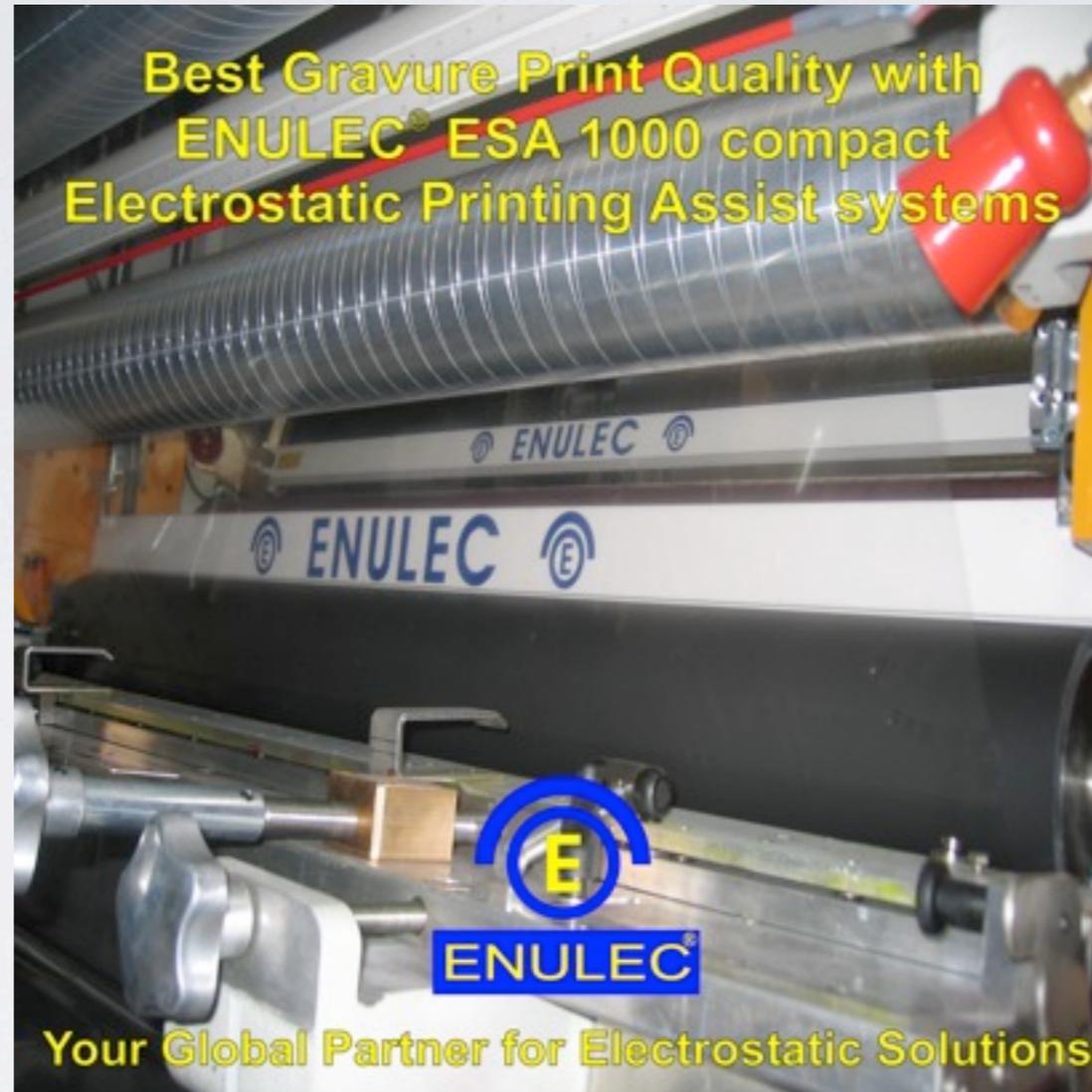


# ESA TODAY



**Presented By: Joseph K. Steingraeber**

Global Market Development Manager, ENULEC GmbH

[www.enulec-americas.com](http://www.enulec-americas.com)

