

# ***HelioPackaging System - The Fast Way from Design to Engraving***



Your  
Partner  
for  
Engraving



# Digital Printing Form Production

## Modular, Flexible, Reliable, Fast

### Modular Concept

*HelioPackaging is the ideal solution for digital engraving of gravure cylinders. The hardware is based on standards such as Apple Macintosh and Windows NT, while the software is geared to the specific needs of producing packaging, label and decorative cylinders. The system uses TIFF/IT as its internal data exchange format. All installed HelioKlischographs of models K201, K303, K304 and K305 and the new K405 can be integrated in HelioPackaging. The system's modular design allows it to be expanded at will.*

### Flexible Data Input

*A whole host of integrated interfaces enables HelioPackaging to capture data from all standard prepress systems such as Apple Macintosh, PC, electronic image processing systems and even CAD systems. Data can be transferred both online and offline using all popular data media.*

*Archived films can be scanned in with digital descreening Topaz and can then be used for further processing with HelioPackaging.*

### Reliable Production

*Reliable production was attached top priority when developing HelioPackaging. This is guaranteed by the use of templates which allow you to re-use all entered forms, by the creation of cylinder layouts under visual control, and by numerous proofing options. All parameters and data can thus be checked for accuracy, completeness and positioning before engraving starts.*

### Fast Engraving

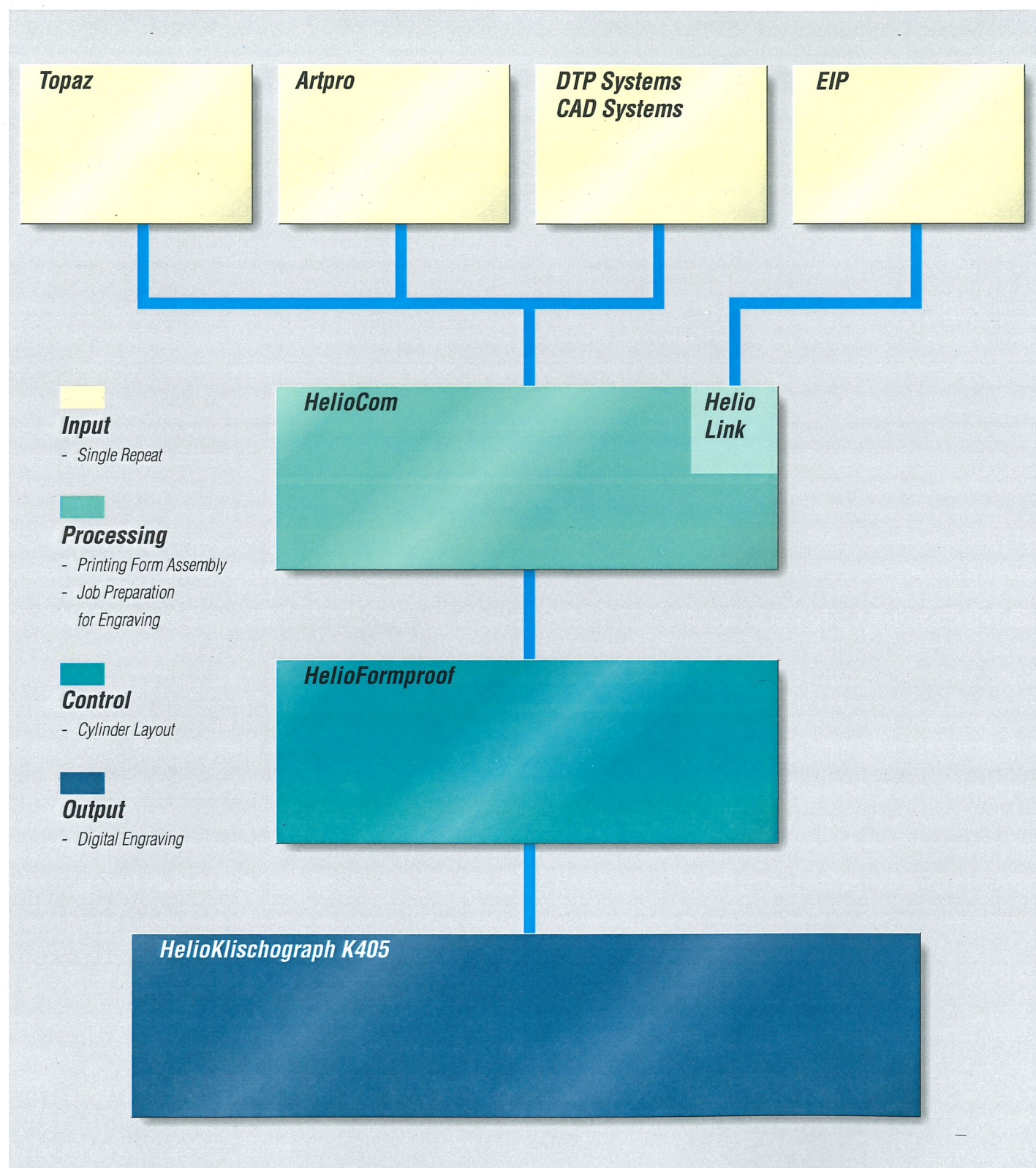
*The digital workflow with direct engraving of TIFF data accelerates the various work stages between the initial design idea and the finished cylinder. Various innovations such as the high-speed HelioSrint engraving system and automated functions such as sequence engraving have helped cut the effective engraving time with the HelioKlischograph K405 considerably.*

*The productivity of the entire route can thus be more than doubled.*





## Configuration Overview - Highest Flexibility through Modular and Open Concept



## System Components - Online Communication Ensures Fast Workflow

### Topaz

The Topaz flatbed scanner is the interface for entering images and line-art into the digital world. It can be used for reflective and transparency originals as well as for archived screened films which can be descreened digitally with Topaz.

