Corona Surface Treatment

AHLBRANDT
A *BALDWIN* Technology Company

Efficiency · Quality · Precision
with Corona Technology

Product navigator
Three steps to your perfect system

1 — Your application

	Pure	Pure XL	Flex	Extrude	Slim	Flame	Jet	Jet-R
Printing	•	•	•	•	•	•	•	•
Laminating	•	•	•	–	–	–	–	–
Extruding	•	•	–	•	–	–	–	–
Coating	•	•	•	–	•	•	•	•

2 — Your material

	Pure	Pure XL	Flex	Extrude	Slim	Flame	Jet	Jet-R
Films	•	•	•	•	•	•	–	•
Textiles	•	•	–	–	–	–	–	–
Paper	•	•	–	–	•	–	–	–
Metal	•	–	–	–	–	–	•	•
Edge bands	•	–	–	–	•	•	•	•
Glass	•	–	–	–	–	•	•	•
Wood	•	–	–	–	–	•	•	•
Foams	•	•	•	–	–	–	–	•
Cables, profiles	–	–	–	–	–	•	•	•
Panels	•	–	–	–	–	•	•	•
Molded parts	–	–	–	–	–	•	•	•

3 — Your product

Products	Corona					Plasma		
Types	Pure	Pure XL	Flex	Extrude	Slim	Flame	Jet	Jet-R

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Treat!
With Superior Corona Efficiency

We offer the market's most efficient Corona systems with high-performance electrodes ensuring effective surface treatment for enhanced ink, coating, varnish and glue adhesion on a variety of materials. The slim design enables easy integration and retrofit into existing production lines, and our features allow for fast and easy service.

Ahlbrandt is well known for state-of-the-art, high-efficiency Corona systems designed for superior surface treatment in any areas of applications. Our technology can be found around the world enhancing the productivity in industries ranging from Print, Packaging, Film Extrusion & Converting, Paper, Panels, Sheets & Foams, Textiles & Nonwovens, Metal Plates and more.

In addition to solving surface treatment problems for thousands of global industrial companies, Ahlbrandt is an authorized, strategic supplier to many OEMs. Our unique strengths are supported by constant innovations developed in our competence centers, as well as through implementation of the highest technical requirements – for safe, economical and future-proof surface treatments.

With Ahlbrandt Corona treatment

Without Ahlbrandt Corona treatment

Applications

Film production
Cast and blown film extrusion with and without longitudinal recess

Film finishing
Metalized and non-metalized films, thick-wall and heavy duty films, furniture films and edge bands, films on cardboard and paper after extrusion coating, printed films for subsequent coating, treatment refreshment for printing, coating and laminating, treatment with recess for subsequent sealing

Textiles and Nonwoven
Coating, laminating and finishing of synthetic fibers, printing and laminating of woven fabrics

Paper
Coating, laminating of coated paper and cardboard

Foam
High-density foams for adhesive tapes, insulating materials and composite materials

Metal foils
Printing, laminating, coating and ultra-fine cleaning of aluminum and copper foils

Molded parts, 3D parts
Marking of pipes and cables, bonding of molded parts, profiles, folding boxes and metal parts

Panels
Decorating of plastic and multi-wall panels, coating of glass panels

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Corona Pure

For years Ahlbrandt's Corona Pure systems have been the proven standard solution for the surface-wide treatment of plastic films, metalized films, paper and textiles in Europe.

Advantages

- Simple web threading and service through swiveling electrode system
- Suitable for every web guidance and installation position
- Maximum productivity through autonomous opening and closing in case of film thickening
- Effective electrode cooling for long service life of the ceramic electrodes
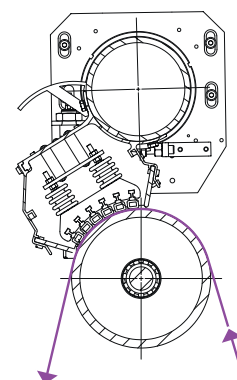
Options

- Nip roller to avoid reverse-side effects
- Roller drive to avoid film slippage
- Treatment roller with cooling
- Chain intake for simple threading
- Micro-adjustment of discharge gap
- Easy Change System for electrode replacement
- Changeover unit to alternate the treatment side
- Thickness control for maximum process reliability
- Pneumatic short stroke for minimum wastage
- UL / CSA version with certification
- ATEX version

Specifications	
Max. working width [mm]	≤ 3.500
Web speed [m/min]	≤ 1.000
Material thickness [mm]	≤ 3
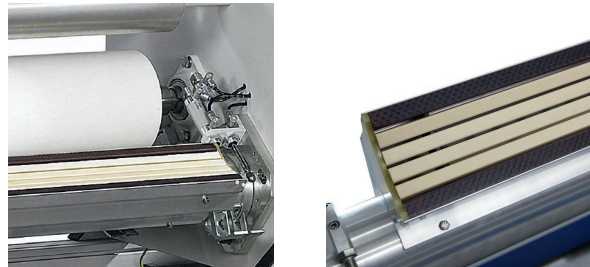
Swiveling system for simple handling: Operation, standby and service.

