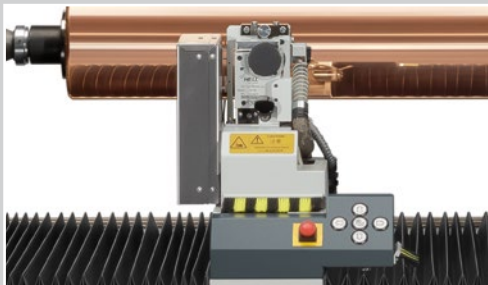
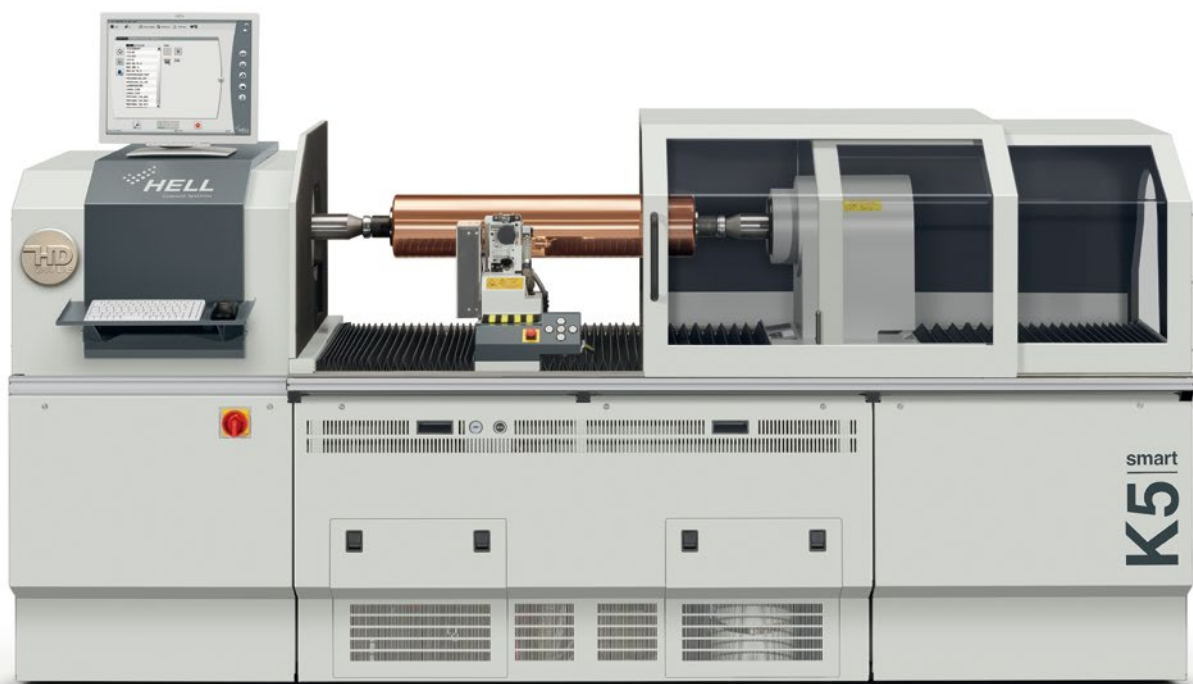




# HelioKlischograph K5 Smart

THE SMART ALL-ROUNDER



9 kHz



12 kHz

# Assistance systems make work more efficient

## Fast, high-quality engraving results

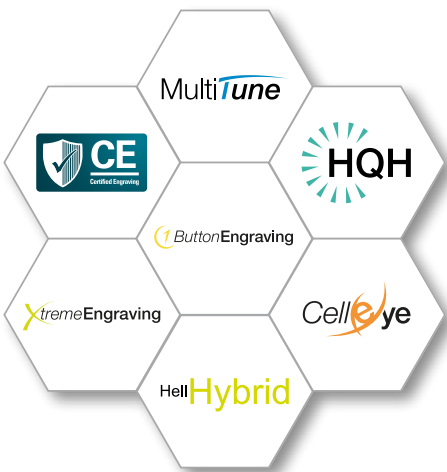


### Design criteria

- 9 kHz or 12 kHz engraving speed
- HD Gravure
- Assistance functions and one-button operation
- Fixed drive block and motorized bearing block
- Integrated autofocus camera
- Fully automatic test cut
- Machine bed, engraving carriage, and bearing blocks are all cast parts
- Operated and controlled by an integrated PC