### Artpro

The Artpro system can handle all production requirements for packagings and labels. Artpro is used to manipulate design work for production purposes and to pass the finished single repeats to HelioCom for engraving. Data can be exchanged online or offline.

### Desktop Publishing + Computer Aided Design

More and more packagings and labels are being delivered in PostScript format. These can be imported into HelioCom directly. Similarly, CAD data can be imported for automatic cylinder layout generation.

### Electronic Image Processing

The HelioLink optional software module can import data from other systems in various Scitex and ChromaCom formats. HelioLink runs in the background while the layout is being created on the HelioCom.

### HelioCom

HelioCom is the heart of the Helio-Packaging production flow and processes all information that will be required for subsequent engraving. The single repeat is built up accu-

rately into a cylinder layout under visual control and complete with all register and control marks. The entire job preparation work for the HelioKlischograph K405 is also

performed on the HelioCom. This minimises the operations that are needed on the HelioKlischograph.

### HelioFormproof

The Formproof provides the ideal final check of the cylinder layout. The entire cylinder layout can be proofed for up to 16 printing colours in selectable formats.

Register and control marks are also displayed along with outlines. The proof is generated automatically as soon as the data have been processed in the HelioCom station.

### HelioKlischograph K405

The data for the engraving are transferred online from the HelioCom to the HelioKlischograph K405. Additional functions such as the pneumatic cylinder mount, sequence

engraving, fast crossfeed across blank areas, the high-speed HelioSprint engraving system and the possibility of twin engravings mean that the HelioKlischograph

K405 is able to boost the engraving capacity quite dramatically. As a result, throughput times for cylinder production are cut substantially.

The HelioKlischograph K405 becomes a pure output machine in the HelioPackaging system for digital engraving.



# Topaz - Scanning Originals + Digital Descreening

## Scanning Films

The Topaz flatbed scanner can scan all types of originals - colour, black/white, line-art, positive, negative, reflective, transparency and even 20 mm thick originals. The scanner is controlled from the Power Macintosh using LinoColor software to monitor, correct, retouch, scale and manipulate. Various cassettes accommodating different film formats are available for batch mode, so that the Topaz can be equipped with originals automatically.

## Digital Descreening

Topaz can also descreen lithos digitally. This is particularly important for gravure production since the many films that have amassed in the archives over the years can now be processed effortlessly for use in digital production scenarios. The scanning tray can be equipped with a choice of register systems and thus ensures absolute register accuracy.

Once digitised the data can be modified using the extensive range of functions supported by the LinoColor software.

**TOPAZ with LinoColor -  
The simplest, most effective  
Way of Scanning.**

# Artpro - Professional Generation of Single Repeats

## ArtPro

Artpro closes the gap between expensive electronic image processing and low productive DTP tools for the design and production of labels and packagings. Artpro performs functions which are important for label and packaging printing. These include:

- High-speed vectorisation
- PostScript data import
- Special colours
- Barcode generation
- Trapping
- Text generation
- Layering

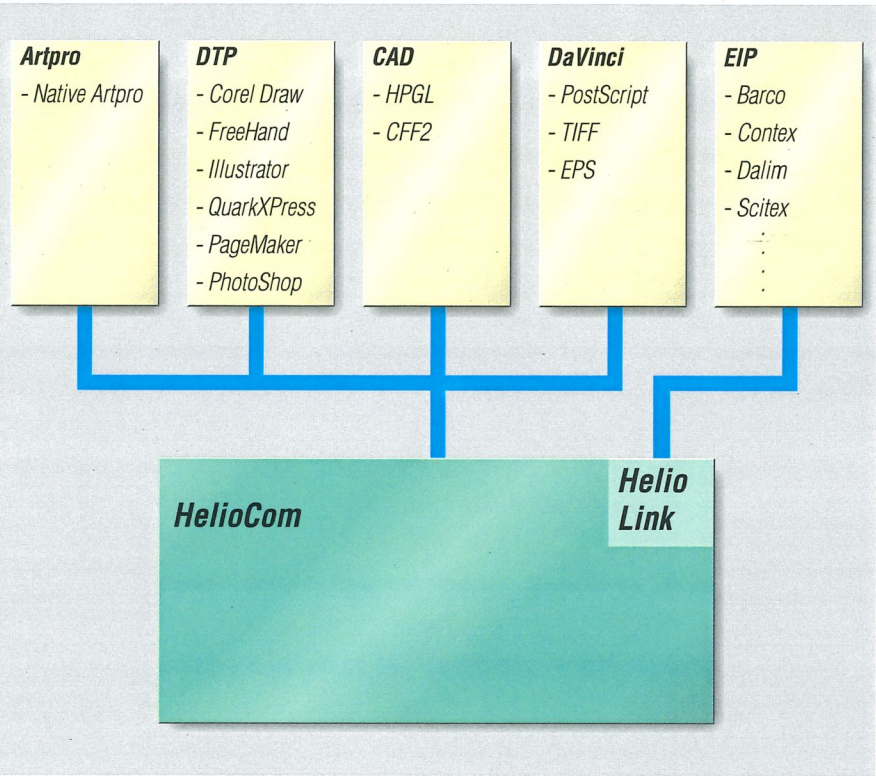
## Data Transfer

Data from Topaz and Artpro are transferred to HelioCom either online or offline by data media. A key benefit is that data formats can be read directly with HelioCom.