# MISSING DOTS



**Dot Skip**

**Snow Flakes**

**Missing Print**



**Missing Dots in Rotogravure is often seen in the half tones and below.**

**Poor image cell evacuation leads to missing print.**

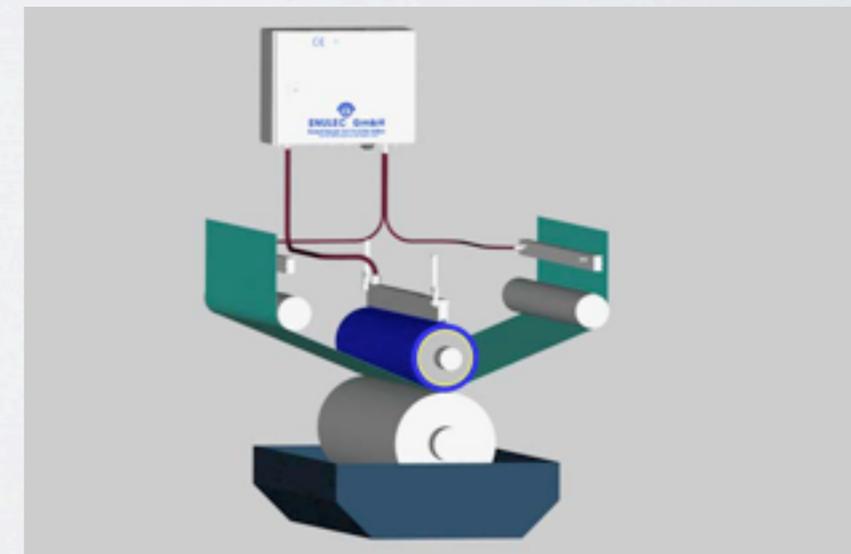
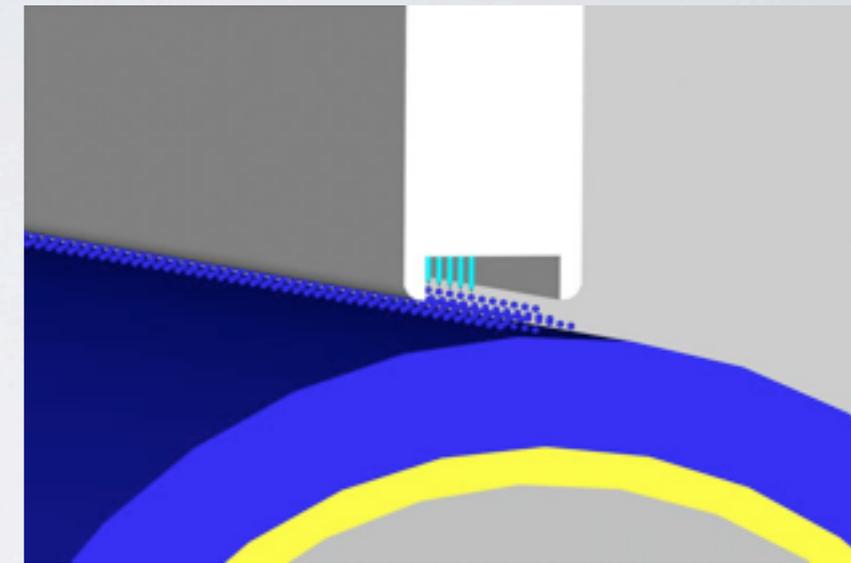
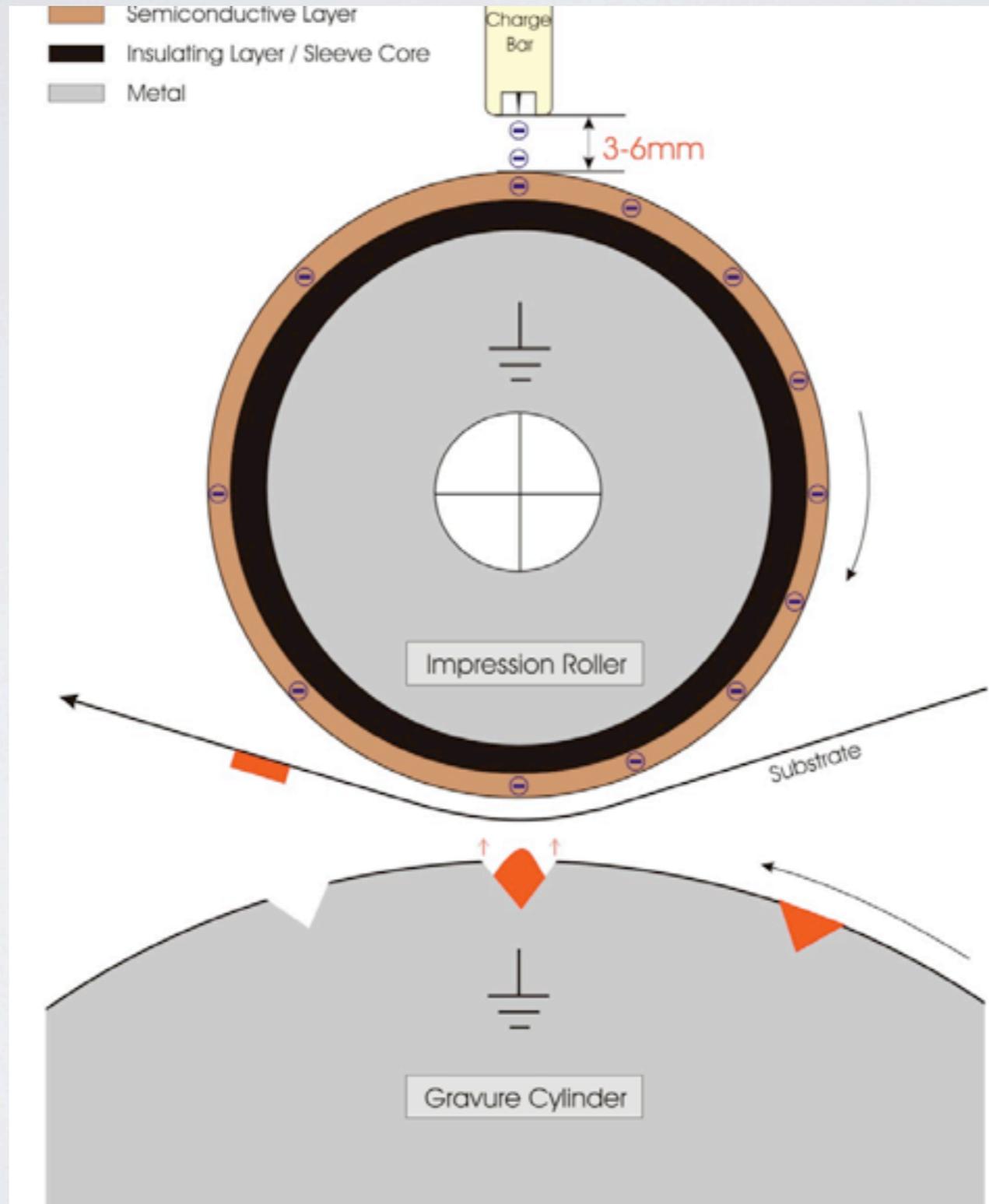
**Ink must reach the surface of the gravure cylinder to properly transfer.**