### HD Gravure

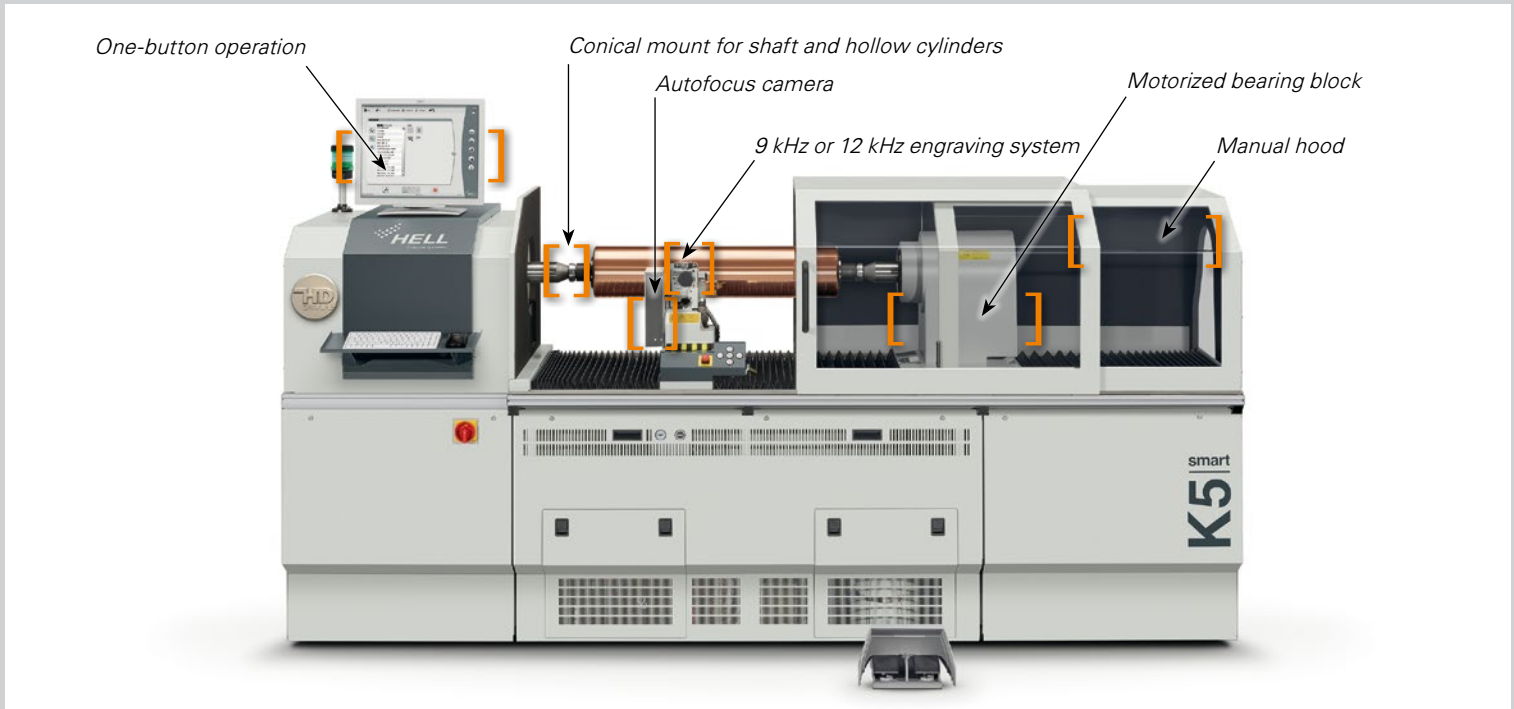
The Helioklischograph K5 Smart is the clever all-rounder in cylinder engraving. Equipped with all the top features of HD Gravure, the K5 Smart achieves fast and very high quality engraving results. HD Gravure is the new quality standard in packaging gravure. HD Gravure improves contour sharpness and the reproduction of fine details. Tight engraving tolerances ensure simplified colour matching in printing and increased reproducibility. Optional in the K5 Smart: the comprehensive automatic quality control with Certified Engraving.



### ButtonEngraving

One-button operation turns the K5 Smart into an automatic engraver. In this operating mode, the only manual steps are inserting and lubricating the cylinder. The assistance systems perform all subsequent steps independently, engraving and checking the cylinder.