# HelioCom - The Centre of Form Production with Universal Data Import



## Elegant Cylinder Layout Assembly

The finished single repeat serves as the basis for generating the cylinder layout with HelioCom. Depending on the type of cylinder layout, input can be made in three different ways:

1. For customized designs through free, manual positioning of the single repeats or by entering co-ordinates.
2. For uniformly structured layouts using a convenient step + repeat function with automatic allowance for the trim at the edge of the printing form.
3. For recurring layouts, e.g. through the use of specified cylinder schemes from the archive or from CAD systems.

## Generation of Register and Control Marks

HelioCom lets you generate register and control marks quickly and easily on the screen. The entire range of functions supported by the Artpro software is available to this end.

Everything is possible - from the simplest register, autotron and trim marks to combined printing and control bars. The colours can be selected at will or assigned via a Pantone scale. All symbols can be stored in a customer-specific file so that they can be accessed quickly when needed for further jobs.

## Visual Control

All instructions which the operator enters in HelioCom to create the cylinder layout or symbols are reflected immediately on the screen. Manipulation can be performed in either coarse resolution or fine resolution mode. The use of coarse resolution images allows the operator to work quickly and to check the effect of his inputs immediately. Working in fine resolution mode he can zoom down to pixel level in order to check the position and possible connections.

**HelioCom:**  
**Cost Savings in Time and Materials**

## Concept

The HelioCom station in the gravure cylinder production line is used for designing the cylinder layout under visual control.

It gathers together all the information such as image data, text data, gradations, CAD system outlines, register and control marks and engraving parameters. Particular importance has therefore been attached to ensuring that all data formats used in packaging design and production can be loaded into HelioCom.

**HelioCom:**  
**The Fastest Way from Mac to Helio**

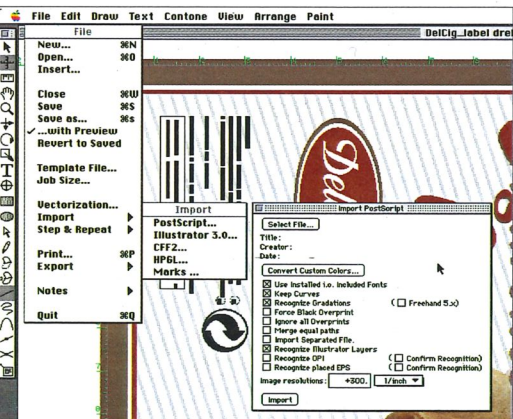
## Data Input

Data can be loaded into HelioCom either directly or using the optional HelioLink software module:

- Artpro
- Barco
- CAD
- Contex
- Corel Draw
- ChromaCom
- Dalim
- DaVinci
- Freehand
- Illustrator
- QuarkXPress
- PostScript
- Pagemaker
- Photoshop
- Scitex
- TIFF

## Perfect Input Control

The newly loaded data can be examined closely on the HelioCom colour screen and, if necessary, can be output as a hard copy onto an interfaced proof.



Input of PostScript data into HelioCom is a standard function.

## Manipulating the Single Repeat

The single repeats loaded into the HelioCom can be cropped, scaled, mirrored and rotated before the cylinder layout is generated.

A cylinder layout can be re-used for a similar job with a different package - simply with a mouse-click.



Register and control marks can be created and positioned precisely directly in HelioCom.

Quick and easy positioning with coarse files or control in fine resolution - HelioCom fulfills every wish.



# HelioCom + HelioDisk Increased Throughput with Enhanced Job Preparation

## Job Preparation

All production parameters required for layout creation, the HelioFormproof and engraving with the HelioKlischograph K405 can be entered with the HelioDisk software on the HelioCom station. These parameters are:

### For layout generation:

- Job name and job format

### For the HelioFormproof:

- Number of colours per job
- Multiproof
- Proof comments

### For engraving:

- Screen and screen angle
- Gradation
- Engraving format
- Circumferential and/or axial mirroring
- Sequence engraving
- Engraving amplifier settings
- Web shrinkage compensation
- Automatic engraving head repositioning
- HelioTwin engraving
- Engraving comments

The centralised job preparation made possible with HelioDisk puts an end to multiple entries and automates the engraving process. The Helio-Klischograph K405 runs round the clock.