Roller types	Electrode types		
Aluminum	Ceramic	Metal	Segment
Ceramic-coated	Ceramic	Metal	Segment
Wear protection, conductive	Ceramic	Metal	Segment
Silicone-coated	Ceramic	Metal	Segment
Silicone SLEEVE	Ceramic	Metal	Segment
Stainless steel	Ceramic	Metal	Segment
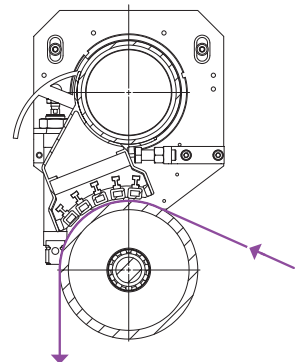
Corona Pure XL

The Corona Pure systems utilize a unique swiveling housing design enabling fast and easy maintenance, a superior design feature that differentiates it from other solutions on the market.

Advantages

- Swiveling electrode system for rapid and easy accessibility
- Removable electrode cover for convenient cleaning and fast service
- Electrode holders are adjustable separately
- Simple and convenient web threading

Options

- Nip roller to avoid reverse-side effects
- Roller drive to avoid film slippage
- Treatment roller with cooling
- Chain intake for simple threading
- Micro-adjustment of discharge gap
- Spreader roller for wrinkle-free web threading
- Thickness control for maximum process reliability
- Pneumatic short stroke for minimum wastage
- UL / CSA version with certification

Specifications	
Max. working width [mm]	≤ 5.000
Web speed [m/min]	≤ 1.000
Material thickness [mm]	≤ 3

Removable electrode covers.

Roller types	Electrode types		
Aluminum	Ceramic	Metal	Segment
Ceramic-coated	Ceramic	Metal	Segment
Wear protection, conductive	Ceramic	Metal	Segment
Silicone-coated	Ceramic	Metal	Segment
Silicone SLEEVE	Ceramic	Metal	Segment
Stainless steel	Ceramic	Metal	Segment

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Corona Flex

Defined by high efficiency treatment, maximum uptime and easy maintenance, our Corona Flex is ideal for thick films and foams and guarantees optimized productivity and continuous quality in your production process.
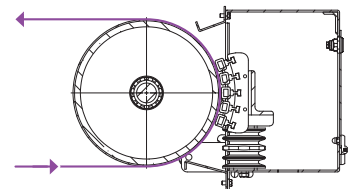
Advantages

- Simple electrode module replacement for fast retrofitting
- Segment size with capacity reserves for special films and longitudinal recesses at high web speeds
- Easy access thanks to large flap opening

Options

- Nip roller to avoid reverse-side effects
- Roller drive to avoid film slippage
- Treatment roller with cooling
- Chain intake for simple threading
- Micro-adjustment of discharge gap
- Metal profile electrodes
- Segments made of stainless steel
- Changeover unit to alternate the treatment side
- Thickness control for maximum process reliability
- ATEX version

Specifications	
Max. working width [mm]	≤ 2.200
Web speed [m/min]	≤ 400
Material thickness [mm]	≤ 6
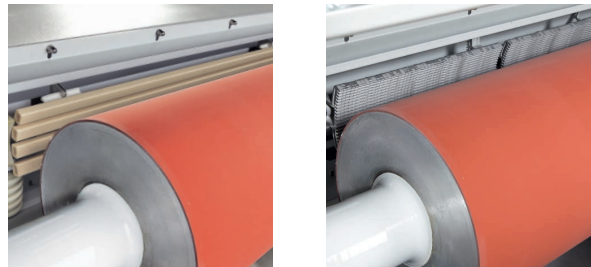
Ceramic electrodes or metal segment electrodes.

Roller types	Electrode types		
Aluminum	Ceramic	Metal	Segment
Ceramic-coated	Ceramic	Metal	Segment
Wear protection, conductive	Ceramic	Metal	Segment
Silicone-coated	Ceramic	Metal	Segment
Silicone SLEEVE	Ceramic	Metal	Segment
Stainless steel	Ceramic	Metal	Segment

Corona Extrude

Corona Extrude is especially innovated to maximize uptime, increase your productivity and deliver extensive pretreatment quality in blown film manufacturing.