# THE ESA DIFFERENCE



ESA can get you here

# HOW DOES ESA WORK



# ESA BASICS



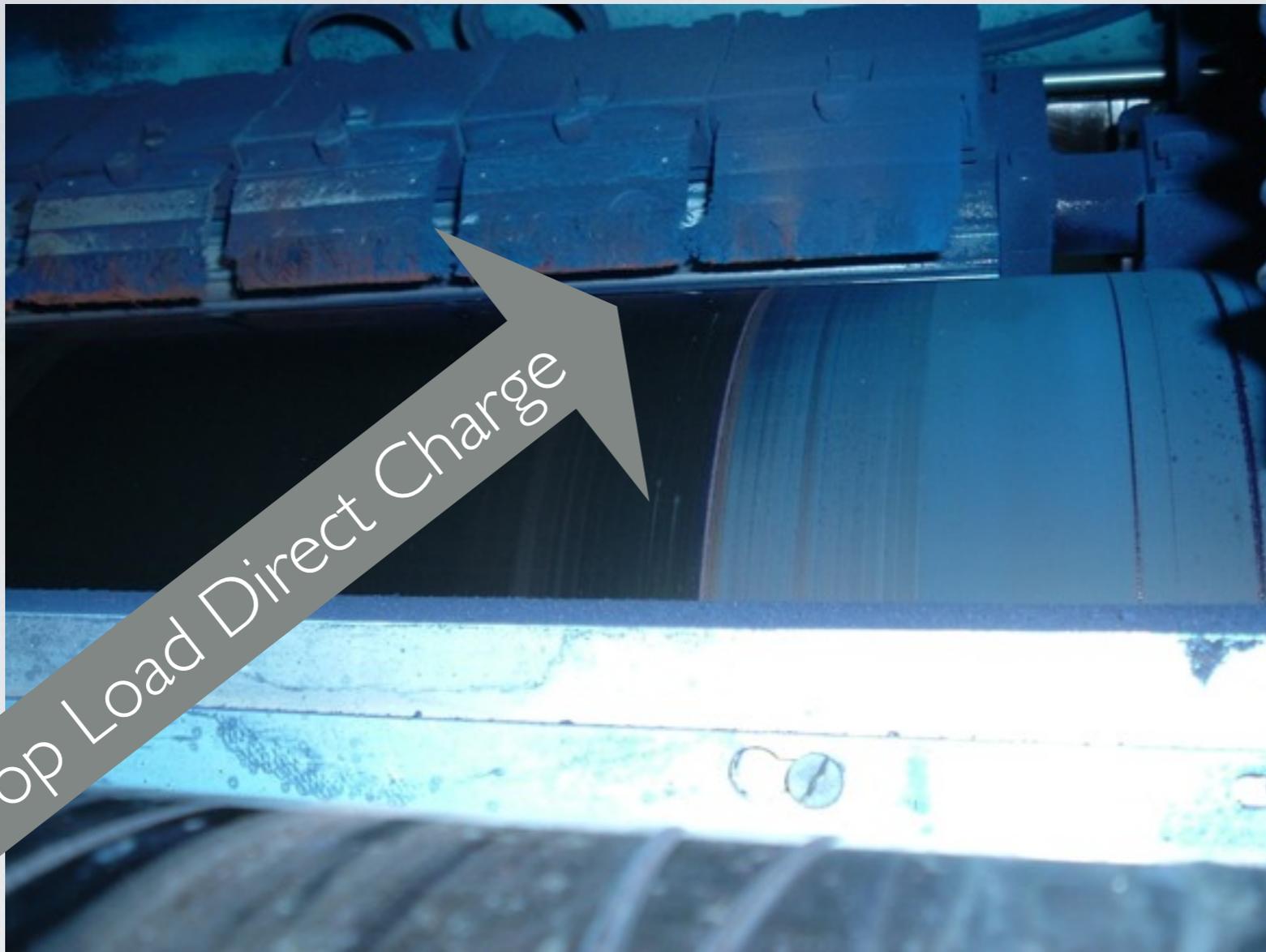
- All ESA Systems utilize approximately 300-1500 Volts in the nip in order to sustain an electrostatic field of pressure into the image cells.
- The ESA process creates electrostatic force down into the gravure cells of the grounded gravure cylinder that enables the ink pool to raise to the surface of the image cylinder.
- Dot skip elimination by means of ESA assistance is effective primarily in the half tones and below.
- When ink is accessible on the surface of the gravure cylinder it can make contact to the substrate allowing the ink to adhere to the substrate.
- Capillary action from the gravure process enables ink to be pulled out of the cells completely without missing dots.
- **ESA facilitates ink transfer - it simply enables the gravure process to work**

# ESA



## Top Load ESA Impression Rolls

- **Top Load Non Contact Open Body ESA Charge Bar  
(2-Layer ESA roll eg. isolated/semi-conductive)**
- **Top Load Non Contact “AIR ASSISTED” ESA Charge Bar  
(2-Layer ESA roll eg. isolated/semi-conductive)**
- **In both cases the same roll is used**
- **Insulation 1-2 Giga Ohm**
- **Outer layer 0.7-20.0 Mega Ohm (widest range for longest roll life)**