**HelioDisk:**  
**Maximum Capacity Utilisation**

Job

Job name: H3487697

Engraving width: 1560 mm

Engraving length: 764 mm

Mirror image, circumf.: ☐

Comment:

Used colors: ☒ 1 ☒ 2 ☒ 3 ☒ 4 ☒ 5 ☒ 6 ☒ 7 ☐ 8 ☐ 9 ☐ 10 ☐ 11 ☐ 12 ☐ 13 ☐ 14 ☐ 15 ☐ 16

Color

Screen

Angle

Gradation

Pos60

1 70 3 10 ☐

2 70 2 11 ☐

3 70 0 12 ☐

4 70 4 14 ☐

5 70 0 12 ☐

6 60 3 10 ☐

7 70 2 11 ☐

Load Job

Save Job

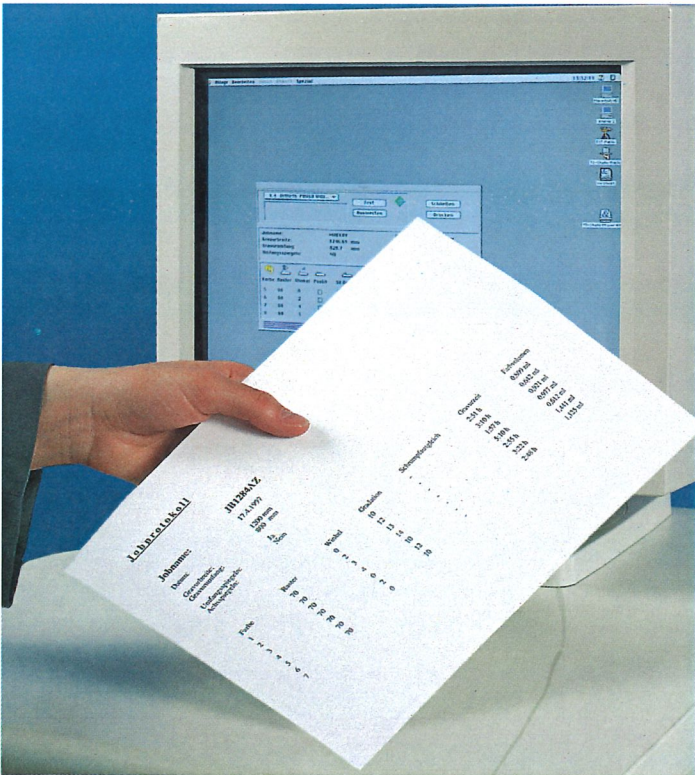
Set-up disk

Print

Cancel

HelioCom can set the complete job preparation for HelioFormproof and engraving.

The production parameters for layout, HelioFormproof and engraving that are generated in job preparation can be stored as files or printed as hardcopy.



## Job Ticket

The engraving parameters required for each job are stored in what is known as a job ticket. All stations communicating with each other online in HelioPackaging obtain their information via the production parameters from this central document.

Every station can also store additional information in the job ticket in order to enable continuous process monitoring.

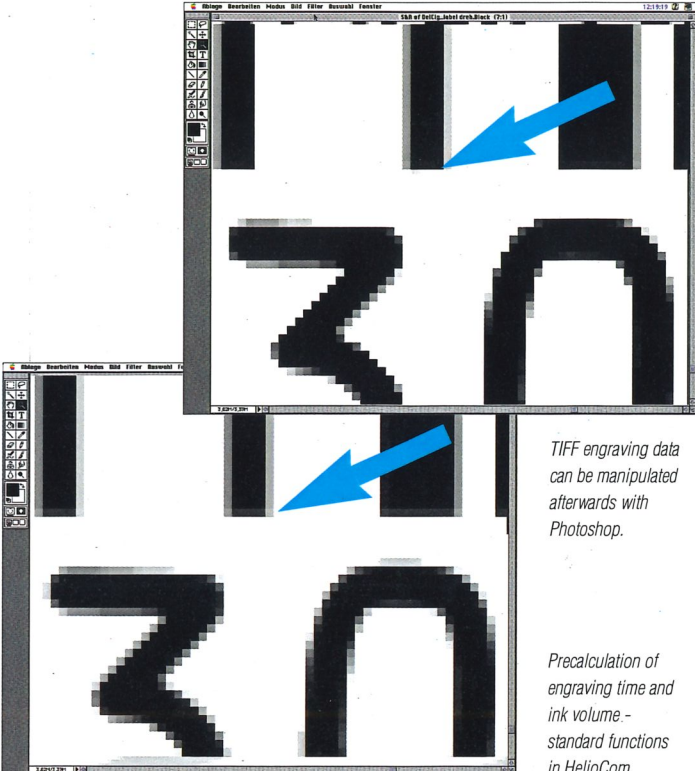
**HelioDisk:**  
**Security through Complete Process Control**

# HelioCom + HelioDisk - Engraving Data Retouching, Calculation of Engraving Time and Ink Volumes

## Engraving Data Retouching

After the TIFF engraving data have been generated with HelioCom, they can be checked on the screen and retouched with Photoshop. This can be necessary for fine lines, if minute deviations at connections need to be corrected or selectively sharpened.

**HelioDisk:**  
**Perfection where it Counts**



TIFF engraving data can be manipulated afterwards with Photoshop.

Precalculation of engraving time and ink volume - standard functions in HelioCom.

## Calculation of Ink Volume

The ink used for each individual cylinder is a crucial factor for the printer when costing a job. HelioDisk therefore allows you to calculate in addition to the engraving time and the volume of ink that will be consumed in print for each individual cylinder.

The calculation takes into account the gradation, incision values, stylus geometry and the ink transfer behaviour of the relevant printing stock. (This function is currently not available for the U.S. market.)

**HelioDisk:**  
**Cost Savings Through Precise Ink Volume Planning**

## Calculation of Engraving Time

The HelioDisk software module allows you to calculate the engraving time for the cylinder in advance. The calculation incorporates all information that affects the engraving time, e.g. screen, screen angle, cylinder format but also cross-feed over areas which do not require engraving.

