BASED ON INNOVATION

helioscope NEWSLETTER

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HELL

DIRECT LASER ENGRAVING FOR RELIEF PRINTING

PremiumSetter creates universal platform

The applications of high-resolution 3D direct laser engraving extend far beyond flexible packaging. With this in mind, HELL is expanding its PremiumSetter portfolio and adding a large number of functions. As a result, the PremiumSetter is evolving into a universal platform.

High-resolution 3D direct laser engraving offers a whole host of significant benefits for a great many relief printing processes. HELL has transformed the PremiumSetter to create a universal platform that supports the various areas of application even more effectively. For example, the PremiumSetter is now equipped with an optimized plate and sleeve handling system. Furthermore, both elastomer and digital photopolymer printing forms (LAMS) can be processed. In addition to this, HELL has developed a range of practical functions for applications such as dry offset printing, coating plates, hygiene products, wrapping paper, and flexible packaging.

Dry offset printing is ideal for decorating open containers, metal drink and aerosol cans, and polymer cups and tubes. Direct engraving of elastomers offers many advantages in this connection. The PremiumSetter is also much more productive than conventional direct engraving systems.

Sheetfed offset printing enhanced with a flexographic coating unit provides a varied range of surface finishing options. The PremiumSetter enables the finest elements to be reproduced, and larger areas can be coated evenly and with excellent edge definition. Short process times ensure fast availability of the printing form. Elastomer printing forms are also much more cost-effective than conventional printing plates.

PremiumSetter S1000 – a versatile laser for high-resolution direct engraving

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Ruled paper, napkins, wrapping paper, diapers, and other hygiene products are frequently printed in large-format and continuous processes. Here, too, PremiumSetter technology is beneficial. Elastomer printing forms last longer, particularly on coarse print substrates. The ultra-fine laser spot of the fiber laser enables finer screens to be used than is usually the case with CO_2 lasers. Ink transfer is excellent and embossing rollers can also be engraved.

In the area of flexible packaging, elastomer sleeves offer clear cost benefits over photopolymer sleeves. They can also be obtained much faster and are supplied in a press-ready condition. Digital control options for printing form parameters and the properties of elastomer combine to deliver a longer service life and maximum reproducibility. High print densities ensure outstanding results, for example on white backgrounds.

Full details can be found on the following website:

https://www.hell-gravure-systems.com/relief-printing/?lang=en

High-resolution 3D direct laser engraving offers a whole host of significant benefits for a great many relief printing processes
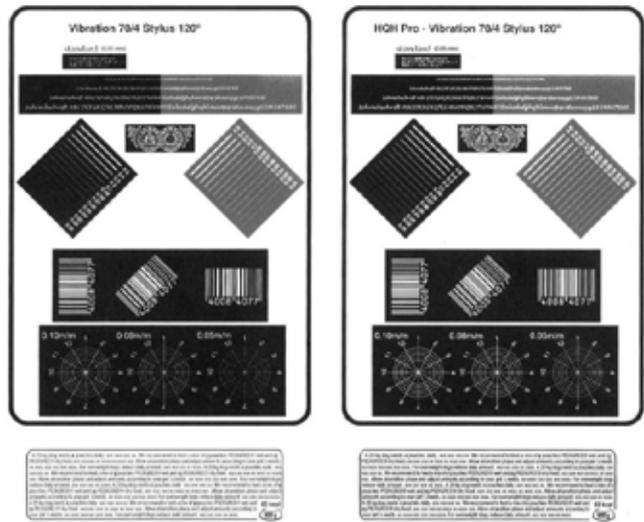
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HELL

CONTINUOUS IMPROVEMENT OF HIGH QUALITY HINTING

Print samples are available

HQH is now fully supported by HelioDisk and, in a new feature, also optimizes contone text.

HQH (High Quality Hinting) optimizes the legibility/appearance of fine text and graphics in print. HELL is continuously working on improving this process. For example, HQH is now fully supported by HelioDisk V6.12. Another new feature is that HQH Pro can now also optimize contone text and graphics with a white or black background. What's more, a whole host of other improvements have been made.

A comparison: Without HQH (left); with HQH (right)

We'll be only too happy to send you an HQH print sample – simply send a quick e-mail to **info@hell-gravure-systems.com**.