# “OLD SCHOOL” DIRECT ESA CONTACT APPLICATOR

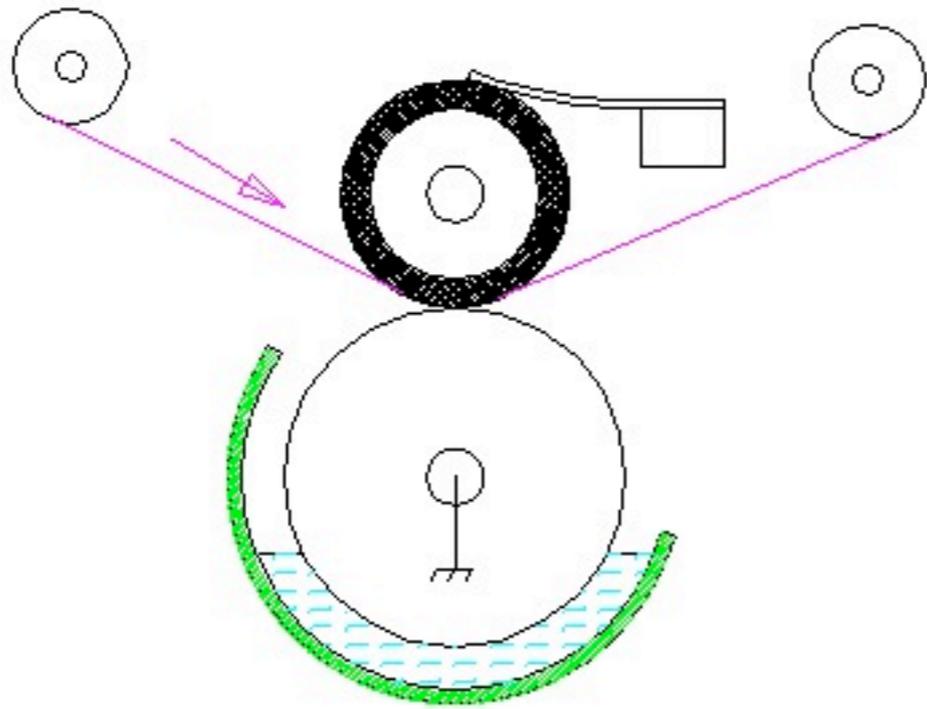


# TOP LOAD NON-CONTACT ESA

ENULEC ESA 1000 Standard Open Body Charge System

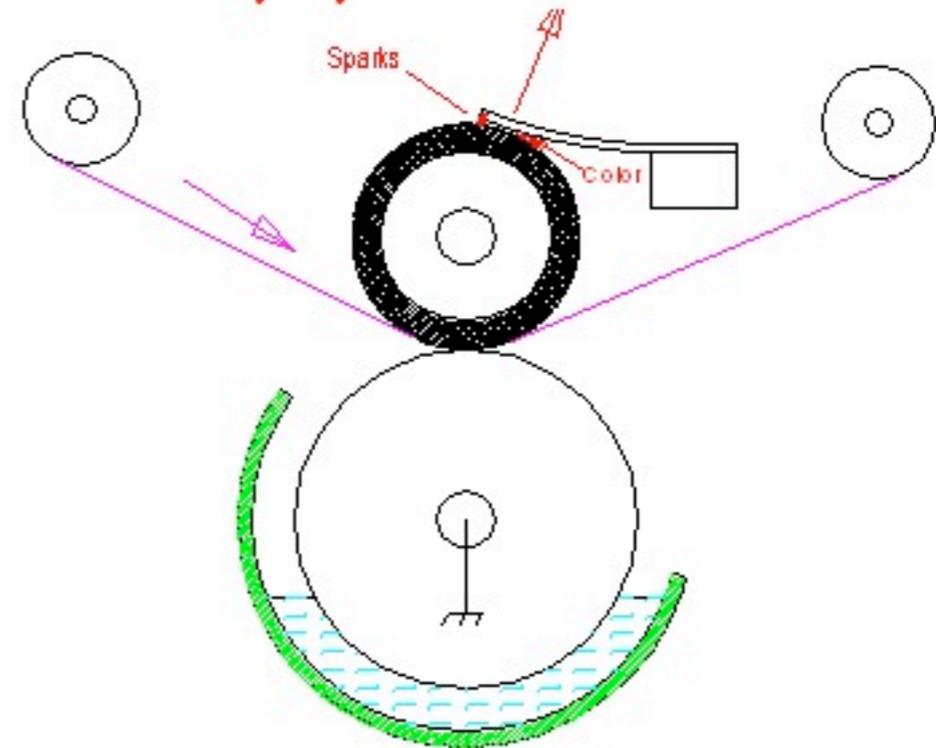
# PROBLEMS OF THE PAST

## New Installed System



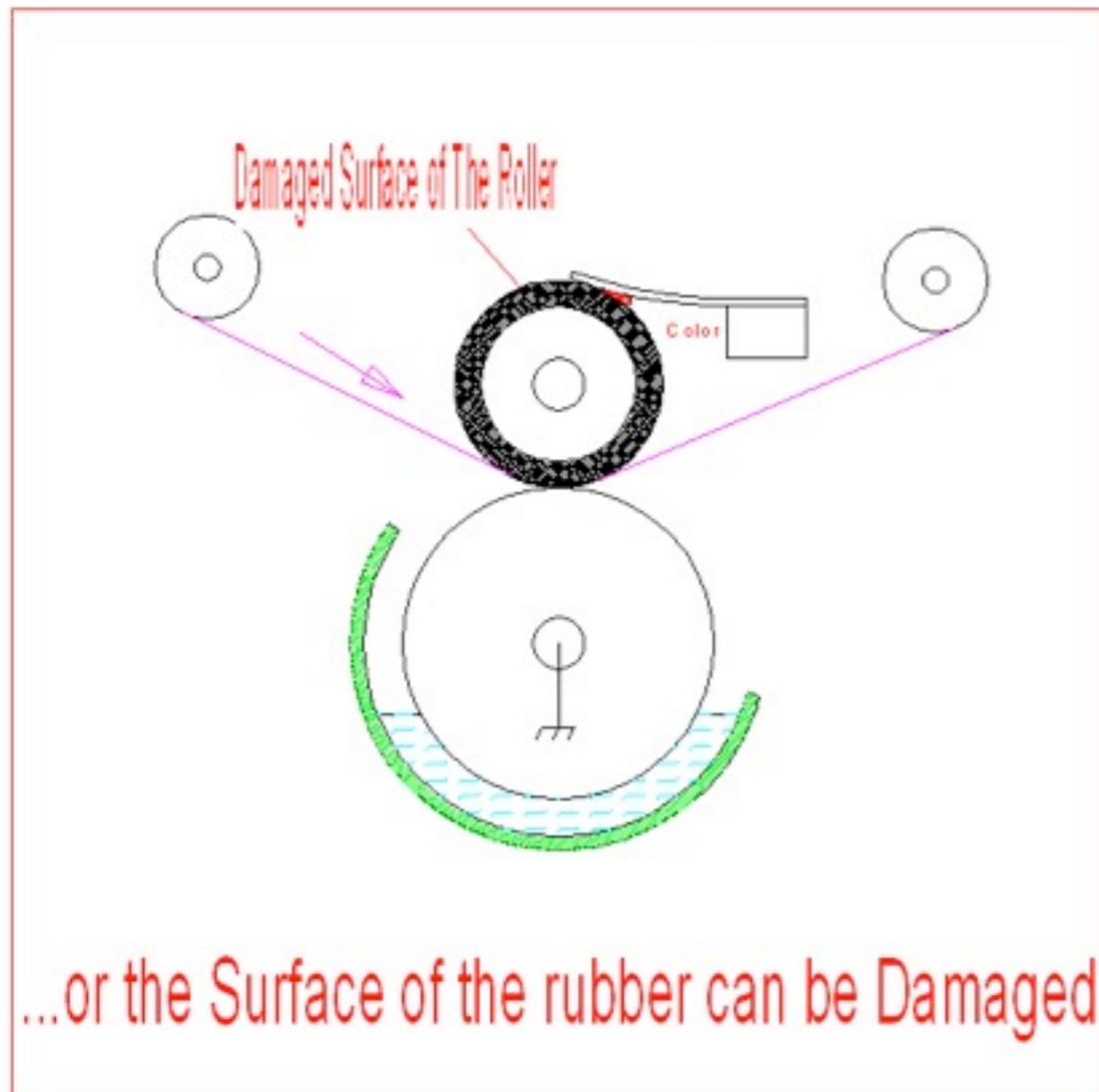
PHYSICALLY ABRASIVE CONTACT WAS APPLIED TO IMPRESSION ROLL.

