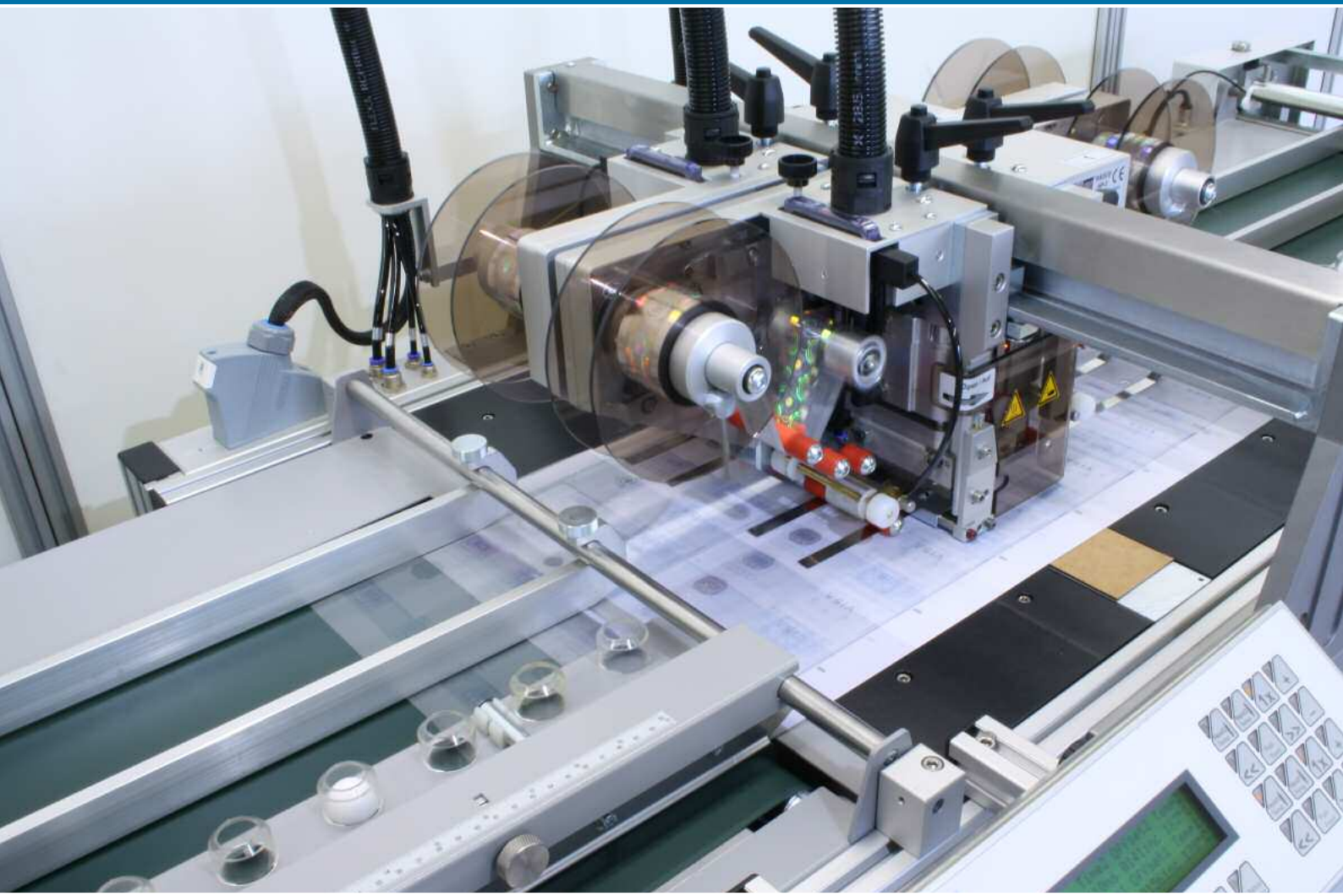
RADUS® CODIERSYSTEME

modular I flexible I future-oriented

RADUS® SV-360



HOLOGRAM I CODING I SHEET-FED I CONTINUOUS FORMS

RADUS® HP3 – HOLOGRAM APPLICATOR

One System – Numerous Applications

PRODUCT SECURITY · ANTI-COUNTERFEIT

Product security is understood as those measures that can actively protect a product against piracy and forgery. A differentiation has to be made between an identification feature and a security feature. Identification features are logos and typical designs, for example. They differentiate a product from similar or competing products.