Advantages

- Easy web threading
- Maximum productivity through fast segment setting
- Easy access to the electrode unit
- Easy flip system for simple segment setting
- Inspection window for visual function control

Options

- Metal profile electrodes
- Segments made of stainless steel
- Segment width 5 and 20 mm
- Micro-adjustment of discharge gap
- Changeover unit to alternate the treatment side
- One-sided treatment unit

Specifications	
Max. working width [mm]	≤ 2.500
Web speed [m/min]	≤ 150
Material thickness [mm]	≤ 1
Segment width [mm]	10
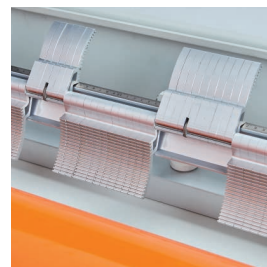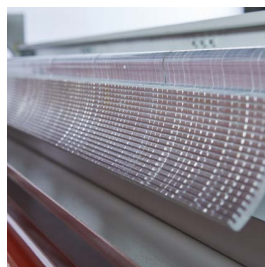
Simple recess of treatment areas.

Roller types		Electrode types		
Silicone-coated		Ceramic	Metal	Segment
Silicone SLEEVE		Ceramic	Metal	Segment

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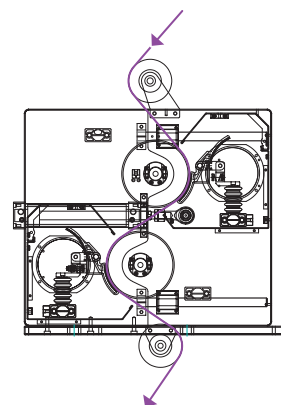
Corona Slim

High performance in a small format is realized by the Corona Slim. This is a slim, simple and effective corona solution, designed by Ahlbrandt for easy installation and high efficiency in label and narrow web printing.

Advantages

- Can be installed in the smallest working space
- Simple integration into production lines
- Comfortable operation with "Easy Change" cassette
- Electrode change in a few seconds
- Minimum downtime for service and maintenance
- Inspection window for visual function control

Options

- UL / CSA version with certification
- Ceramic roller
- Aluminum roller

Specifications	
Max. working width [mm]	≤ 800
Web speed [m/min]	≤ 300
Material thickness [mm]	≤ 1
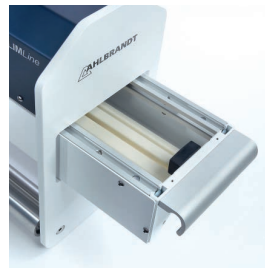
Simple electrode service.

Roller types		Electrode types		
Aluminum		Ceramic	Metal	Segment
Ceramic-coated		Ceramic	Metal	Segment
Stainless steel		Ceramic	Metal	Segment
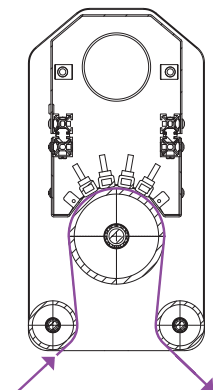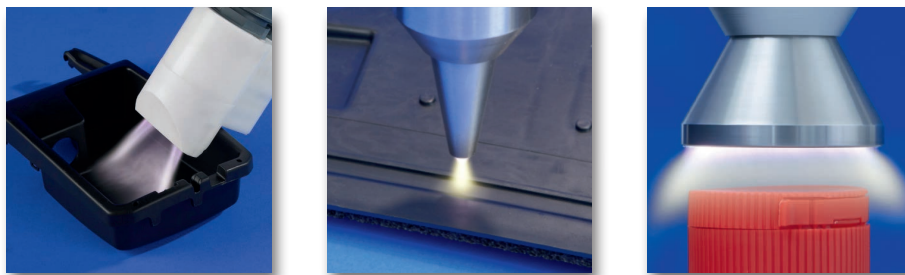
Plasma

For partial or non-flat shaped applications, our Plasma 3D solutions are ideal for increasing adhesion properties of small outlined areas – the Plasma JET can treat fields as small as 8 mm with high precision – and is highly efficient on a wide variety of materials. This, along with simple operation, easy installation on robot arms, freely movable in all directions, durable nozzle housings etc., makes our Plasma 3D innovations the most versatile of corona treatments.

Advantages

- Partial application
- Simple operation
- Easy installation on robot arm
- Nozzle can be freely moved in all directions
- Robust nozzle supply with metal flex hose

Options

- External start / stop function
- External power control

Specifications			
	Flame	JET	JET-R
Treatment area [mm]	30-50	8-15	30-55
Compressed air connection [bar]	Internal	3-10	3-10
Treatment speed [m/min]	≤ 50	≤ 100	≤ 100
Potential-free Plasma	–	•	•

Plasma Flame

Plasma JET

Plasma JET-R

Energy savings through Efficiency

- Power range 1 to 40 kW, max. 80 kW
- TFT-touch display (3 variants)
- Power display in kW / Corona dose
- Thickness detection adjustable on display
- Precise transverse recess for bag printing
- Automatic power adjustment to speed
- Numerous languages selectable via display
- Remote maintenance / IOT communication

Generators

Ahlbrandt's generators offer exceedingly high energy efficiency and optimal performance. The modular design enables easy accessibility and simple replacement of components.