- The K5 Smart determines its start position on its own.
- An autofocus camera automatically measures the test cut cells, which eliminates human error. Camera images are stored in the job ticket.
- Engraving starts automatically.
- An automatic engraving check follows the engraving process so as to identify any stylus breaks.
- "Multicheck" (Certified Engraving option) is performed.
- The engraving carriage moves to the parking position to prepare for changing the cylinder.
- All production- and quality-related parameters are collected in the job ticket and can be printed as a cylinder certificate or undergo further processing.



### The K5 Smart is available in three versions:

9 kHz engraver | 9 kHz engraver with 12 kHz preparation | 12 kHz engraver

### Comparison of the K5 Smart engraving systems

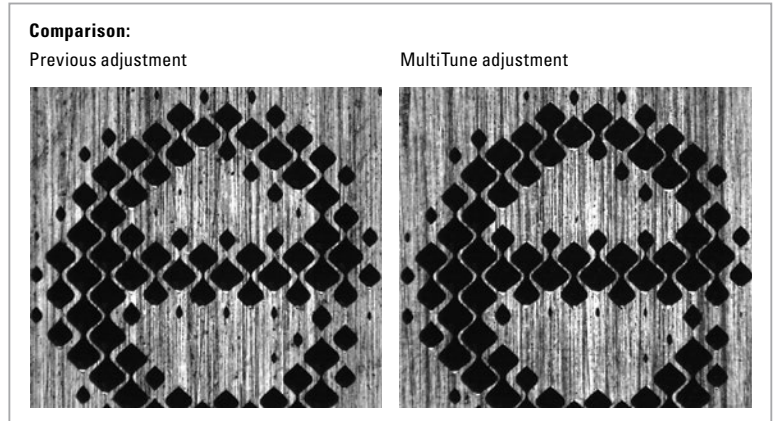


	HelioSprint BC <sup>+</sup>	HelioXtreme 32 <sup>+</sup>	HelioSprint III
Type	Broadband	Hybrid	High performance
Frequency	<b>Max. 9 kHz</b>	<b>Max. 9 kHz</b>	<b>12 kHz</b>
Performance < 0.2	R60: 0.75 m <sup>2</sup> /h   R70: 0.55 m <sup>2</sup> /h	R60: 0.75 m <sup>2</sup> /h   R70: 0.55 m <sup>2</sup> /h	R60: 1.2 m <sup>2</sup> /h   R70: 0.88 m <sup>2</sup> /h
Depth	Max. 70 µm	Max. 70 µm	Max. 65 µm
MultiTune*	•	•	•
XtremeEngraving	–	<b>12 kHz</b>	–
Screen			
- Nominal, < 0,2,3,4	<b>54 - 100</b>	<b>54 - 100</b>	<b>60 - 100</b>
- XtremeEngraving	–	<b>14 - 118</b>	–
- Actual (l/cm)	44 - 144	14 - 144	49 - 144
Application			
- Technical	–	•	–
- Decoration	•	•	•
- Packaging	•	•	•
- Top linework quality	–	•	–

\*The new MultiTune adjustment process adapts engraving systems even more effectively to the relevant application.

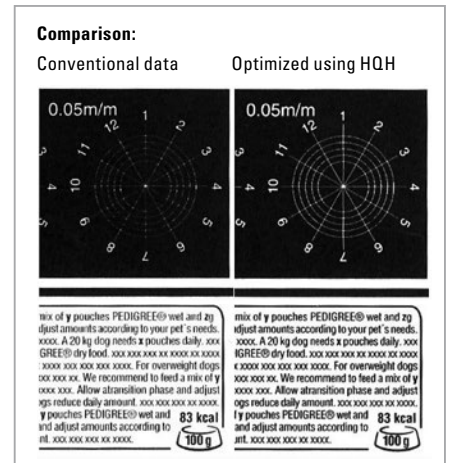
### MultiTune

The HelioSprint MultiTune adjustment process provides a far more telling fingerprint of the engraving system than was previously possible. This enables the system to be adapted more precisely to the relevant screen / screen angle for sharper contours as well as less dragging and ringing during engraving.



