ROTARY DIE CUTTER

Designed for the manufacture of printed and die cut sheets of corrugated cardboard

RD 115G Flexo-Rotary Die Cutter • up to 12,000 sheets/h

RD 115G
12,000 sheets/h

Technical data

KOLBUS

KOLBUS Rotary Die Cutter RD 115G
designed for the manufacture of printed and die cut sheets of corrugated cardboard

Equipment variations

Standard equipment
Modular machine design allows individual modules to be retrofitted
- Copilot system with a touch screen on the feeder and a touch screen with control panel in the area of the die cutter
  - Selection of production mode
  - Format memory
  - Operator-guided production change
  - Automated total adjustment
  - Precision adjustments during production
  - Product counter and count-down indicator
  - Indication of machine and material flow malfunctions
  - Operator guided malfunction rectification
- The machine is opened and closed via an electric drive in the feeder
- Individually adjustable intensity of all vacuum drives
- Vacuum supply for sheet separation with an exhaust unit
- Continuous vacuum transport of the corrugated cardboard sheets with hard anodised aluminium transfer wheels for optimal print quality
- Electronic vacuum monitoring
- Automatic vacuum zone control depending on sheet size
- Sheet transport monitoring by means of light buttons
- Air-conditioned control cabinets for power modules
- Drive technology based on SIMATIC S7-1500 controller
- Drive concept per module:
  - Modules driven via gear train on print unit, extension print unit, slot score unit
  - Separate servo drive on the anilox roll, upper slotting shaft, diemount cyl-inder, height adjustment of the anvil cylinder
  - Frequency-controlled drive on the anvil cylinder
- Active Line Module for feeding back drive energy into the production line network
- Central media supply connection point in the main cabinet area
  - Media supply (air, water, control lines) to the individual modules is via energy chains for a long lifetime
- Emergency Stop available as push button and pull rope switch
- Remote Service Gateway, type RSG 800.A, for optimum production support via KOLBUS Remote Service
- Safety standard in accordance with EC directives and standards

Feeder Type RDF 115G
Loading and separating of corrugated cardboard sheets according to the leading edge-principle for continued processing
- Pneumatic side pushers in magazine area for optimum alignment of the corrugated board sheets
- Four shafts with feed wheels for a reliable separation process
- Feed wheels with quick-change system
- Frequency-controlled vacuum in feed wheel area to process different sheet thicknesses
- Independent servo drives for feed wheels, pull rollers and lift grid
- Vacuum sheet cleaning from below
- Motorised adjustment of the feed gate, lateral magazine guides, pull rollers

Alternative equipment
Infeed
- Platform for feeder for ergonomic manual feeding of the sheets
- Coupling with prefeeder
- Coupling with prefeeder and platform for feeder for ergonomic manual feeding of the sheets
- Adjustment
- Manual adjustment of the rear sheet feeder

Extension feeder type RDEA 115G
Module for extension, directly coupled to feeder for a reliable infeed of the corrugated cardboard sheet into the print unit via an independent vacuum transport. The drive and height of the vacuum transport are adjusted from the coupled feeder.

Print unit type RDP 115G
Module used to print on individual corrugated cardboard sheets from below using water-based inks.
- Flexo printing unit
  - Hard chromium plated print cylinders and impression rollers
  - Drive via gear train from the feeder
  - Independent servo drives for anilox roll
  - Automatic register adjustment of the print cylinder via phase gears
  - Motorised height adjustment of the impression roll with vacuum transport
  - Manual height adjustment of the anilox roll
  - Motorised lateral adjustment of the print cylinder via ball screw to increase ad-justment accuracy
- First bottom print unit, type RDPA 115G
  - Additional bottom print unit, type RDPB 115G

Alternative equipment

Print cylinder

- Print cylinder in KOLBUS design with a standard plate retainer strip to mount the print plate
- Additional groove (Lockup Groove)
  for easier mounting of the print plate via, for example, elastic strips on the print cylinder in KOLBUS design
- Chamber doctor blade
  - With automated washing program and cleaning agent supply
  - Volume flows for ink supply and return and contact pressure doctor blade adjustable from outside during production
- Chamber doctor blade in KOLBUS design of plastic construction
  - Pump speed for ink supply and ink return can be set separately during operation on the print unit
  - Chambered doctor blade with integrated washing / air nozzles to clean the anilox roller
  - Tool-free change of the doctor blades
  - Ink supply and ink return via diaphragm pumps **or** Ink supply via peristaltic pump, ink return via diaphragm pump
- Anilox roller with ceramic coating
  Anilox roller specification and cell volume must be coordinated customer-specific with the project planning department. Anilox roller automatically swivels away from the print plate during idle cycles.
- Anilox roll changing trolley and fixture for bottom print unit
- Anilox roll changing trolley for bottom print unit
- Auxiliary fixture for anilox roll change on bottom print unit

Extension print unit between print units RDEB 115G

Module to extend the product transport and dwell zone between the print units.The vacuum transport, drive and height adjustment of the vacuum transport is adjusted from the coupled print unit.

Extension bottom print unit type RDEC 115G

Module to extend the dwell zone downstream of the last bottom print unit. The vacuum transport, drive and height adjustment of the vacuum transport is adjusted from the coupled print unit.