## Dirty System can lift Contacts



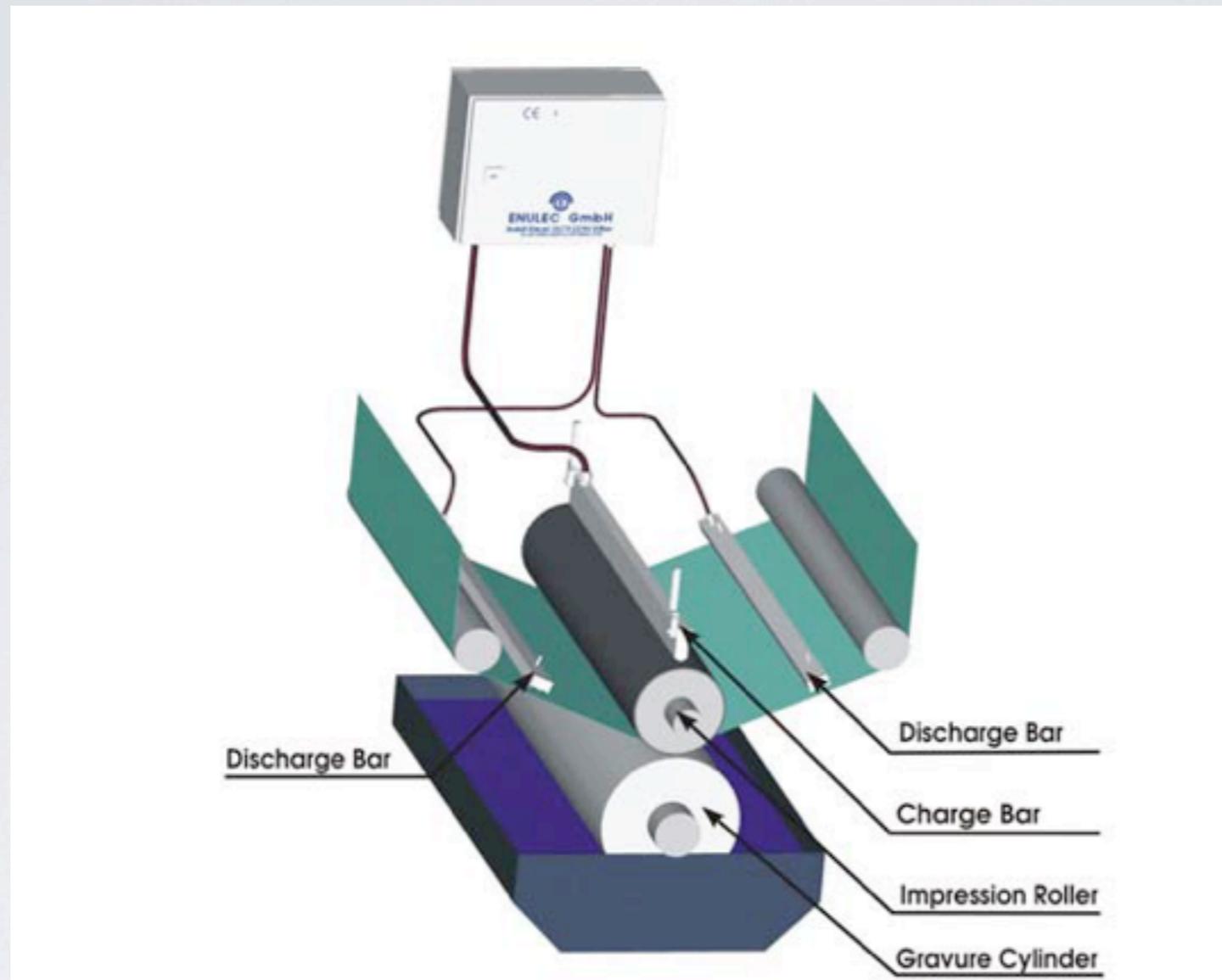
Sparks can occur ...

# ROLL LINES



**PHYSICAL ABRASION OF METAL APPLICATORS CAN WEAR THE SURFACE OF THE IMPRESSION ROLLER WHICH CAN SHORTEN THE LIFE OF THE IMPRESSION ROLL AND EFFECT THE PRINT QUALITY**

# TODAY'S SOLUTION



Non Contact Top Load  
is the most effective retrofit to update any  
Rotogravure Press to current ESA