Advantages

- Modular design for simple replacement of components
- Service-Plus through integrated diagnostic system
- Efficiency optimized by regulating to resonance frequency
- Detection of electrode defects
- Web server for on-site service
- High availability for maximum productivity
- Status analysis for rapid service

Options

- Field bus connection
  Profinet, Profibus, Canbus (others on request)
  Complete control via customer PLC
- Power adjustment analog or via field bus
- Process monitoring with memory and USB connection
- UL / CSA version with certification
- Remote maintenance via network access
- Operation on additional display

Service-Plus connect

1. Remote Service
2. On-site Service
3. www
4. Generator
5. Touch display Option
6. Production line Integration
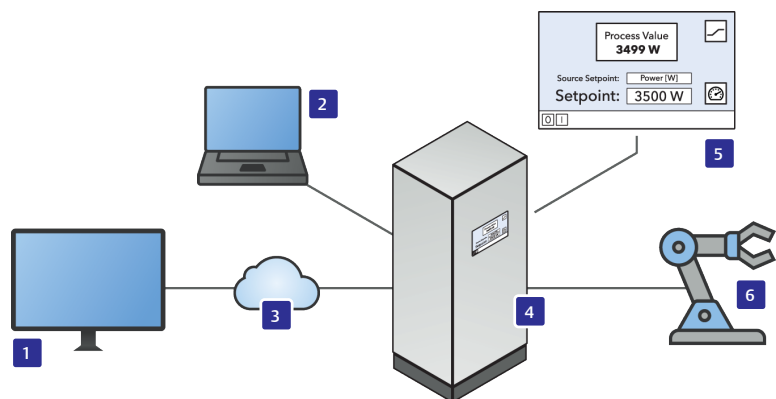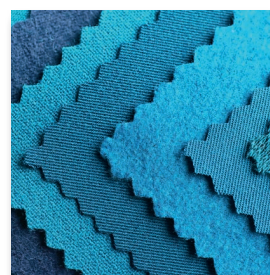
Specials

Ahlbrandt designs and manufacture tailor-made Corona solutions for various materials, with total accuracy. To hint of the versatility of our technology, here are some examples of customized solutions we provided.

Foam Treatment

- Bonding and laminating of foam / insulation panels
- Materials on reels with thicknesses of 0.5 to 6 mm
- Closed-cell foams with different thicknesses

Application examples – Foams for tapes, insulating materials for industry and real estate and automotive sectors.

Cable Treatment

- Better printing, marking or coating of sheathing

Application examples – Cables, connections and hoses with and without electrical conductors.

Panel Treatment

- Bonding, laminating, printing or coating non-flexible panel material
- Continuously extruded material or separate panel material without thickness limit

Application examples – Decorative panels, solar modules, multi-wall panels, laminates, metal, wood and composite material.

Nonwoven Treatment

- Optimized laminating, coating and finishing of technical textiles

Application examples – Membranes, filter materials, construction and safety textiles

Accessories

Easy Change

- Short maintenance times – Easy Change, rapid electrode replacement without tools up to 2000 mm working width
- Simple operation – Quick release of removable electrode system

Ozone Converter

- Catalyst bed of metal oxides
- Conversion of ozone (O3) into oxygen (O2)
- No fire hazard (no activated carbon)
- 2 pre-filters for optimum catalyst protection
- Monitoring of filter status
- Easy and fast maintenance

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With over 50 years of engineering expertise, Ahlbrandt is the pioneer of Corona pretreatment innovations in the surface treatment industry. Based in the heart of Germany and with a worldwide presence, Ahlbrandt designs and manufactures the world's most efficient Corona treatment technology. Our experienced service technicians install and maintain your equipment all over the world and ensure a trouble free operation.
 www.ahlbrandt.com

Your Benefits

- Durability
- Electrode Protection
- Availability
- Energy Efficiency
- Perfect Uniformity

Baldwin Technology Company Inc. is a leading global manufacturer and supplier of innovative process-automation equipment, parts, service and consumables for the printing, packaging, textile, plastic film extrusion and corrugated industries. As a total solutions provider, Baldwin offers our customers a broad range of market-leading technologies, with a focus on improving the economic and environmental efficiency of production processes. Through a global footprint of 21 company-owned locations and an extensive network of partners, our customers are supported globally, regionally and locally by dedicated sales and service team members who add value by forming long-term relationships. Baldwin is privately owned by BW Forsyth Partners, a Barry-Wehmiller company. For more information, visit **baldwintech.com**

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