

Centre for future-oriented converting technology



RECO 800 A

The ideal concept for all types of coating

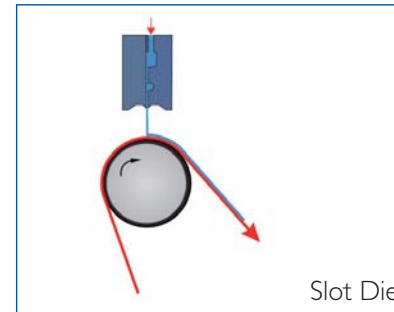
Curtain Coating

Perfectly coated surfaces

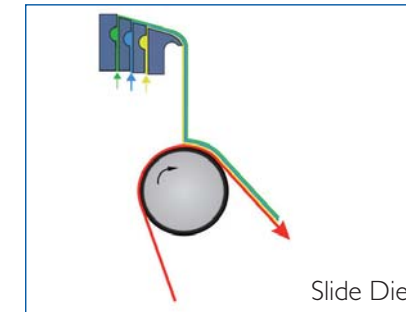
- Homogenous, unstructured film
- Extremely smooth, unstructured surface
- End products of highest quality
- Variations in thickness of substrate without negative effects
- Clean, uncoated edge
- No film split effects (compared with gravure and roll application)
- Outstanding cross-profiles

Flexible and clean application

- Simple operation
- Simple change to coating weight (by variation of pump speed)
- Wide coating weight range
- Wide viscosity range
- Clean working area, simple to clean with less water
- Clean, uncoated edge
- No or only small amount in circulation



Slot Die



Slide Die

Coating method for aqueous adhesives and other (aqueous and solvent-containing) coating media

Conventional methods of applying adhesive dispersion coatings, whether reverse gravure with pressurized chamber doctor blades, Meyer bars, or die application technology, are reaching or have already reached their limits today.

The curtain coating method was originally developed for coatings with water-based adhesives. Of course, other applications are possible if the specific requirements of the procedure are met. For example, one basic premise of the technology is that solvent-based lacquers, adhesives, etc., or microcapsules, thermal and inkjet coatings, PVdC and other media can also be applied using the curtain technique.

MPG 600 CI

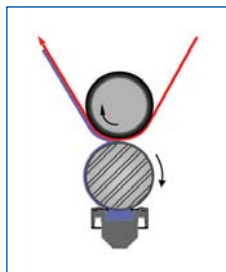
Characteristics of gravure roll-coating technique with pressurised chamber doctor blade

Optimum flow conditions in the chamber and small circulation systems specifically developed for these requirements ensure absence of foam without compromising the transparency (clear-on-clear films, top coat etc.).

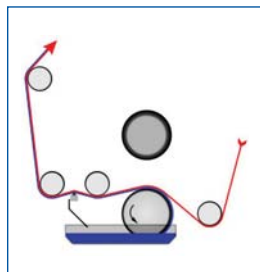
Quick-change patented heavy-duty fluid seals ensure splash-free operation even at 600 mbar volume pressure in the chamber.

The high sealing ability prevents loss of pressure at the edges and loss of volume, and thus guarantees an even coating. Typical devices such as scraping tools and smoothing equipment to eliminate ridges at the edges are not required. The system can be used for a wide range of viscosities. Even at viscosities of > 60 sec. Ford cup 4 or 2,500 mPas, blemishes and doctor blade smears are avoided.

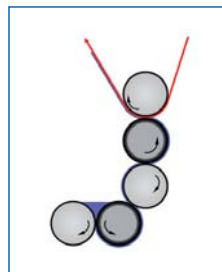
3 Examples from 60 different coating systems



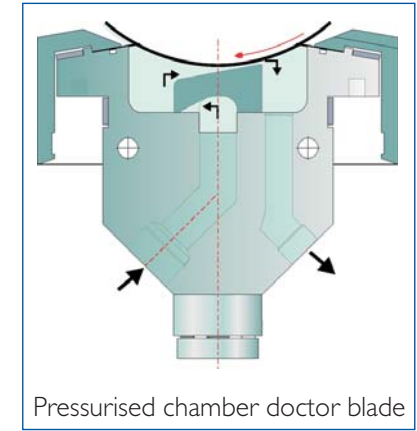
Reverse direct coating with the MPG 600 CI