These identification features do not, however, offer any security as far as product copies, i.e. direct forgeries, are concerned. The situation is different with the iridescent HOLOGRAM security feature - optical effects such as movement or colour changes are produced when viewed from different angles. It takes a forger a great deal of effort to produce a counterfeit.

This results in the following:
The more difficult and with an effort it is to copy a security feature, the more suitable it is for product security. This type of product respectively document security in the graphic industry is best undertaken using hologram technology that potential forgers do not possess.

Inspired by this challenge, at the start of the 1990s our company developed the first hot stamping hologram applicator for continuous forms to secure vehicle title documents for an European government security printer.

The continuous growth in the market for product security and protection against forgery led to the go-ahead for collaboration with a world's leading hologram manufacturer in 1995. By combining the experience of both companies, we developed the HP3 applicator module for security holograms, which is still unrivalled in precision and flexibility, in spite of its numerous imitators.

RADUS HP3 – THE HOLOGRAM APPLICATOR

One system – various applications

The sophisticated design of the HP3 hologram applicator can be used in a wide range of applications in the security-printing industry, from hologram applications on sheet-fed and continuous forms, to fitted OEM modules for ticket, visa and passport machines.

Benefit from our partnership!

Through the collaboration with leading hologram manufacturer, our customers around the world have skilled partners on hand for their security holograms and their application systems.

RADUS® SV-360

HOLOGRAM HOT STAMPING MASCHINE FOR SHEET-FED AND CONTINUOUS FORMS

Customized Configurations – Any Time Extendibility

FUTURE-PROOF BY MODULAR EXTENDIBILITY

The RADUS SV-360 provides highest efficiency and output along with its famous reliability at most various applications. Whether hologram application or numbering and print personalization on both sheet-fed and continuous forms – the RADUS SV family of Arnold Herzig GmbH offers superior solutions, answering also tomorrow's market needs.

One-stop made in Germany!

- **In-house research**
- **In-house development**
- **In-house design**
- **In-house engineering**
- **In-house programming**
- **In-house manufacturing**
- **In-house assembly**

Thousands of RADUS-SYSTEMS are in use in governmental and private security printing houses all over the world. RADUS-SYSTEMS perfectly combine future-orientated modularity with unsurpassed durability, proven by more than 50 years of experience.

SECURITY DOCUMENTS ON HIGHEST STANDARDS

The base version of the RADUS SV-360 hologram applicator with the hologram hot stamping head HP3 covers all requirements in terms of hologram application on pre-printed individual sheets such as tickets, gift vouchers, certificates etc. as well as on high security documents like bank drafts, cheques, visa, passports and other ID related documents.
Due to its modular construction, the machine can be extended by retrofitting with increasing demand up to four hologram hot stamping application heads, also at a later date. An optional paper tractor system additionally allows the processing of pre-printed continuous forms like business forms, computer forms and individual sheets on the same system.

HP3 hot stamping hologram applicator
The HP3 hologram application head contains the hot stamping press with the replaceable stamping die and the associated fine adjustment as well as the foil feed. In this way, the complete hologram application system can be moved across the paper direction of run in a quick adjustment for positioning. There is no complex conversion of the stamping die or tracking of the foil; jobs can be set-up in shortest time.

The hologram embossing unit work electronically / pneumatically and are monitored by the machine's process control. Because of its high flexibility the HP3 applicator is able to apply registered holograms, random pattern holographic foils and hot foil logos up to a size of 900mm², further each hot stamping tool can be addressed separately. In addition the powerful HP3 hologram application head is also suitable for applying of scratch-off foils.

Print mark recognition with unique „on the fly“ image positioning
A multistage tension control in the hologram track and an accurate guidance guarantee precise hologram feed. After registration mark detection „on the fly“, direct at the stamping die, the foil with the holographic image is positioned using electronics only (Resolution 0.05mm); there is no need for the time consuming manual fine adjustment of the photocells for image positioning. The image position of the hologram under the stamping die can be easily adjusted via the display - even during ongoing stamping operation.

