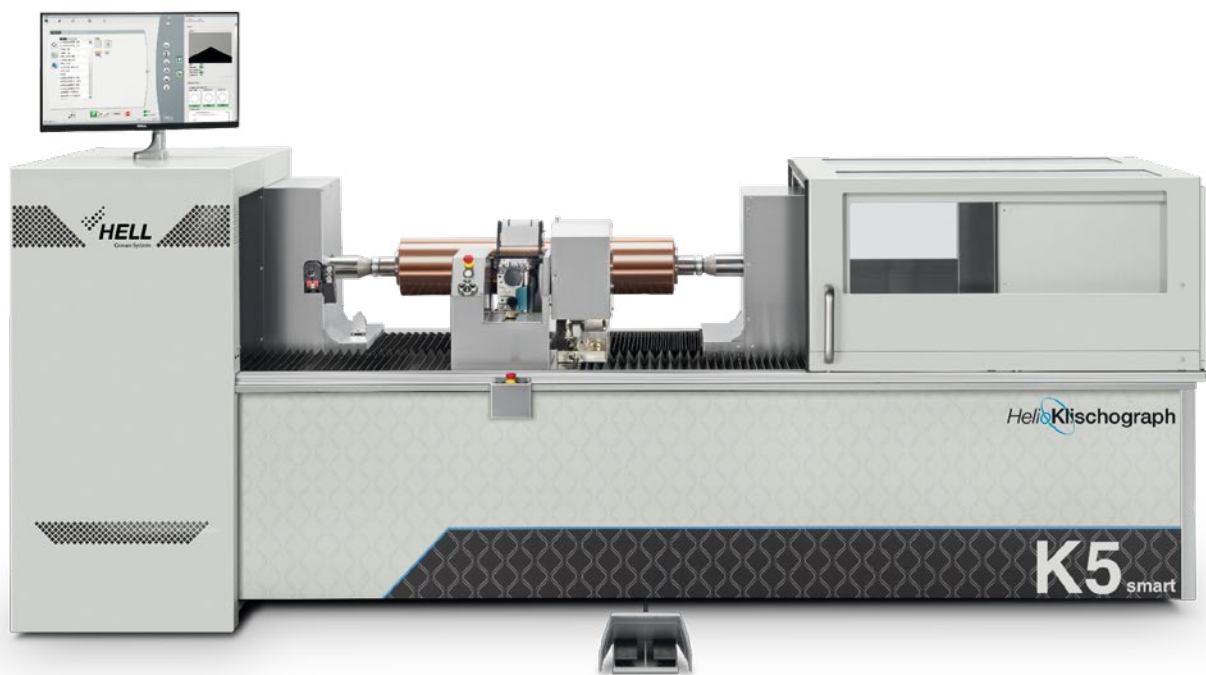


HelioKlischograph K5 Smart

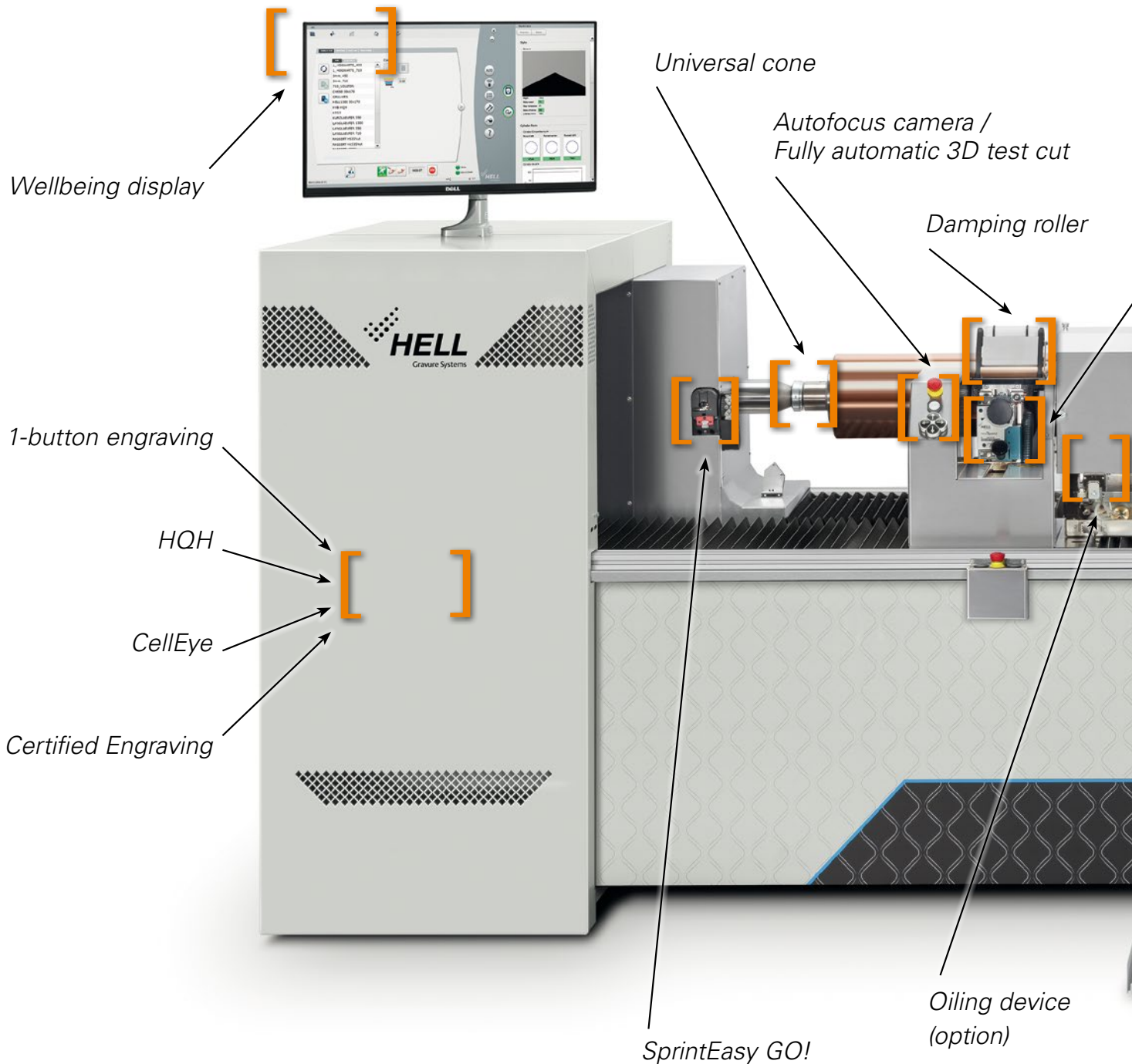
ALL-ROUND ENGRAVING MACHINE WITH 9 OR 12 KHZ



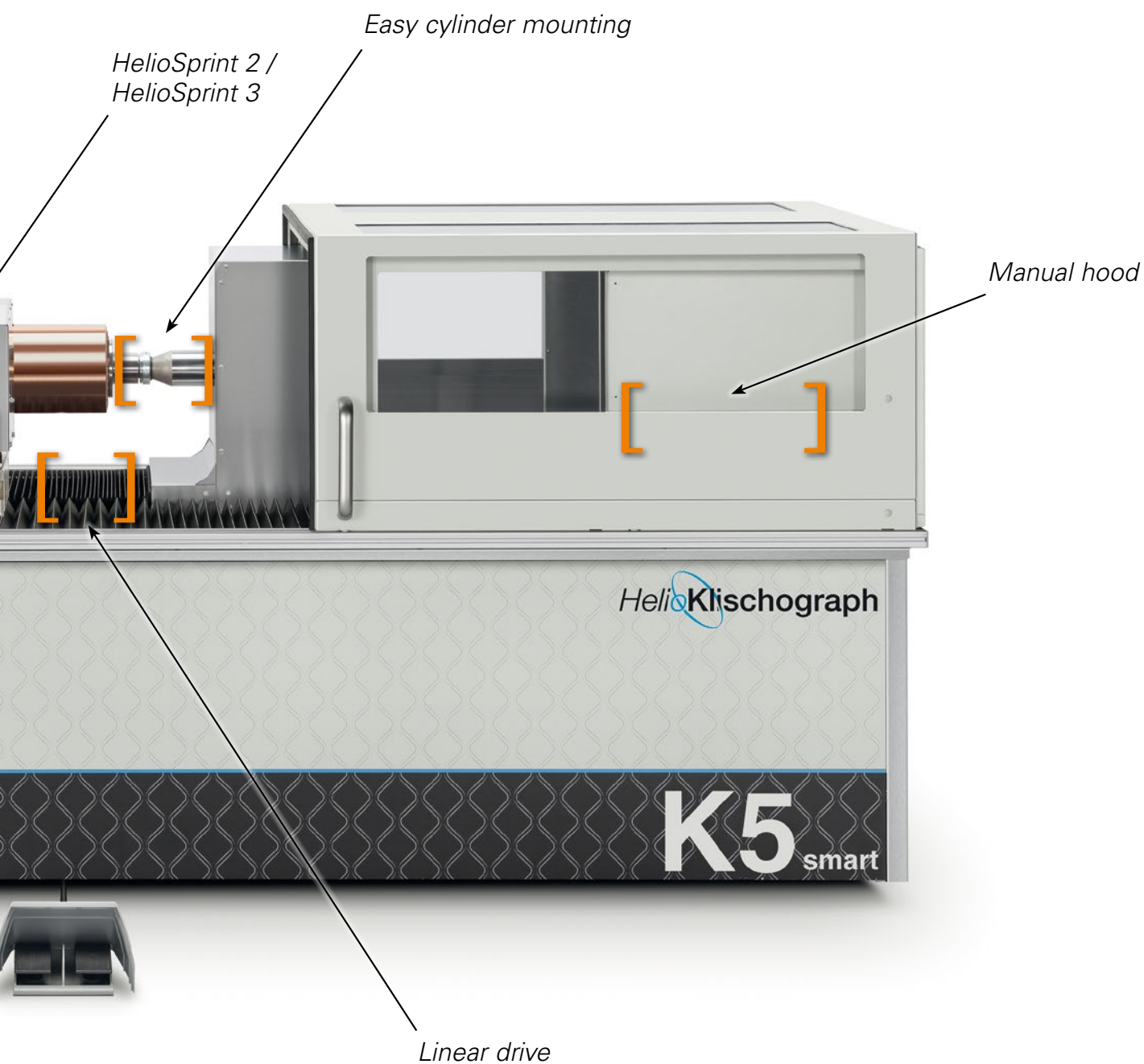
Sprint EasyGO!



All HELL top features combined in one machine



The Helioklischograph K5 Smart is the versatile engraving machine for a wide range of cylinder engraving applications. Its comprehensive software and hardware configuration guarantees very fast and particularly high-quality engraving results in HD Gravure quality. The special feature: the K5 Smart can be upgraded at any time from a convenient 1-button engraving machine to the fully automatic K5 Auto engraver.



Exclusive functions

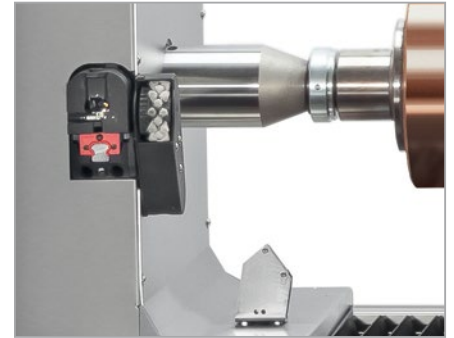
SprintEasyGO!

Engraving styli are subject to wear. After approximately 40 engraving hours, stylus wear leads to a change in the stylus angle of about 1°. In printing, this already results in a colour deviation of $\Delta E = 3$, which is visually perceptible. Normally, this colour deviation is compensated during ink adjustment on the printing press – a process that requires time and causes waste.