This naturally also applies for Helio-Twin engraving. HelioCom thus provides you with valuable information for work planning.

**HelioDisk:**  
**Optimum Capacity Utilisation Through Perfect Work Planning**

Disk

1.4 Maxopti T4-2600

Test

Eject

Close

Print

Job name: DEL

Engraving width: 576.50 mm

Engraving length: 524.0 mm

Mirror image, circumf.: NO

Parameters

Load

Set Up

Color

Screen

Angle

Pos60

FF File

Twin

Eng. Time

Ink Volume

1 70 3 ☐ ☒ - 0 : 49 h 0.010786 ml

2 70 0 ☐ ☒ - 0 : 47 h 0.494626 ml

3 70 2 ☐ ☒ - 1 : 10 h 1.012547 ml

4 70 4 ☐ ☒ - 2 : 06 h 0.203492 ml

View

View

View

View



# HelioFormproof - Total Control of Layout and Positioning

## Reliability In-House

The Formproof system developed specifically for packaging and label printing delivers absolute reliability when producing gravure cylinders from digital datasets. In designing the HelioFormproof, particular importance was attached to the speed and precision of output. The proof is used to monitor the cylinder layout in terms of the following criteria:

- Integrity of the information
- Register accuracy
- Symbol positioning
- Trapping

The opportunity to visualise the complete printing form prior to engraving ensures maximum reliability in production and a marked reduction in cylinder remakes.



## Communication with the Customer

The Formproof has established a name for itself in practice and is also used for communicating with the customer. It provides the visual basis for the final OK to proceed with engraving.



**HelioFormproof:**  
Fewer Cylinder Remakes Thanks  
to Optimum Control Procedures

# HelioFormproof - Automatic Operation from Hot Folder

## Automatic Proofing

The Formproof can proof completely automatically from the hot folder.

All data generated in the HelioCom for proofing and subsequent engraving are stored on the Formproof station in what is known as a hot folder. Each job is also assigned a job ticket which states how many colours belong to a job and which colours should be proofed together.

As soon as the hot folder contains all the colours required for a form, proofing is initiated automatically.

## Multiproof Function

The hot folder and job ticket make proofing very flexible. The question of what is to be proofed can be pre-programmed during job preparation with HelioDisk.

The following combinations are possible, for example:

- Proof with single colour
- Proof with all colours
- Proof of outlines
- Proof of the coating cylinder
- Proofing of all colours with outline

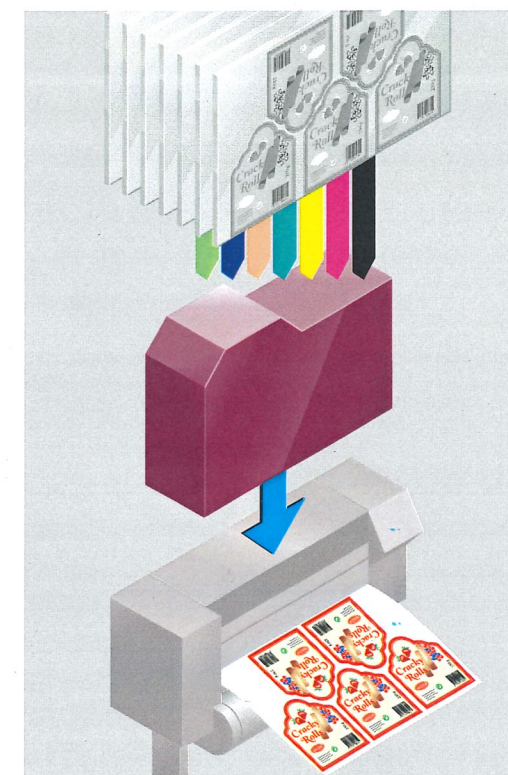
Various proofing options are possible depending on the need for in-house monitoring and for communication with the customer.