Kiss coating with smooth roller and Mayer bar



5 Roll metered coating with smooth roller



Pressurised chamber doctor blade

ST 300 Comma Coater

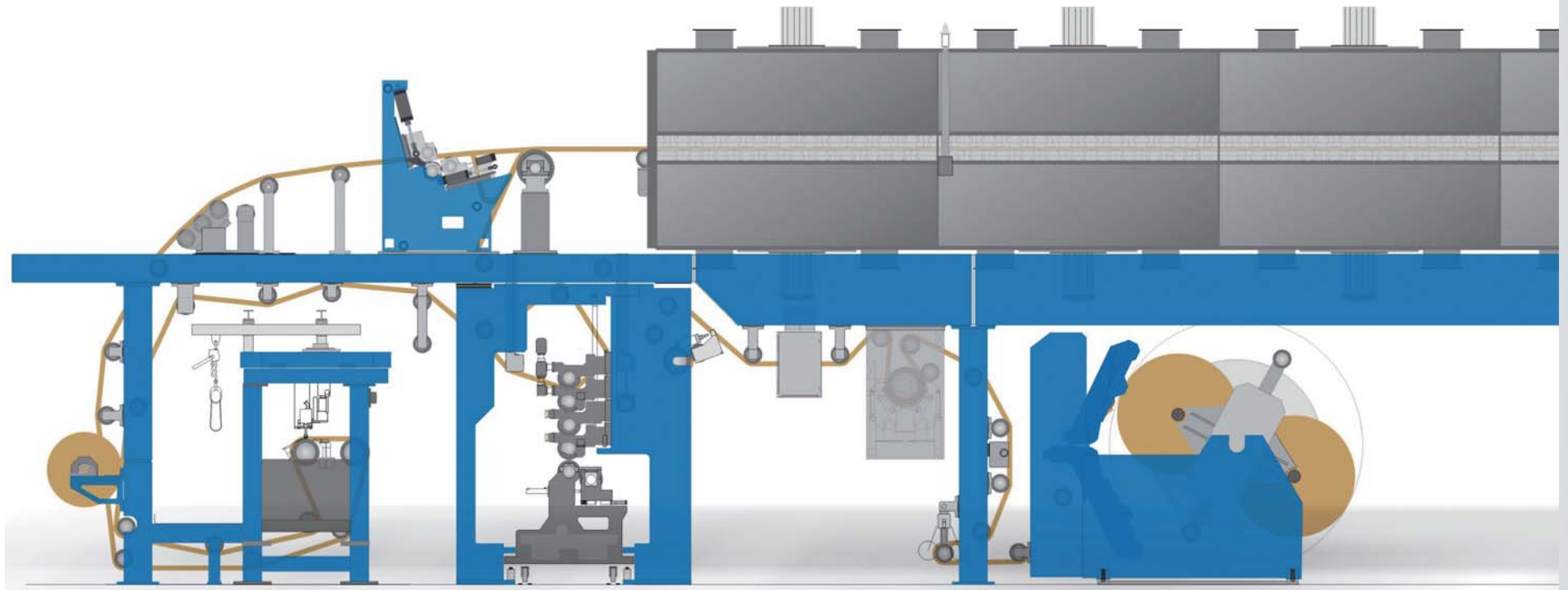


Features of the self-metering comma bar process

Excellent coating quality through precise tear-off edge, either as contour or level coating surface possible. High coating weight variation at viscosities of 1 – 500 Pas. Control of high nip pressures possible due to our latest deflection compensation design.