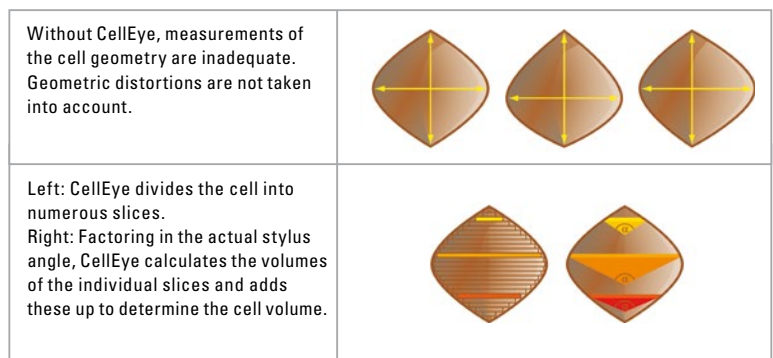
### HQH (High Quality Hinting)

The K5 Smart is equipped with HQH-embedded as standard. HQH (High Quality Hinting) improves the legibility and appearance of fine text and graphics. Repro data is generally prepared using manual correction in line with specific engraving requirements. HQH automates this process by examining engraving data for fine lines and text and automatically optimizing these elements according to preset criteria. Fine text thus remains legible and small graphics do not vanish in printing. HQH works in the background without any operator intervention by combining hot folder technology with job ticket control.



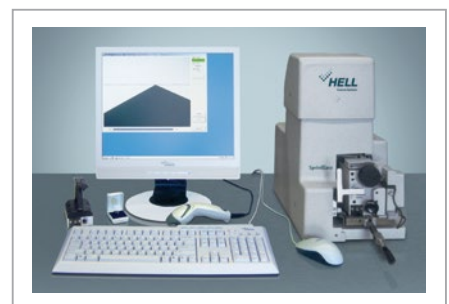
### CellEye

The innovative CellEye cutting procedure is based on volume-oriented measurement of engraving cells and enables unique repeat accuracy for engraving cylinders. Calculation of the cell volume factors in the actual stylus angle and stylus wear and compensates for fluctuations in the engraving copper of different cylinders.



### SprintEasy

Using CellEye in conjunction with the optional SprintEasy measuring station delivers optimum results. SprintEasy records the current stylus angle and enters this in the engraving head's touch memory. The repeat accuracy of cylinder engraving is thus assured at all times despite the natural process of stylus wear. Further features such as slide shoe setting and the stylus certificate make SprintEasy an indispensable tool for high-quality cylinder engraving.



### XtremeEngraving

XtremeEngraving is an optional engraving process aimed at combining excellent contour definition with high print density. XtremeEngraving separates the engraving machine's write resolution from the selected screen. In principle, the HelioKlischograph works like a laser imagesetter.

With a write resolution of up to 540 l/cm, XtremeEngraving achieves results of laser engraving quality while also supporting coarse screens with cross-diagonals of over 900 µm and engraving depths of up to 110 µm.

XtremeEngraving is fast! The HelioXtreme 32 engraving system supports both 9 kHz vibration engraving and 12 kHz XtremeEngraving. In the top right figure, XtremeEngraving takes only 1.5 times as long as vibration engraving.

XtremeEngraving is user-friendly! Automatic sequential engraving enables vibration engraving and XtremeEngraving to be combined on a single cylinder on the K5 Smart.

XtremeEngraving is used to reproduce logos, bar codes, labels, drug packaging, micro lettering, security features, and cigarette packaging. Screen rollers with high pickup volumes that are required to apply coatings or adhesives are a further application.

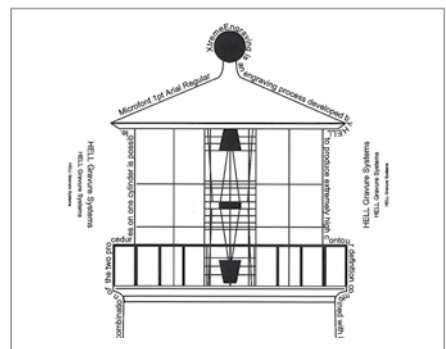
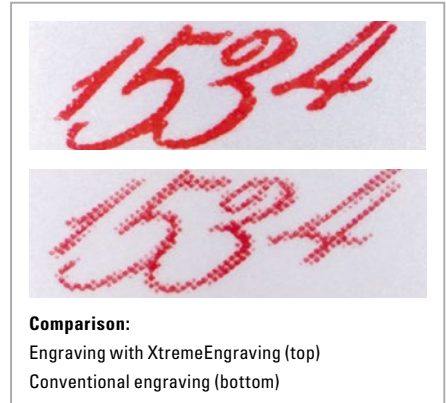
### HellHybrid

HellHybrid is an engraving process for achieving high contour sharpness with high productivity. In principle, the standard engraving is overlaid with an offset engraving, which produces very fine edge cells.