**HelioFormproof:**  
Flexible Control Options

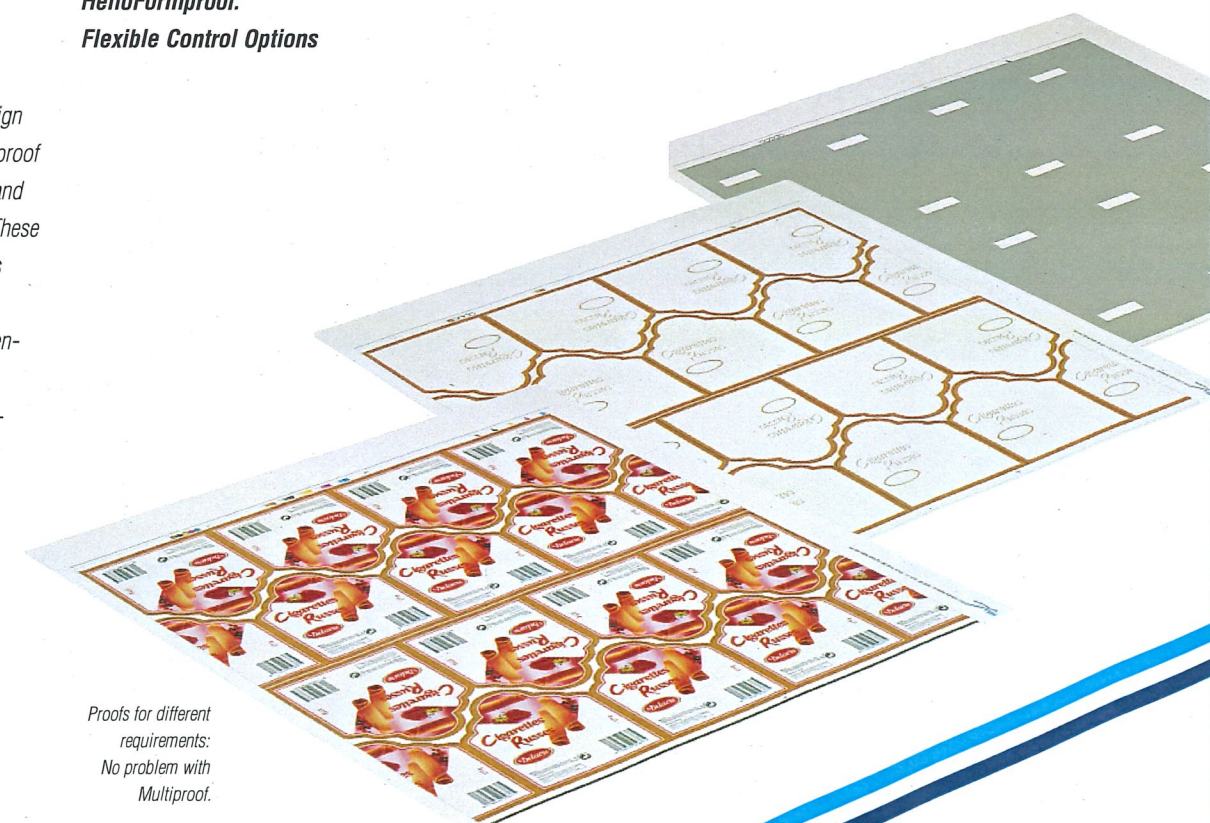
## Proof Comments

It is often useful to be able to assign additional comments to the Formproof both for internal communication and for discussions with customers. These can consist of special annotations relating to specific features of the form, queries that still require attention, and even the corporate logo when clear job identification is required. The new version of HelioFormproof supports this feature - ensuring you need never forget a thing.

**HelioFormproof:**  
Perfect Communication



The hot folder stores data for automatic proofing.



Proofs for different requirements:  
No problem with Multiproof.



# HelioKlischograph K405 - High Throughput and Automatic Engraving

## New Concept

The new HelioKlischograph K405 is the digital engraver for packaging, label and decorative cylinders. The hardware is based on standard PC components with Windows NT operating system. As an engraver pure and simple it can be linked online to the HelioPackaging system and engrave directly from the dataset. The data and engraving parameters for the complete form are generated and processed in the HelioCom.

The new user interface and extended functionality give you greater productivity, better control and greater opportunity for automation.

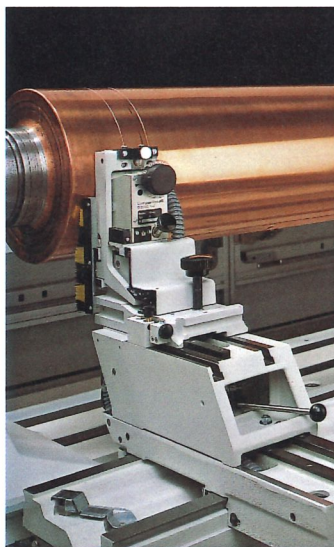
## Automatic Testcut

The Testcut is engraved automatically. A camera secured to the engraving head measures the values for e.g. light, shadow and middle tone. The values are compared with the required levels and corrected automatically. Manual corrections are no longer necessary.

(This function is currently not available for the U.S. market.)

## HelioSprint: The High-Speed Engraving System

The new HelioSprint high-speed engraving system works at twice the speed of normal engraving systems. It can be retrofitted to virtually all installed HelioKlischographs. The engraving results are compatible.



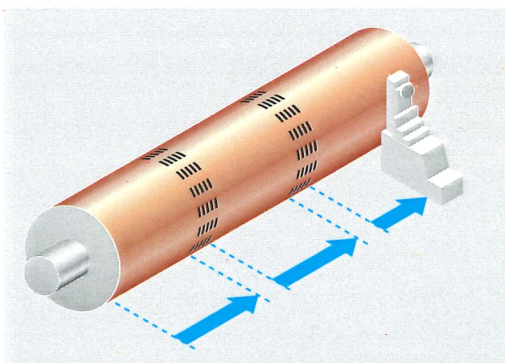
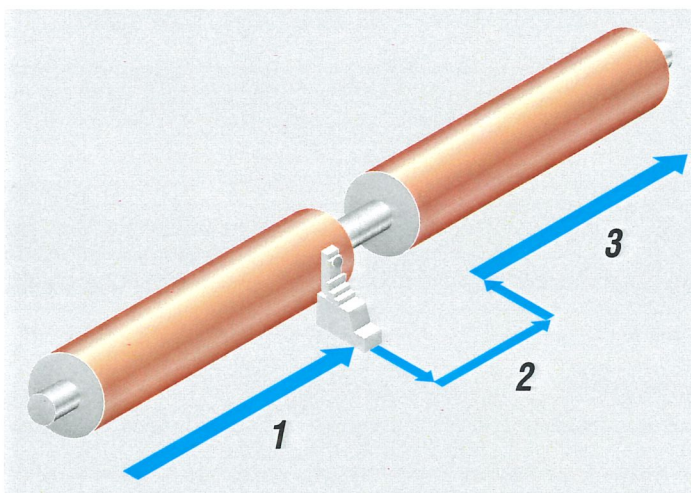
## HelioRobot - Automatic Loading of Hollow Cylinders

HelioRobot allows you to equip the HelioKlischograph K405 automatically with up to six hollow cylinders in succession.