Pilot machine sets new standards globally

Working width 1,300 mm, $V_{max} = 1,610$ m/min, more than 60 processes



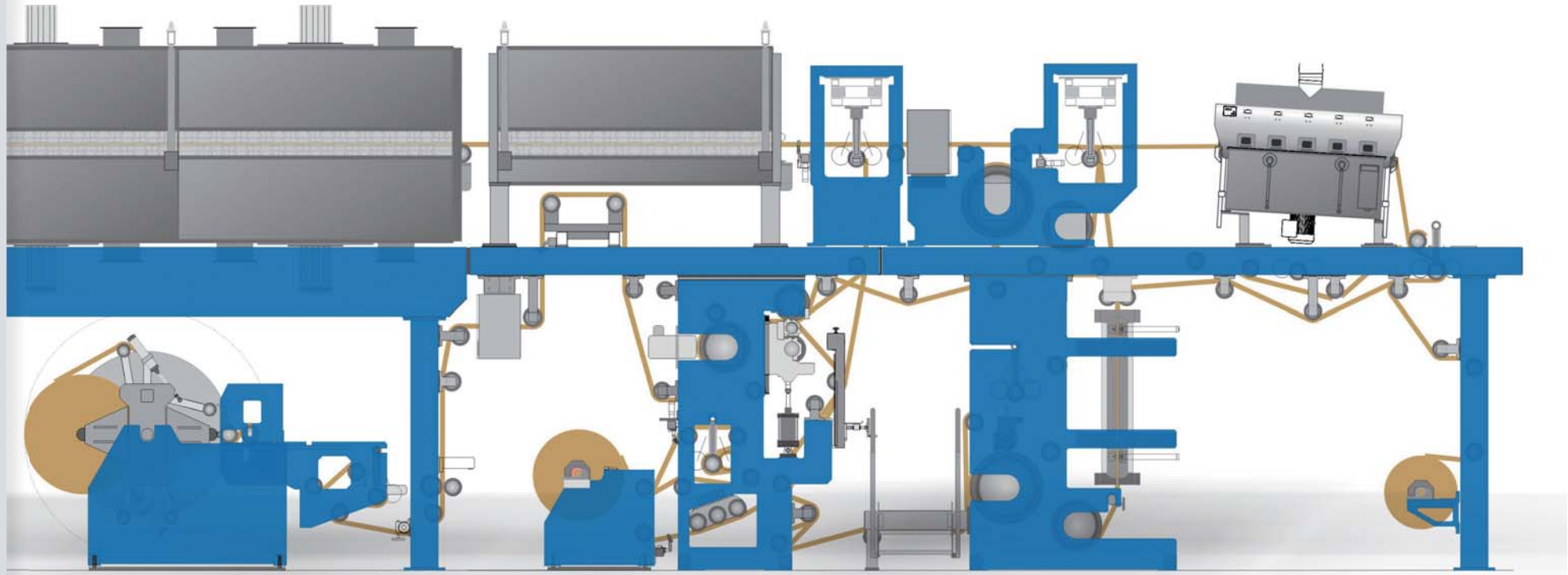
Auxiliary unwinding
(wet laminating)

Curtain Coater
Spreader

Coating Head with Trolley
Coating Weight Measurement

Corona Station
Web Cleaning

Rotating Unwinding
Drying Channel



Rotating Winding

Web Humidity Measurement

Laminate unwinding
Auxiliary rewinding

Spray Humidifier
Lamination station

Steam Humidifier

UV plant

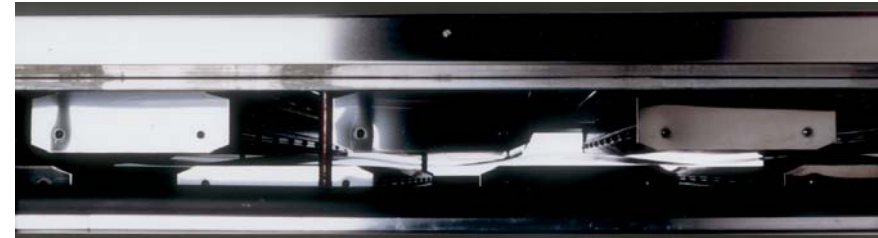
Auxiliary unwinding

Drying and moistening systems

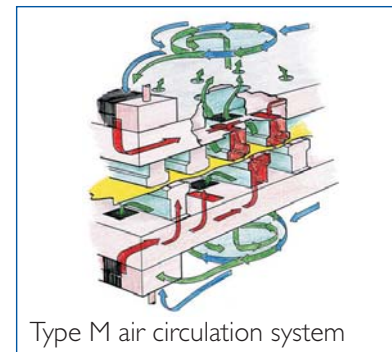
DRYTEC recirculatory systems in combination with the unique variation possibilities of the Highdry modular system offer the optimum solution for almost every application requirement. The 18-metre long multifunctional drying tunnel developed on the basis of the Highdry modular system allows implementation of all known drying variations in addition to operation as a suspension dryer.