# NEW TECHNOLOGY



NO OPEN PINS - Only available at ENULEC

**“AIR ASSISTED ESA”**

**Maintenance Free with highest safety rating in  
the Rotogravure industry**



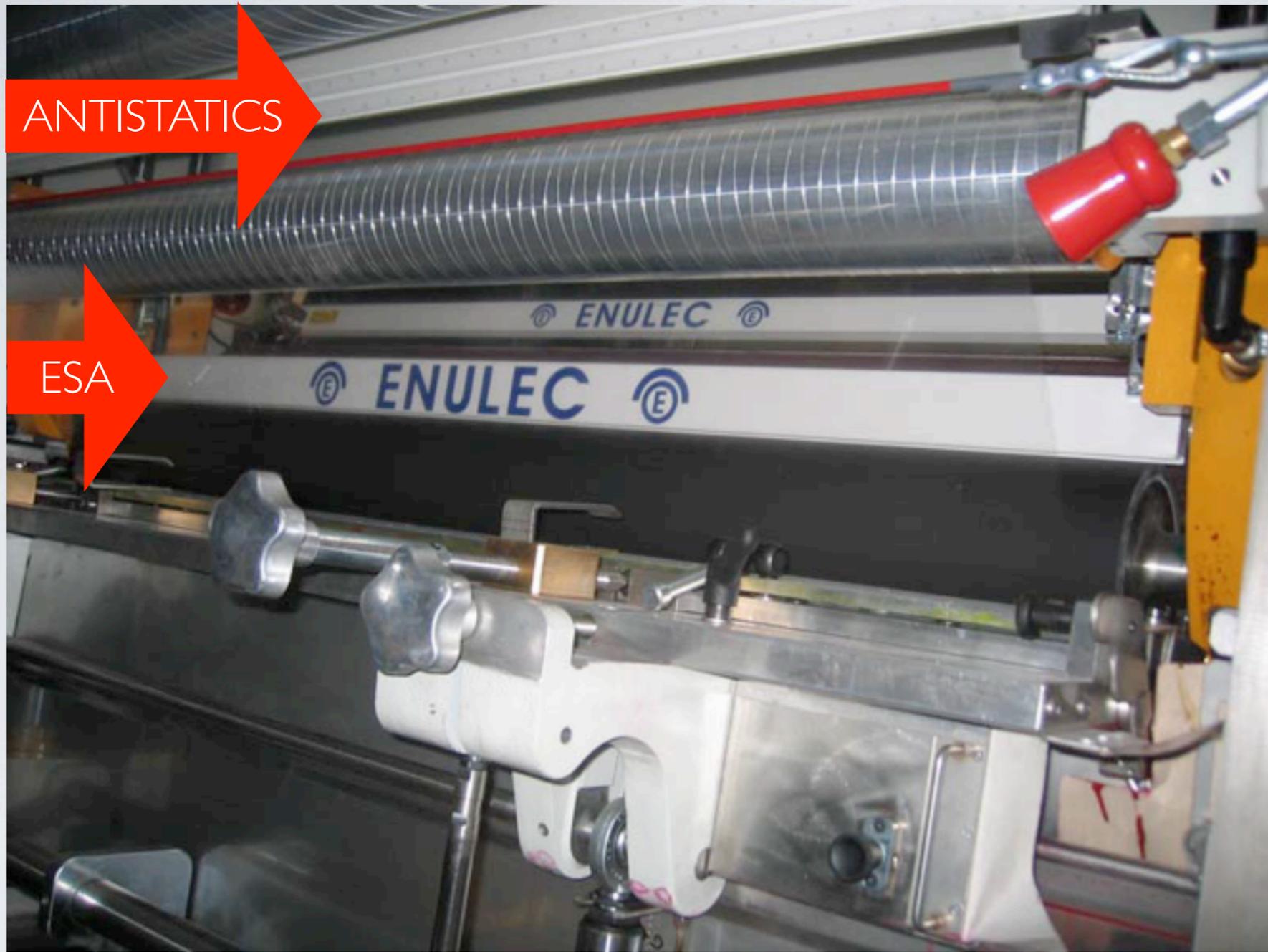
# AIR ASSISTED BAR

After 6 Months of Operation

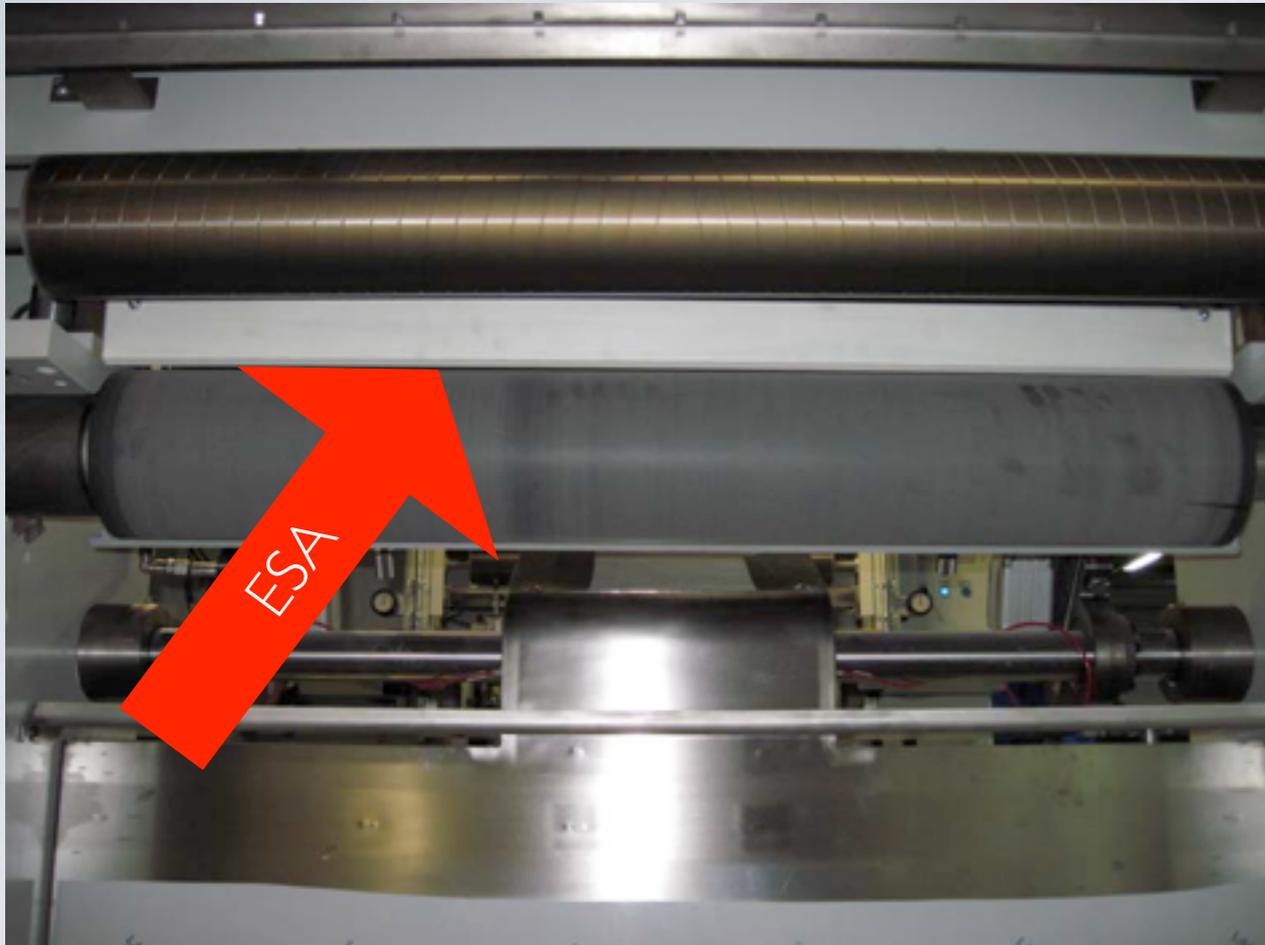
**ENULEC ESA is the first choice  
of the major press OEMs in Italy**