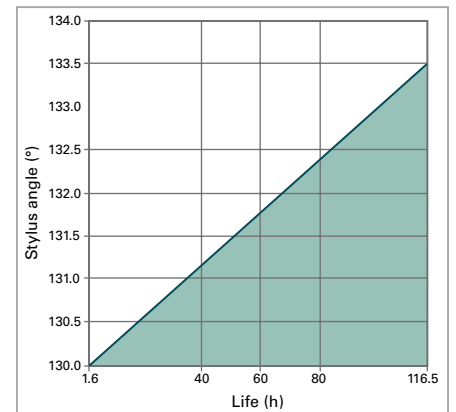
SprintEasy GO! automatically measures stylus wear before each engraving. Based on the measured current stylus angle, a volume-oriented 3D test cut is performed using CellEye. As a result, engraving quality becomes independent of stylus wear. Print results are reproducible regardless of machine or location, without time-consuming ink adjustments.

SprintEasy GO! also performs a stylus breakage check after each engraving.

In addition, SprintEasy GO! enables automatic slide shoe adjustment of the engraving system, for example after a stylus change.



SprintEasy GO! is an integrated measuring system and is available exclusively on the Helioklischograph.



The natural wear of the engraving stylus, which leads to a significant change in stylus angle, is now fully automatically compensated!



Certified Engraving is an automatic quality control system that makes the cylinder manufacturing process safer and reduces the need for press proofs. Certified Engraving documents the engraving with regard to test cut, engraving check, stylus geometry and grey wedges. Furthermore, the engraving cylinder is checked for axial precision, runout and cylinder slip. Finally, intelligent image capture measures and documents the engraving result.



Engraving systems

HelioSprint2

HelioSprint 2 is HELL's universal 9 kHz broadband engraving system. It is characterized by high engraving performance with uniform cell geometry and covers all requirements of security printing, banknote printing, packaging and decorative printing, as well as coating and application rollers. As standard, HelioSprint 2 engraves in the screen range 54–100.

Optional coarse screen tuning extends the screen range to 48 and 40 and is used for engraving technical cylinders. Optional XtremeEngraving tuning enables results with a writing resolution of up to 540 l/cm, approaching direct laser engraving quality.

MultiTune		HelioSprint 2	
Standard tuning: Screen 54 - 100	Screen range • Nominal Screens < 0, 2, 3, 4 • Effectie (l/cm)	54 - 100 44 - 144	
	Engraving frequencies	R54 - 100 / < 0, 2, 3: R60 - 100 / < 4:	7.5 kHz 9 kHz
	Engraving depth	70 µm	
Additional tuning option: Coarse screen 40/48	Extended screen range • Nominal Screens < 0, 2, 3, 4 • Effectie (l/cm)	40 - 100 32 - 144	
	Engraving frequencies	R40* / < 0, 2, 3, 4: R48 / < 0, 2, 3, 4:	5 kHz 6 kHz
	Engraving depth	78 µm	
Additional tuning option: XtremeEngraving	Writing resolution	Max. 540 l/cm	
	Screen range	14 - 118	
	Engraving frequency	12 kHz	
	Engraving depth	> 100 µm	



HelioSprint3

HelioSprint 3 is HELL's high-performance engraving system. It performs vibration engraving at an engraving frequency of 12 kHz across the entire screen range from 60–100 and thus covers all requirements of packaging printing.

MultiTune		HelioSprint 3	
Engraving frequency	12 kHz		
Engraving depth	65 µm		
XtremeEngraving	-		
Screen range • Nominal screens < 0, 2, 3, 4 • Effective (l/cm)	60 - 100 49 - 144		
Features	<ul style="list-style-type: none"> • Automatic slide shoe adjustment • 2-3 mal times longer stylus service life 		



Sharp contour details



The K5 Smart is equipped with HQH (High Quality Hinting) as standard. HQH improves the legibility and appearance of fine text and graphic elements in print. Reproduction data is usually prepared by manual engraving-specific correction. HQH automates this process by analyzing engraving data for fine lines and text and automatically optimizing them according to predefined criteria. Fine text remains legible and small graphic elements do not disappear in print. By implementing the hot folder principle in combination with job ticket control, HQH operates automatically in the background without operator intervention.