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More information:
https://www.hell-gravure-systems.com/

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4PACKAGING EQUIPS ALL ENGRAVING MACHINES WITH MULTITUNE

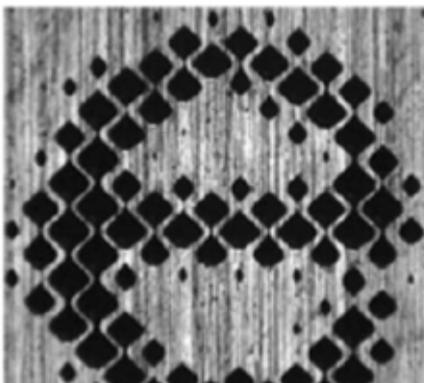## Significant improvement in engraving quality

4Packaging is converting its entire cylinder engraving operation to MultiTune, optimizing all engraving systems with the new adjustment process.

4Packaging is converting the HelioSprint engraving systems of all its HelioKlischograph units (6 x K500 Twain, each with 2 x 12 kHz engraving systems and 1 x K500 8 kHz engraving system) to MultiTune. A preliminary test provided impressive proof that the new adjustment process significantly improves the engraving quality of both 12 kHz and 8 kHz engraving systems. Contours appear sharper, and undesirable dragging and ringing are reduced. 4Packaging is the first German company to convert all its engraving machines.
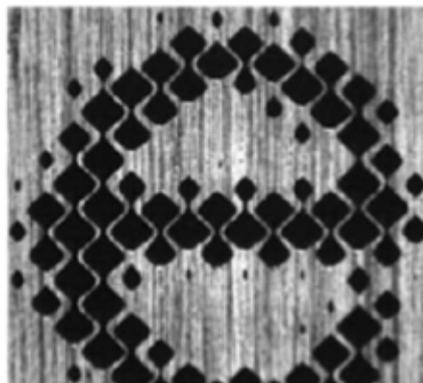
4Packaging is one of the leading companies for digital reproduction and the production of gravure and embossing forms. The independent family business with some 130 employees started out 18 years ago and has kept on growing ever since. As a system supplier, 4Packaging provides end-to-end solutions from a single source, including packaging design, production of gravure and embossing forms, and approval of proofs. To do justice to this holistic approach, 4Packaging employs experts in printing form production and also in all stages of the gravure production process – from data processing (artwork and central reproduction) and cylinder manufacture (engraving/laser technology) all the way through to actual print production.

Comparison:
Previous adjustment

MultiTune adjustment

The new MultiTune adjustment process creates sharper contours, while also reducing dragging and ringing

OHIO

OHIO'S HEAD REFURBISHMENT PROGRAM

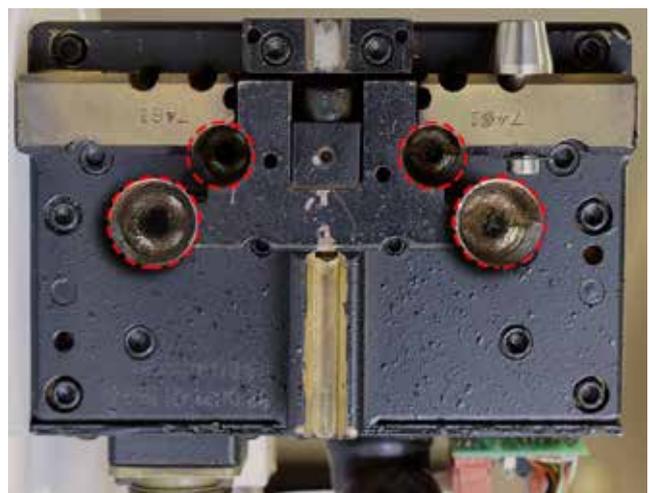## Comprehensive refurbishment of engrave heads

344 Billion – that's a quick calculation* of the number of cells your engrave head has cut over the last 5 years. OHIO GT offers an engrave head refurbishment program to reinvigorate your current head to like new condition and performance.

The refurbishing program actually consists of two important pieces: the head refurb itself and a loaner engrave head. The loaner head allows you to continue your production while the original head is re-conditioned. While you continue cutting cylinders, OHIO's factory-technicians review your original head and get to work making it as good as new.

The original head is disassembled, cleaned and inspected.

Parts that are tired are replaced with new. Control electronics are also evaluated since they are an integral part in the engrave head performance. The head is then re-assembled and sent to the lab for a full set of tests prior to the actual tuning. When tuning is completed, the head is painted and returned to you with the same warranty as a brand new head.