**ENULEC ESA IS INTEGRATED INTO  
THE LATEST ROTOGRAVURE  
PRESSES COMING FROM EUROPE**



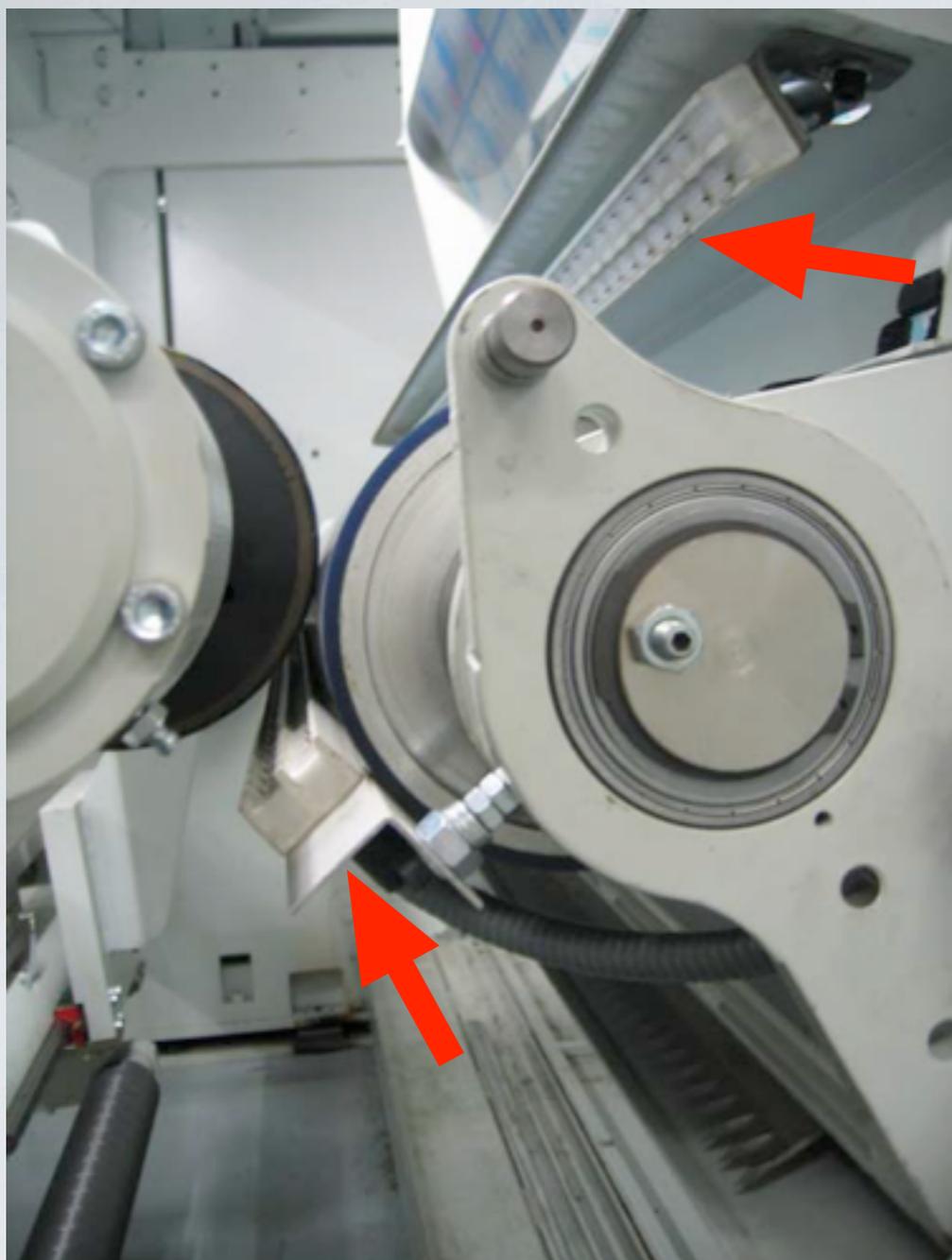
# **ENULEC ESA Installed on R980 Cerutti**



ANTISTATICS

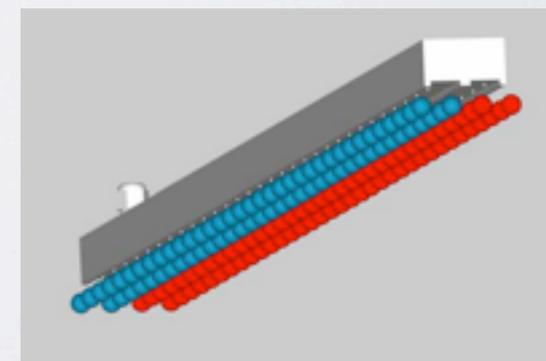


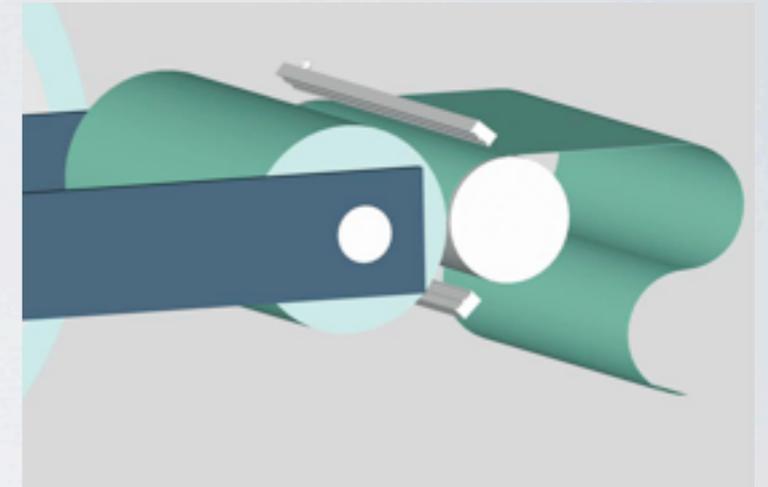
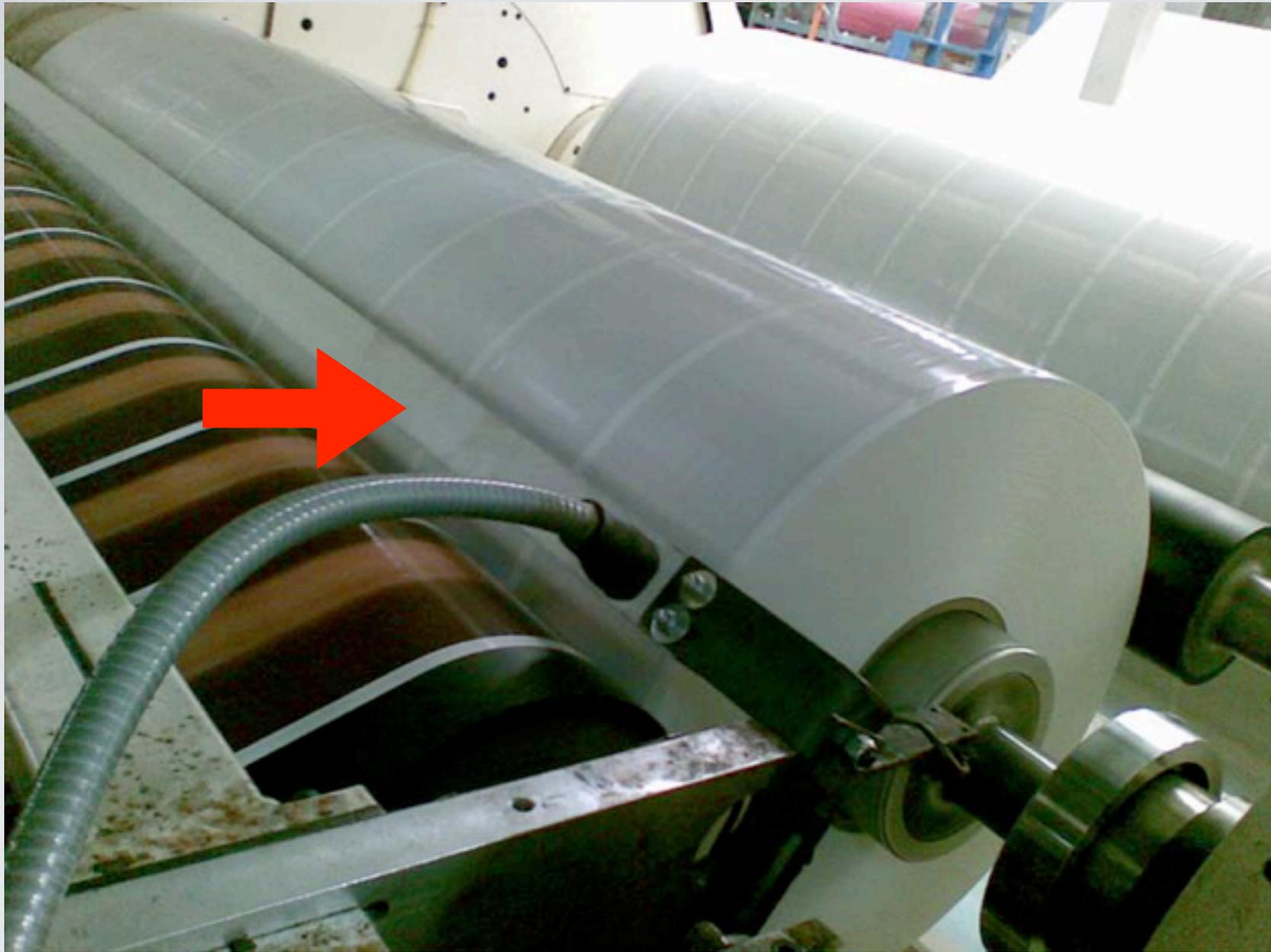
# ENULEC ESA Installed on Rotomec RS4004