XtremeEngraving

XtremeEngraving is an optional engraving process designed to achieve excellent contour definition combined with high print density. XtremeEngraving decouples the engraving machine's writing resolution from the selected screen. In principle, the HelioKlischograph behaves like a laser imagesetter.

With a writing resolution of up to 540 l/cm, XtremeEngraving achieves results comparable to direct laser engraving. Coarse screens with cross-diagonals of over 900 µm and engraving depths of up to 110 µm can also be engraved.

XtremeEngraving is fast! With the HelioXtreme 32 engraving system, both 9 kHz vibration engraving and 12 kHz XtremeEngraving can be performed. In the right figure XtremeEngraving requires only about 1.5 times the engraving time of vibration engraving.

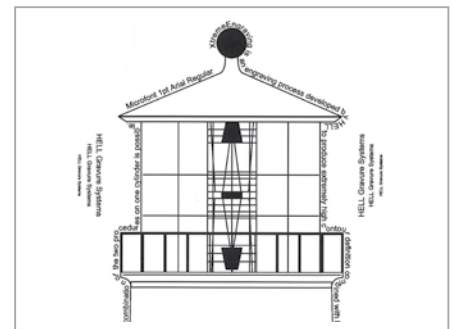
XtremeEngraving is comfortable! On the K5 Smart, vibration engraving and XtremeEngraving can be combined on a single cylinder using automatic sequential engraving.

Typical applications include logos, bar codes, labels, pharmaceutical packaging, micro lettering, security features and cigarette packaging, as well as screen rollers with high pickup volumes for coatings or adhesives.



Comparison:	
Conventional data	Optimized using HQH
<p>mix of y pouches PEDIGREE® wet and z adjust amounts according to your pet's needs. xxx A 20 kg dog needs x pouches daily. xxx GREE® dry food. xxx xxx xxx xx xxx xx xxx xxx xxx xxx xxx xxx. For overweight dogs xxx xxx xx. We recommend to feed a mix of y xxx xxx. Allow a transition phase and adjust reduce daily amount. xxx xxx xxx xx xxx. y pouches PEDIGREE® wet and 83 kcal and adjust amounts according to 100 g</p>	<p>mix of y pouches PEDIGREE® wet and z adjust amounts according to your pet's needs. xxx A 20 kg dog needs x pouches daily. xxx GREE® dry food. xxx xxx xxx xx xxx xx xxx xxx xxx xxx xxx xxx. For overweight dogs xxx xxx xx. We recommend to feed a mix of y xxx xxx. Allow a transition phase and adjust reduce daily amount. xxx xxx xxx xx xxx. y pouches PEDIGREE® wet and 83 kcal and adjust amounts according to 100 g</p>

<p>Comparison: Engraving with XtremeEngraving (top) Conventional engraving (bottom)</p>



With XtremeEngraving, it is possible to legibly reproduce continuous 1 pt lettering in gravure printing.



With engraving depths of up to 110 µm and cross-diagonals of 914 µm XtremeEngraving achieves very large pickup volumes.

Simplest operation

Wellbeing display

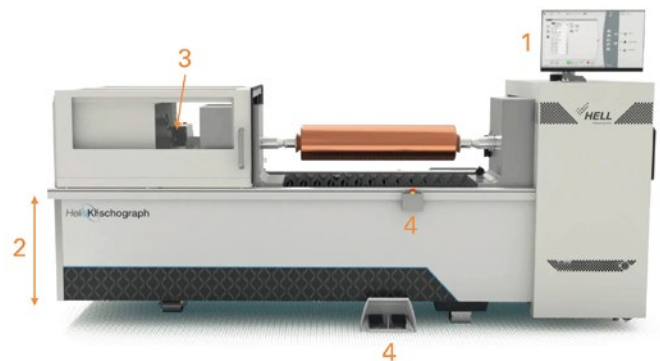
The new Wellbeing display of the K5 Smart provides a clear overview of machine status information. It gives early warnings of potential issues that could impair engraving quality.