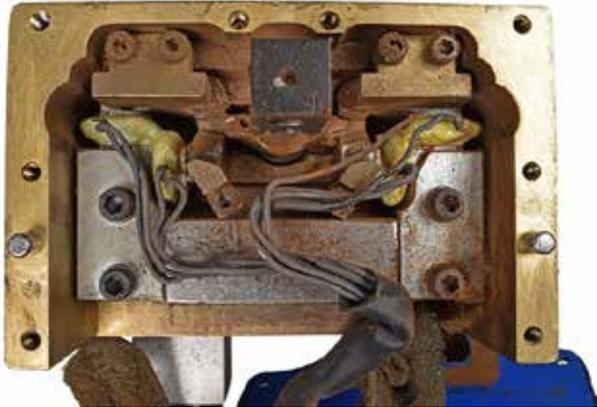The pictures tell you the story of an engrave head before and after refurbishment.

The air nozzles are nearly blocked (enlarged and lightened for easier viewing).

* Calculated using 0.75m2 engraved area per cylinder, 70 l/cm screen, 2500 cylinders per year for 5 years.

The interior of the engrave head.

It is easy to see the groove cut into the stylus arm by years of engraving.

This head is a VISION 1, running at 4500 cells/second. It shipped from OHIO in 1997 on an M820 engraver and came back home after 20 years of operation. As you can see, it shows signs of its age: missing parts, lower air nozzles restricted by dust, and a stylus arm that shows significant wear. Once it was cracked open, the interior shows two decades of accumulated dust and corrosion.
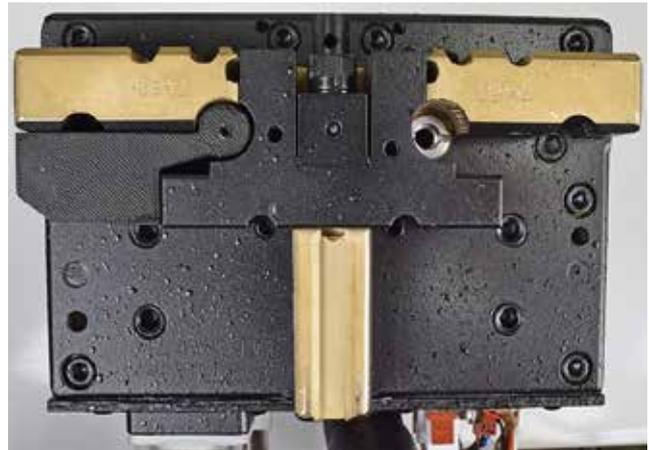
OHIO

Head refurbishment for this unit included:

- Complete disassembly
- A thorough cleaning
- Media blasted to remove surface corrosion and paint
- Stylus arm replaced
- Damping material replaced
- Shoe assembly rebuilt, including a new drive motor
- Internal clamps and mounting hardware replaced
- Stylus position sensor replaced
- Missing smaller parts replaced
- New Air Filter added to the lower air nozzles
- New paint
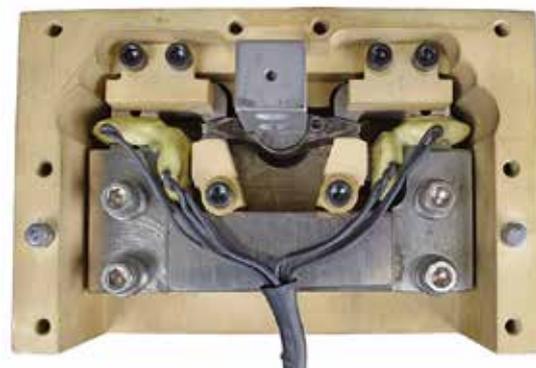- A complete suite of engraving tests

The head required significant work, but when finished, it is ready to tackle the next 344 billion cells – or more!

The new filters for the air nozzles were added to the engrave head (right filter is removed).

The stylus arm has been replaced: no groove.

A sparkling, clean inside after the refurbishing process.

OHIO

SOFTWARE UPDATES

New software for Spectrum, Prism and the Collage Layout System

OHIO Gravure Technologies is releasing new software for Spectrum and Prism engravers and the Collage Layout System. The new software offers a number of new features, some exclusive to the engraver software, while others combine updates to both the Collage Layout System and the engraver software. The following list provides introduces some of the new features available.

Engraving from a USB drive – USB thumb drives, or flash drives, are extremely popular as well they should be – they combine a small form factor, large storage capacities at a low cost, and the ability to be used over and over (something a DVD does not do). OHIO sees the storage benefits, so the Spectrum and Prism engravers can now engrave archived jobs directly from a flash drive. Inserting a flash drive into the user display or the embedded PC automatically adds the flash drive to available job sources, along with the normal Collage and DVD sources. Selecting a job and machine operation are identical to the other sources. New Spectrum and Prism engravers are now outfitted with additional USB ports mounted on the outer cover to provide even easier USB access for flash drives. *This is an update for engraver software only.*

Job Listing – Maintaining the list of engrave ready jobs is something that often falls to the bottom of the 'to-do' list. Soon, the engraver operator may have to sort through hundreds of cylinders in the job list to find the correct job for engraving. To reduce the number of jobs to view, OHIO has changed the operation of the job list on the Engrave page. Instead of each cylinder being shown, the Job ID is displayed as a folder. Touching the folder name will expand the folder and show only those cylinders available for engraving. Touch another folder to close the current and open the next. Once the cylinders are displayed, the operator selects the appropriate cylinder for engraving as before.