## ENULEC LDS-DC “LONG RANGE DISCHARGE”

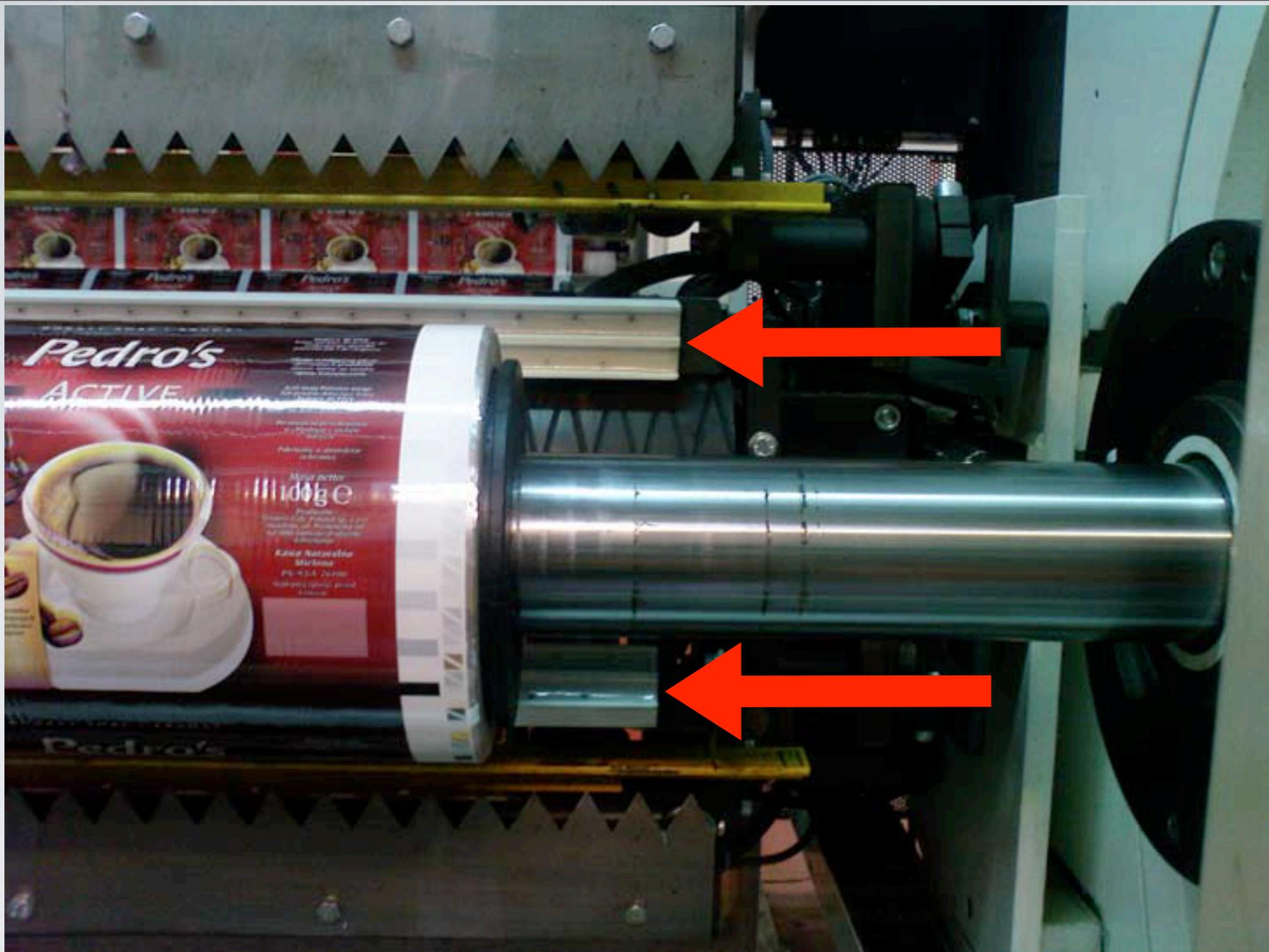
*New high performance antistatic technology for your winder*





**THE ENULEC LDS IS A “DC” POWERED SYSTEM**

**Effectively discharging the web 1/2 Meter away**



## **THE LDS IS DESIGNED TO WORK WITH CHANGING PITCH OF YOUR WINDERS**

For difficult substrates the system emits a constant +/- out of 2 separate sets of pins providing optimal roll neutralization



# The ENULEC Difference



- Easy to fit in any new or existing rotogravure press !
- Best print quality on any paper and plastic film materials !
- Highest safety standards due to 5 mm pin distance and the low 15 KV output voltage coming from the Power Supply Unit !
- Longer impression roller life due to 3mm air gap from charge bar to impression roller and dense distance of the high voltage pins !
- Long Working range of impression rollers up to 40 MOhms surface resistance! Only with ENULEC
- Impression roller pressure reduction up to 50%!
- Interchangeable Modules of the complete System – always up to date !
- Spare parts availability for **min. 25 years** !
- Fully Supported and available worldwide by the ENULEC Global Service Network



# THANK YOU!



**For Further Information**  
**[www.enulec-america.com](http://www.enulec-america.com)**