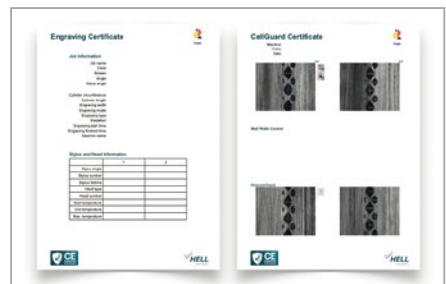
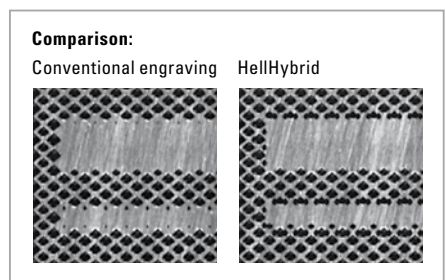


(Certified Engraving)

The K5 Smart is optionally equipped with Certified Engraving. Certified Engraving is a higher-level process that makes the cylinder manufacturing process safer and reduces the need for press proofs. After engraving, „MultiCheck“ checks and documents the engraving. Camera images and measured values, also from upstream process steps, are provided in the cylinder certificate.



With XtremeEngraving, it is possible to legibly reproduce an outline with a 1 pt font in gravure.



# Technical and functional details

## All the benefits at a glance

Basic data	K5 Smart (9 kHz)*		K5 Smart XL (9 kHz)*	
Basic unit (L x H x W)	2963 x 1470 x 866 mm		4373 x 1500 x 920 mm	
Space required incl. access area (L x W)	4563 x 2666 mm		5973 x 2720 mm	
Weight	Approx. 2300 kg		Approx. 2800 kg	
	Hollow cylinder	Shaft cylinder	Hollow cylinder	Shaft cylinder
Face width	130 - 1300 mm	130 - 1100 mm	130 - 2400 mm	130 - 2300 mm
Incl. shafts		300 - 1300 mm		380 - 2580 mm
Circumference	200 - 1200 mm	200 - 1200 mm	200 - 1200 mm	200 - 1200 mm
Cylinder weight	Max. 300 kg			
Cylinder mounting	Pivots with internal cone (three-jaw chuck on request)			
Power supply	Single phase, 230 V, 50 / 60 Hz			
Current consumption	1.5 kVA typical, 2.4 kVA peak			
Operating range / high-quality range	+15 to +25°C / +20 to +24°C			

\* for 12 kHz see separate technical data sheet



### HelioKlischograph comparison

Basic engraving	K2	K5	K5 Smart	K500 G4
Engraving system	5 kHz	9 kHz	9 / 12 kHz	9 / 12 kHz
Handling	Easy	Convenient	Assisted	Autonomous
Motorized support with integrated AF camera	•	•	•	•
Linear drive: Reduced setup times				•
Symmetrical movement of head- and tailstock				•
Twain double head engraving				◦
One-button engraving			•	•
Fully automated cylinder production with AutoCon				◦
HD Gravure				
HQH embedded	•	•	•	•
HQH Pro	◦	◦	◦	◦
MultiTune	•	•	•	•
CellGuard		Semi-automatic	Automatic	Automatic
CellEye			•	•
HellHybrid		◦	•	•
XtremeEngraving		◦	◦	◦
Certified Engraving			◦	•
Cylinder dimensions				
Max. face width hollow cylinder	1400 mm	1300 / 2400* mm	1300 / 2400* mm	2300 mm
Max. total length shaft cylinder	1460 mm	1300 / 2580* mm	1300 / 2580* mm	2600 mm
Max. circumference	1100 mm	1200 mm	1200 mm	1500 mm
Max. weight	150 kg	300 kg	300 kg	500 kg

• = Standard ◦ = Optional \* = XL version

Subject to design modifications. Errors excepted.

Version: 21-08

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