Heavy-duty suspension dryer type Floatec M Highdry 500

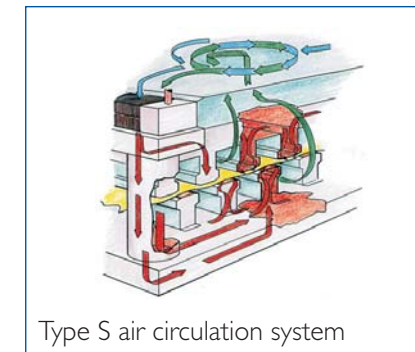
The air ducting of the M type not only has its own independent temperature control in the upper and lower part, but also allows completely different nozzle blow speeds to be set by means of independent frequency-controlled recirculation fan. The web width-independent backflow speed of the blow air is ensured by the absolutely symmetrical backflow suction channels positioned between the nozzles. The M type offers unique flexibility while guaranteeing compact construction. The offer is complemented by a STEAMTEC steam humidifier and an inertized RAYTEC UV plant with 5 lamps, 200 W/cm.



Dryer Sine Curve Process



Type M air circulation system



Type S air circulation system

Winding Technology



Unwinder FSU 10 AG for 2 rolls up to 1,300mm diameter

High performance turret winders for un- and rewinding, Type FSU/FSR 13 AG

This winder performs roll changes for all substrates at production speeds. Whether fully automatic per running meter or rest length indication, or semi-automatic mode operated by push without stopping the machine. The two winding arms permit roll direction changes during unwinding from above or below without stopping or modification. Motorized guided rollers also prevent surface damage caused by scratching to sensitive films. Ergonomic and time-saving roll handling is ensured by a ground levelled lifting table system and shaftless roll mounting during winding and unwinding.

RECO 800 A TECHNOLOGY CENTER

The ideal concept for all types of coating

Technical data for the RECO 800 A*

Working width	1,300 mm
Material width, min., max.	500 - 1,300 mm
Roll external diameter, max.	
Unwinder 1 (reversible winder, flying splice, without axle)	1,300 mm
Unwinder 2 (wet laminate winding)	800 mm
Unwinder 3 (relaminate winding)	800 mm
Unwinder/winder 4 (laminate-winding, auxiliary winding)	1,000 mm
Winder (reversible winder, flying splice, without axle)	1,300 mm
Internal diameter of winding cores	
Unwinder 1	76 mm (3") + 152 mm (6")
Unwinder 2	76 mm (3") + 152 mm (6")
Unwinder 3	76 mm (3") + 152 mm (6")
Unwinder/winder 4	76 mm (3") + 152 mm (6")
Winder	152 mm (6")
External diameter, min.	175 mm
Track	
Unwinding 1, 2, 3, 4	50 - 300 N
Winding, without axle	150 - 700 N
Machine speed	
maximum	1,610 m/min
minimum	4 m/min
Coating weight, dry	
coating	0.2 - 100 g/m ²
laminating	1.5 - 10 g/m ²
Processing temperatures in the coating head of up to up to...	
	90° C

* Additional equipment such as Corona pretreatment, track cleaner, electrostatic earthing etc. are components of the system

Application systems in changeover equipment	
Screen roller	
No-tub smooth and multiple rollers	
Comma techniques	
Roll doctor blade	
Nozzle application	
= in all, more than 60 processes	
Curtain coating	
Slot die, 1 slot, up to	1,300 mm
Slide die, 3 slots, up to	700 mm
Dryer 5 sections at 3 m in length	
Temperature, max.	250° C
Recirculation volume per section, max.	27,000 m ³ /h
Air outlet speed at nozzle, max.	50 m/sec.
Total amount of exhaust air max.	25,000 m ³ /h
Dryer performance (thermal oil), max.	1,200 kW
UV web, N₂ inertisable, 5 UV lamps	
Performance of each UV lamp adjustable	25 - 200 W/cm
Remoistening stations 1 + 2	
Steam output max.	500 kg/h
Material conditions for test series	
Paper	17 - 180 g/m ²
Cardboard	180 - 500 g/m ²
Film	3 - 500 μ
Metal foil	6 - 150 μ
Length of substrates, min.	2,000 m
Coating material LF, min.	30 - 50 kg
Coating material LH, min.	120 l
Coating material, silicone, min.	10 kg
Solvent-containing varnish, min.	120 l
Dispersions, min.	100 - 200 l

The Technology Center – the ideal solution for seminars and workshops too



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