Feeding Systems
Various feeder and delivery systems are available, tailored to the production volumes. A vacuum rotation feeder unit is used for small to medium press runs, which pulls sheets in formats of up to 520mm x 650mm from below. The magazine capacity is naturally limited in this case but the feeder can be refilled whilst the machine is running. The processed sheets are delivered into a suitable jogger. The accurately stacked sheets can be removed during operation for further finishing.

RADUS® SV-360

HOLOGRAM HOT STAMPING APPLICATOR FOR SHEET-FED AND CONTINUOUS FORMS

Highest Functionality - Lowest Life Cycle Costs

Autonomous times

Pile feeders and pile delivery systems can be used for large press runs and for long periods of autonomous operation; these are equipped with electrically driven stacker platforms that can be raised and lowered, each with a magazine capacity of 650 mm. Due to their maximum paper format of 520mm x 750mm, these also support the classic B2 sheets. Like the system's upgrade facility, allowing it to use up to four hologram heads, the pile feeder and pile delivery can also be retrofitted at any time.

Operating process

After sheet separation with double-sheet inspection, the sheet is drawn to a zero line in an aligning station and passed to the vacuum transport of the work station. One or two HP3 hot foil hologram stamping heads can be used in the work station. The sheet is moved under the hologram applicator heads and stopped at the required position; hologram application then takes place. The operator selects whether one or both hologram application heads are used for stamping at the position. After stamping, the sheet is moved to the next position. In this way, each sheet can be stamped in 25 freely-selectable positions, e.g. for tickets, tax labels and cheques arranged one above the other. The completed sheets are passed to the stacker; during this time a new sheet arrives at the work station ready aligned in order to guarantee continuous production.

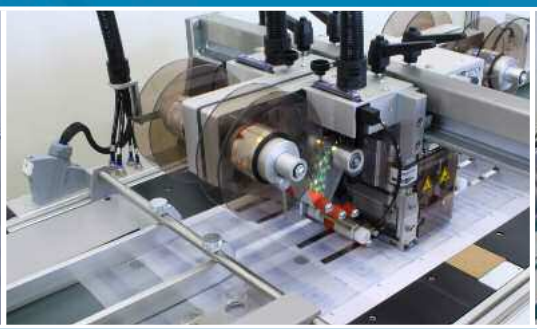
Options

If necessary, a further work station can be retrofitted. Here too, one or two HP3 hot-stamping hologram heads can be used. Then, with up to four hologram application heads, even smaller product sizes at individual sheets such as tickets or small tax labels can be processed with up to four lines across the sheet. To support the flexibility of the modern security printer, a paper tractor system can be attached for processing continuous forms. The operator can change between individual sheets and continuous forms transport, and this only takes a few minutes.

Pile Sheet Feeder
The vacuum rotation feeder grants a constant and smooth separation, also of sensitive documents. Equipped with an electrically driven stacker platform that can be raised and lowered, a magazine capacity of 650mm is ensured.

Vacuum Transport
The vacuum transport with its sophisticated guidance and the high-resolution paper advance provide a precise positioning under the application heads. Thus a high repetition accuracy is achieved (Resolution 0,1mm). There is no edge limitation for the hologram application on the sheet area.

Extension Stations
If necessary, further extension stations can be retrofitted, also at any later date. Various printing systems for numbering, coding and DOD inkjet personalization as well as a label application system are available. Image: Database printing with camera verification



SPECIFICATIONS

Functions

_Processing of individual sheets made of paper, cardboard and polycarbonate PC
_Additional transport for continuous forms (optional)
_No edge limitation for the hologram application on the sheet area / form area
_Basic version from 1 x hologram applicator HP3
_Expandability up to 4 x hologram applicator HP3
_Optional deep pile feeder and delivery - 650mm magazine height

