the new DemoLine development is essential to achieve our purposes. The Ace DemoLine is equipped with high definition cameras installed after the web cleaners to monitor and check the quality of the action of the cleaning devices.

You can easily reach the ACE plant, located close to Milan Malpensa airport, just north of the city.

The DemoLine unit will be available to our customers' testing and the demo to the machine manufacturers and for the following activities:

- Test of new technologies in our R&D department
- Certification of quality of the equipment before shipment to our Customers

• Availability for Customers and Prospects, not only for needs related to the testing of our systems, but also to understand in practice how our systems work after entering in the production lines. Testing them with their own materials and verifying the performance levels attainable in their production with the inclusion of ACE technologies.

MATERIALS CLEANING AND ELECTROSTATIC SYSTEMS WITH CERTIFIED TECHNOLOGY.

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