Additionally, cylinders that have already been engraved can be displayed to allow for re-cuts with the touch of a button. As with the previous software, names in grey identify cylinders that have already been engraved. Job IDs shown in grey mean all cylinders have been cut. *This is an update for engraver software only.*

OHIO

Engraver Page Job List

Sequenced Engraving – Sequenced engraving, sometimes called over-engraving, is back and includes implementation with semi-automation and engrave-automation. Sequenced engraving is used where two or more different screens/ rasters are engraved on the same cylinder, one after another. The machine now recognizes the first engraving pass in a sequence and all subsequent engravings are linked to the first. Engraver operations are modified to protect the carriage and cylinder positions and ensure perfect registration between engraving passes. Spectrum and Prism Prime machines include automatic testcuts with contour cell measuring, so all engravings in a sequence can be run without operator involvement.
The sequenced function also changes the way the jobs are shown in the Job Listing as only the first cylinder in a sequence is shown. *This is an update for both the Collage Layout system and engraver software.*

Engraver Notes – The Collage operator can now create and save job specific notes for an engraving job that can be viewed by the engraver operator. The Notes function found on the Gravure Parameters window is where information can be stored with the job. When the engraver operator selects the job, the Notes are available for him to review. If no notes are saved with the Collage job, the Notes feature on the engraver does not appear. *This is an update for both the Collage Layout system and engraver software.*

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DAETWYLER GRAPHICS AND LÜSCHER TECHNOLOGIES MOVE TO OFTRINGEN

March 1, 2019 marked the official ground-breaking ceremony on Industriestrasse, which opened in December last year in the Swiss town of Oftringen

The old production halls in the former hangars at the Bleienbach airfield have served their purpose. Daetwyler Graphics and Lüscher Technologies will both be moving into newly built premises in Oftringen early in 2020. The modern industrial building, which represents an investment of 15 million euros, is ideally located close to the Oftringen freeway junction.

The ground-breaking ceremony at the newly acquired plot in the section of Industriestrasse opened in December 2018 was duly celebrated on March 1, 2019. In addition to prominent local politicians and business development associati-on/ construction company representatives, Mr. Rid insisted on also allowing the entire workforce of both companies to attend. MRB Holding GmbH will own the building and is planning a state-of-the-art complex at the new 10,800 square meter site that will meet the two companies' growing needs and also benefit from a highly strategic location at the intersection of the freeways connecting Berne, Zurich, and Lucerne. Some 85 employees of Daetwyler Graphics and Lüscher Technologies are planning to move into the new premises, located 26 kilometers from company headquarters in Bleienbach, in the first quarter of 2020.

Ground-breaking ceremony in Oftringen on March 1, 2019

HELIOBRUSH® MAKES ITS MARK

Printers are increasingly calling for brush-polished cylinder surfaces

Since the launch in 2016, a number of Daetwyler Finishstar P1610 Cu units have been equipped with HelioBrush®. Cylinder manufacturers and printers are equally enthusiastic about the resulting copper surface finish. In addition to shorter process times, they also appreciate the improved print result.

Previously, HelioBrush® was primarily used instead of the second stone head in the Finishstar P 1610 Cu. This was because it was originally believed to achieve a predictable, controlled, and stable result, albeit at the expense of process time. However, the results of comparative testing using the thin-layer process show that cylinders can be ground ready for engraving up to 50% faster than in applications without HelioBrush® – especially in the higher surface roughness range of Rz = 0.40-0.60. This means there is nothing to stop HelioBrush® being used on the CFM P 1610 Plus (the band polishing head is replaced on this type of machine). The far more homogeneous surface structure produced by the proximity of the Rz and Rmax values also influences the roughness after chrome plating. This remains constant and therefore reduces the risk of scumming in the print.

The brush's longer service life than stone and the halving of stone sludge are thus no longer the only plus points for cylinder manufacturers. Much shorter process times are a further advantage. The benefits for printers are clear and are reflected in their call for a HelioBrush® process.

The HelioBrush® module can either be selected when purchasing a new machine or retrofitted on machines built in or after 2009.

HelioBrush® from Daetwyler Graphics

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