Basic Model SV-360 with HP3 Hologram Applicator

Controlling	Microprocessor
Operation	Fully automatic / intermittent
Controll desk	Display and keyboard, portable
Parameters	Stamping positions, position of hologram, stamping time, temperature, speed, feeding interval and suction cycle length, counter: nominal and actual value form length and printing positions for opt. continuous forms

Transport system

Form width	Sheet-fed up to 520mm Continuous forms up to 550mm incl. sprocket holes
Form length	Sheet-fed up to 650mm (750mm with deep pile feeder) Continuous forms up to 33"
Paper weight	60 - 500g/m² sheet-fed (up to 1.0mm with pile feeder) from 40g/m² continuous forms max. 400g/m² continuous form sets

HP3 Hologram Applicator

Foil size	Width 55mm, max. diameter ø 150mm, core 1" und 3"
Stamping size	900mm² max., width max. 50mm
Stamping die	Interchangeable, straightened brass or etched magnesium clichés on brass carriers
Temperature	70° bis 250°C
Registration mark	Optical sensor direct at the stamping die
Foils	Registered security holograms - metallized and demetallized, KINEGRAM®, random pattern holographic foils, scratch foils, hot stamping foils
Foil separator	Fully automated cutting knife for the separation of the foil and paper after the stamping operation, can be switched off

Connections

Air connection	4 – 8 bar, oil-free and dry
Air consumption	0,2Nl / per HP3-head
Electrical Con.	Single phase 220-240V (110V), 50/60Hz, consumption 2,0kW
Dimensions	Length 2700mm x Depth 800mm x Height 1500mm (Length approx. 3700mm with deep pile feeder/delivery)
Weight	approx. 550 kg (depending on configuration)

Performance

1 hologram on A4 sheet - max. 7.000 sheets /h
8 holograms on full sheet x 4 across - max. 50.000 holograms /h
Continuous forms 12" 1up - max. 12.500 holograms /h
Continuous forms 3" 1up - max. 15.000 holograms /h
Continuous forms 3" 4up - max. 60.000 holograms /h

Hologram Applicator Head HP3

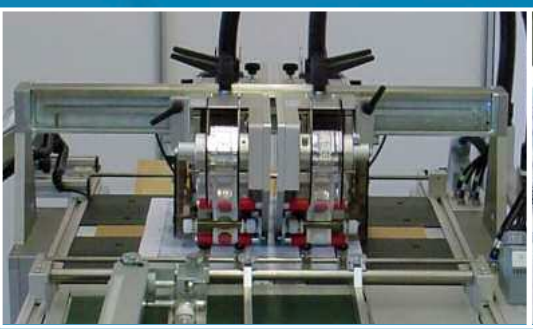
The complete hologram application head HP3 can get positioned across the paper direction within seconds. There is no need for the time consuming repositioning of the stamping die and the foil tracking.

Pile Delivery

The automatic lowered platform of the high pile delivery can be easily set to the sheet format. For attaining lowest downtimes an empty moveable stacker platform replaces the loaded one.

Continuous Forms

The paper transport with two strong tractors enables the processing of continuous forms up to a width of 550mm. Changing between sheet-fed and continuous forms transport can be done by the operator within a few minutes.



ARNOLD HERZIG GMBH

Experience and Innovation

For over 50 years, our company has manufactured series and customized machines for print processing and has been a long established supplier to governmental and private security printing companies. Innovative and future-oriented concepts, in-house development and the production of highly-efficient and reliable machines explain the high degree of brand awareness for RADUS around the world.

The Arnold Herzig GmbH manufactures machines for the following applications:
Hologram hot stamping, crash numbering and coding, labeling, RFID chip encoding and variable data print personalization by high-resolution UV-DOD inkjet, laser and thermo transfer.

Product lines

RadusCard:	Chip encoding and print personalization for RFID smart cards (single cards ISO / ID-1)
RadusTag:	Chip encoding and print personalization for RFID smart labels and tickets, roll-to-roll
CFS series:	Continuous forms pack-to-pack and roll-to-roll
SV series:	Sheet-fed systems from ticket size to 50x70cm
SU series:	Imprinting and numbering heads for use on RADUS systems and as OEM device
HP series:	Hologram applicator - hot stamping heads for use on RADUS systems and as OEM device

made in Germany

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