- OK
- Operator intervention
- Warning
- Error
- Unclear status



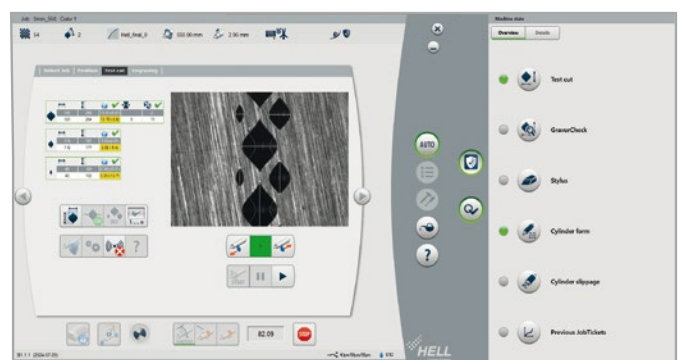
Simplified cylinder loading

- 1: The K5 Smart allows complete operation from the rear, for example via the 180° swivelling monitor mount.
- 2: The low machine height facilitates manual loading of the engraving cylinder.
- 3: For loading and unloading, the engraving carriage moves into a safe position, protecting against possible cylinder swinging.
- 4: Cylinder clamping and unclamping can be performed using either a hand or foot switch.



Fully automatic 3D test cut

The fully automatic test cut procedure enables unique repeat accuracy of packaging gravure cylinders. The cell volume is calculated taking into account the actual stylus angle and stylus wear. Fluctuations in engraving copper are compensated. CellEye achieves a significant reduction in start-up waste during printing.



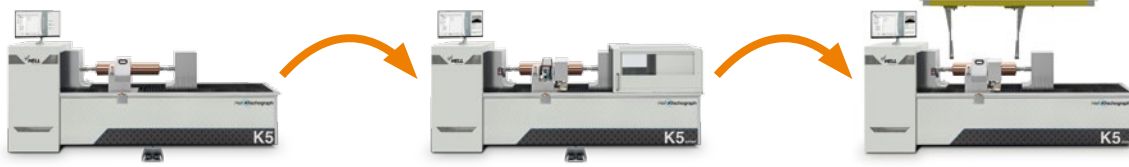
1-button engraving

The standard 1-button operation turns the K5 Smart into an automatic engraving machine. In this operating mode, only the cylinder needs to be mounted and lubricated manually. An automatic oiling device is optionally available. The K5 Smart then automatically carries out all steps until the cylinder is fully engraved and inspected.

 **Button Engraving**

Configurations, functional and technical details

Upgradability = Investment security



A K5 can be upgraded at any time to a K5 Smart or K5 Auto.

Equipment	K5	K5 Smart	K5 Auto
HelioSprint 2	•	•	•
– XtremeEngraving	◦	◦	◦
– Coarse screen engraving	◦	◦	◦
Hood	•	•	–
Linear drive	•	•	•
SprintEasy Go!	–	•	•
Oiling device	–	◦	•
Keyway alignment for hollow and shaft cylinders	–	•	•
1-button engraving	–	•	•
Automatic test cut	–	•	•
Fully autom. cylinder production with AutoCon	–	–	•
CellEye	–	•	•
HQH	•	•	•
Certified Engraving	–	•	•
HelioSprint 3	–	◦	◦

Basic data	K5		K5 XL	
	Hollow cylinder	Shaft cylinder	Hollow cylinder	Shaft cylinder
Basic unit (L x H x W)	3249 x 1710 x 1034 mm		4249 x 1710 x 1094 mm	
Space required incl. access area (L x W)	5049 x 3002 mm		6049 x 3002 mm	
Weight	Approx. 2100 kg		Approx. 2800 kg	
Face width	130 - 1400 mm	130 - 1200 mm	130 - 2350 mm	130 - 2170 mm
Incl. shafts		300 - 1400 mm		380 - 2350 mm
Circumference (8 kHz / 12 kHz)	200 - 1300 mm	200 - 1300 mm	200 - 1300 mm	200 - 1300 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			
Power consumption	Approx. 1.5 kVA typical, approx. 2.4 kVA peak			
Operating range / high-quality range	+15 to +25°C / +20 to +24°C			

• = Standard ◦ = Option

Subject to design modifications. Errors excepted.

Version: 26-01

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