Optional equipment

- Register camera downstream of the last bottom print unit
  Optical system to detect and evaluate registermarks on the sheet when starting a new job

Slot score unit, type RDSA 115G

Module is used for slotting and scoring of separated and printed corrugated board sheets in the transport direction for the production of standardised blanks (FEFCO)

- Drive of the shafts (except upper slotting shaft) from the previous module
- Separate servo drive for upper slotting shaft for extended slotting in Skip Feed*
- Motorised height adjustment of the pre-creasing shaft, the creasing shaft, the slotting shaft and the conveyor shaft for transfer to the die cut unit
- Motorised adjustment of the tools perpendicular to the transport direction

Processing steps:

- Precreasing (3x)
- Creasing 1- and 2-flute cardboard pieces from above (4x)
- Slotting (4x) according to drawing
- Squeezing of edge strips (2x)
- Production of the glue flap / stitch flap by using a stitch flap cutting knife (1x)
- Slotting tools for slot width 6/7/8/9/10 mm
- Tool for slot length up to 400 mm
- Circular knife for lateral trimming (1x)
- Creasing tools for 3-flute cardboard pieces

Die cut unit type RDCA 115G

Module is used for die-cutting of separated and printed corrugated cardboard sheets.

- Hard chromium-plated diemount cylinders and anvil cylinders
- Servo drive for diemount cylinder
- Frequency-controlled drive on anvil cylinder
- "Stretching and shrinking" function of the die cutting length
- Motorised lateral adjustment of the diemount cylinder via ball screws to increase the setting accuracy
- Motorised height adjustment of the anvil cylinder
- Laterally oscillating movement of the anvil cylinder for reduced wear of the anvil cover surface
- Pneumatically adjustable scraper to remove die cutting waste
- Grinding device
  for levelling the anvil cover surface using a grinding roll with micro grinding tape (self-adhesive and exchangeable)

Diemount cylinder

Alternative equipment

- Metric *or* imperial diemount cylinder
- Metric *or* imperial diemount cylinder with quick change system (Serrapid®)
  Optional equipment
- Conveyor belt for the removal of die cutting waste perpendicular to running direction
- Tracks for rotary die cutter RD 115G
  - Tracks at floor level
  - Flush tracks

The track length must be coordinated with the project planning department. Preparations are to be carried out by the customer.

*The mechanical speed in the Skip Feed depends on the box height and the slot length.

Technical data

FORMAT DATA

- Sheet feed length min. 450 mm | max. 1,540 mm
- Sheet feed length with Skip Feed min. 450 mm | max. 3,080 mm
- Sheet feed width min. 600 mm | max. 2,921 mm
- Board thickness min. 1 mm |max. 14,2 mm
- Print length max. 1,500 mm
- Print width max. 2,769 mm
- Die cut length max. 1,500 mm
- Die cut width max. 2,790 mm
- Print plate thickness min. 3.5 mm | max. 7.5 mm

MECHANICAL SPEED

- Up to 12,000 sheets/h at an infeed length of up to 1,400 mm
- Up to 10,000 sheets/h at an infeed length of 1,400 mm and above.
  The actual machine speed depends on the printing and die cutting length, the thickness of the print plate and if the function adjustable printing or die cutting length is used.

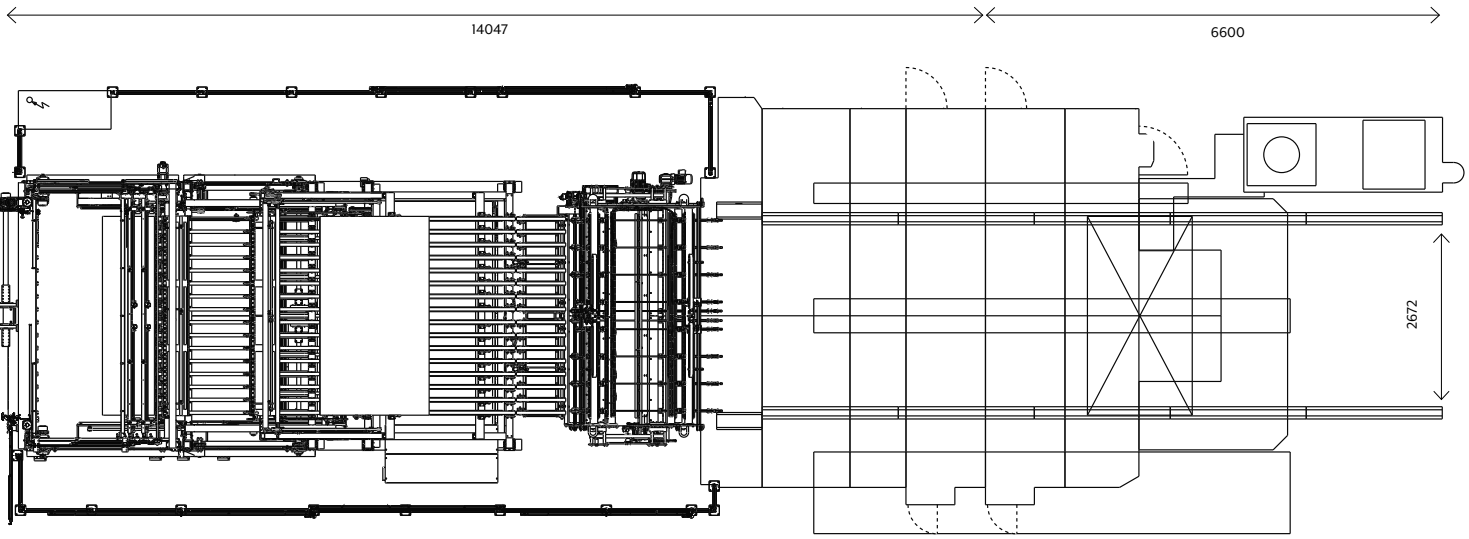
To be provided by the customer:

- Compressed air consumption depending on machine configuration
- Operating pressure 6 bar
- Compressed air supply, see extra sheet

Electrical equipment:

- 3 phase, 400 volt / N / PE, 50 cycles
  Country specific equipment available

Footprint
RD 115G with 2 print units
(Slot score and die-cut unit)
Inline with Multi-Stacker RDM



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