After each fully automatic operation has been completed, HelioRobot removes the engraved cylinder and mounts the next one for the following engraving.

## Sequence Engraving

The sequence engraving function can engrave two cylinders of different size in succession using a single engraving head and without any need for intervention by the operator. (This funktion is currently not available for the U.S. market.) Sequential engraving can also be performed on a single cylinder if, for example, two different screens are to be used for engraving.



## Automatic Fast Crossfeed

Automatic fast crossfeed ensures that all areas not requiring engraving are simply passed over. This reduces the cylinder production time quite dramatically.

**HelioKlischograph K405:  
Increased Productivity  
Through Automation**

# Workflow Management

## Production Planning and Operating Data Input

The introduction of the job ticket to the digital engraving process is a response to users' needs to link cylinder production to production planning systems and systems for entering operating data.

The job ticket is the perfect document for exchanging information between internal job editing systems and the HelioPackaging cylinder production system.

Today, the editing time is entered into the job ticket at every HelioPackaging station. Thanks to the open interface structure, these values can be transferred to your operating data input system.

Data can also be transferred in the opposite direction, however. Job-specific data present in your production planning system can be incorporated into the job ticket.

This avoids having to re-enter data and automates the process. It maximises flexibility, since HelioPackaging lets you make last-minute changes until shortly before the actual output.

**Job Ticket:  
Optimum Job Control**

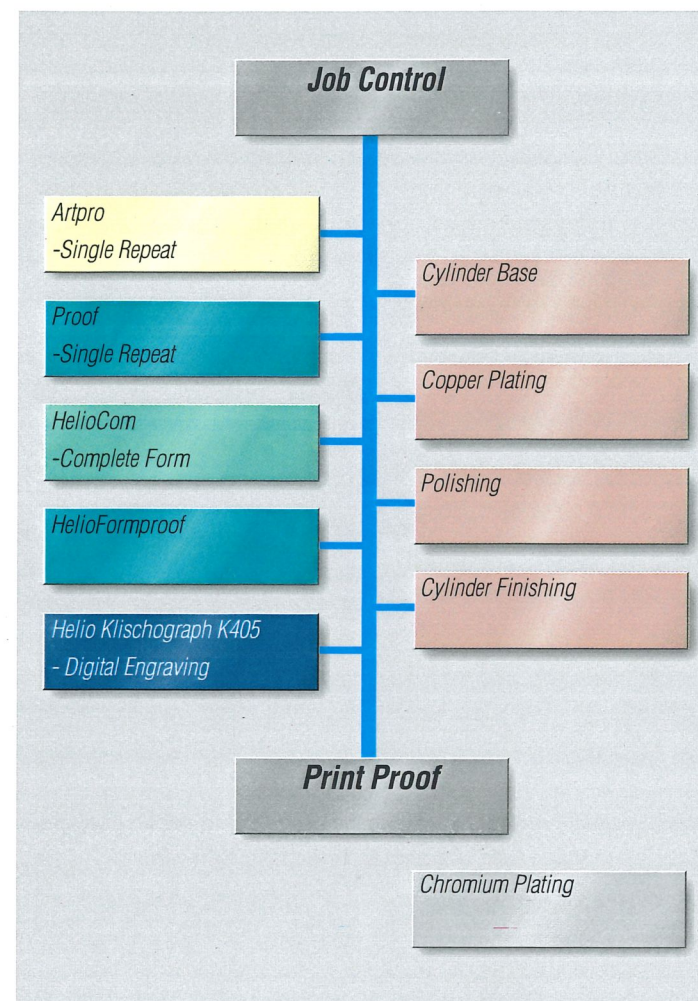
## Workflow Management

The HelioPackaging system forms the basis for integrated workflow management. This has been made possible by managing production parameters from a central location and by making these available to all systems via open interfaces.

This allows you to automate all in-house workflows and to achieve significant acceleration in preparing quotes and executing jobs.

**HelioPackaging:  
Open for the Future**

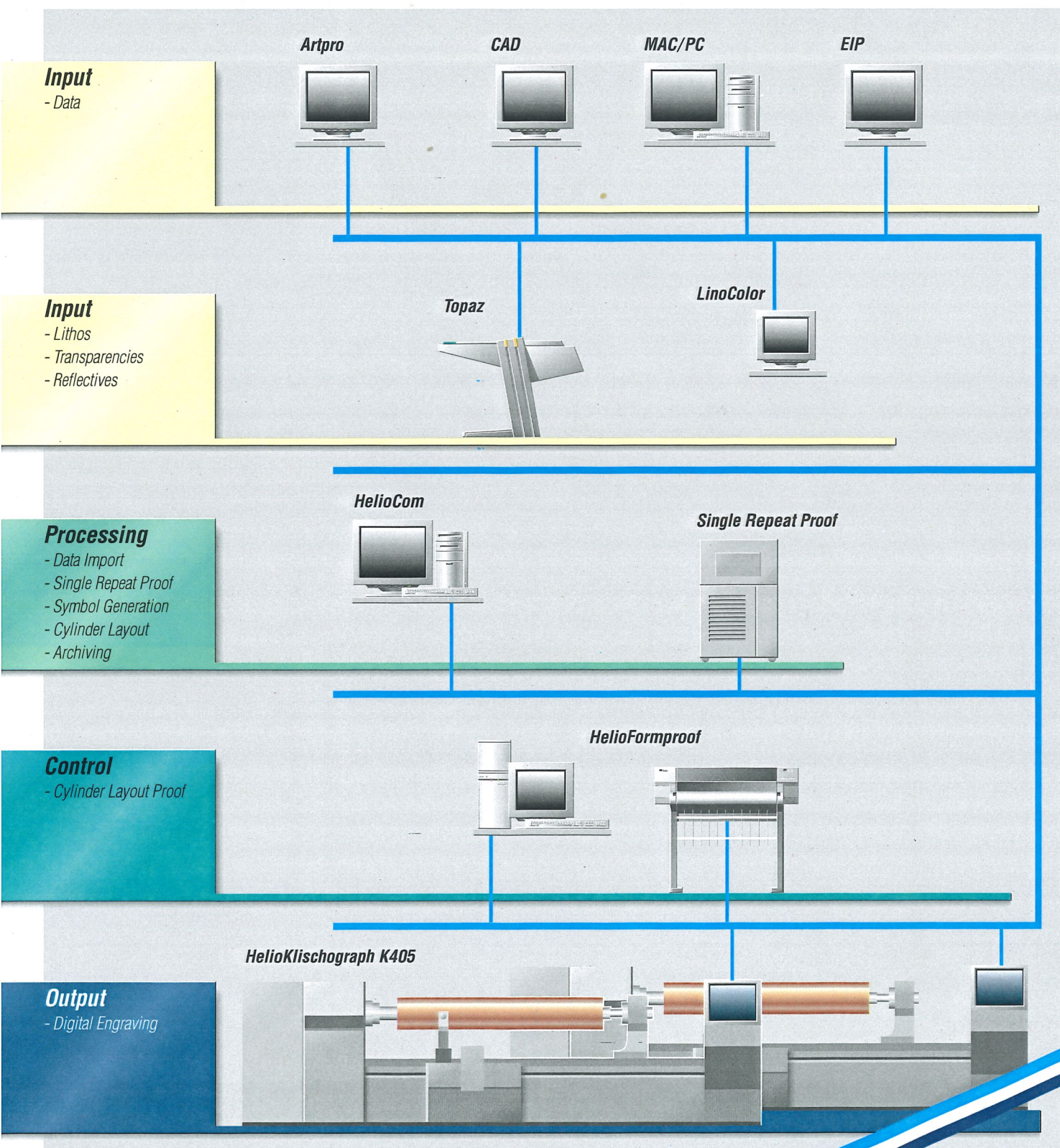
The components of the HelioPackaging system are prepared for the connection to internal job planning systems.



The HelioPackaging system offers transparency for your production planning.



# System Overview









## A Little About Us



### Ask the Experts

HELL Gravure Systems GmbH can offer a wealth of expertise in the production of gravure cylinders. The foundations for this technology were laid at Hell with the development of the HelioKlischograph family. Subsequent advances incorporated the tremendous progress made in text and image processing. As a result, our production systems today are the most versatile ever.

### Putting your Company's Future First

Our products are well-known for their reliability and durability. Should you ever require assistance, however, you will find our representatives in many countries worldwide. Their number one goal - to ensure the efficiency and reliability of your production.

### We are Here to Help

Should you require any further information on our products, please do not hesitate to contact us. Our experts look forward to discussing your needs in detail.



HELL Gravure Systems is a member of the Heidelberg Group. This ensures that all prepress products can be integrated effortlessly into the digital workflow. As a system provider we can naturally supply you with all these products as a one-stop solution.

### International Exchange of Experience

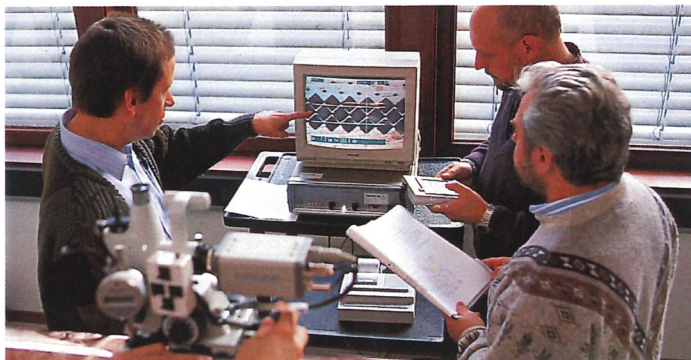
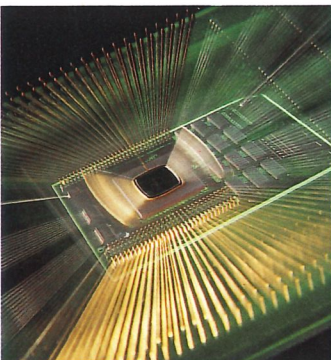
As a member of international engraving organisations such as the ERA (European Rotogravure Association) and the GAA (Gravure Association of America), we remain fully abreast of developments in the printing industry at all times. A fact reinforced by our close contact with our customers. This allows us to respond quickly to changing needs and changing trends.

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