

HEIDENHAIN

Two-dimensional was yesterday

The HEIDENHAIN KCI 419 *Dplus* rotary encoder for the elevators of tomorrow

TECHNOLOGY REPORT

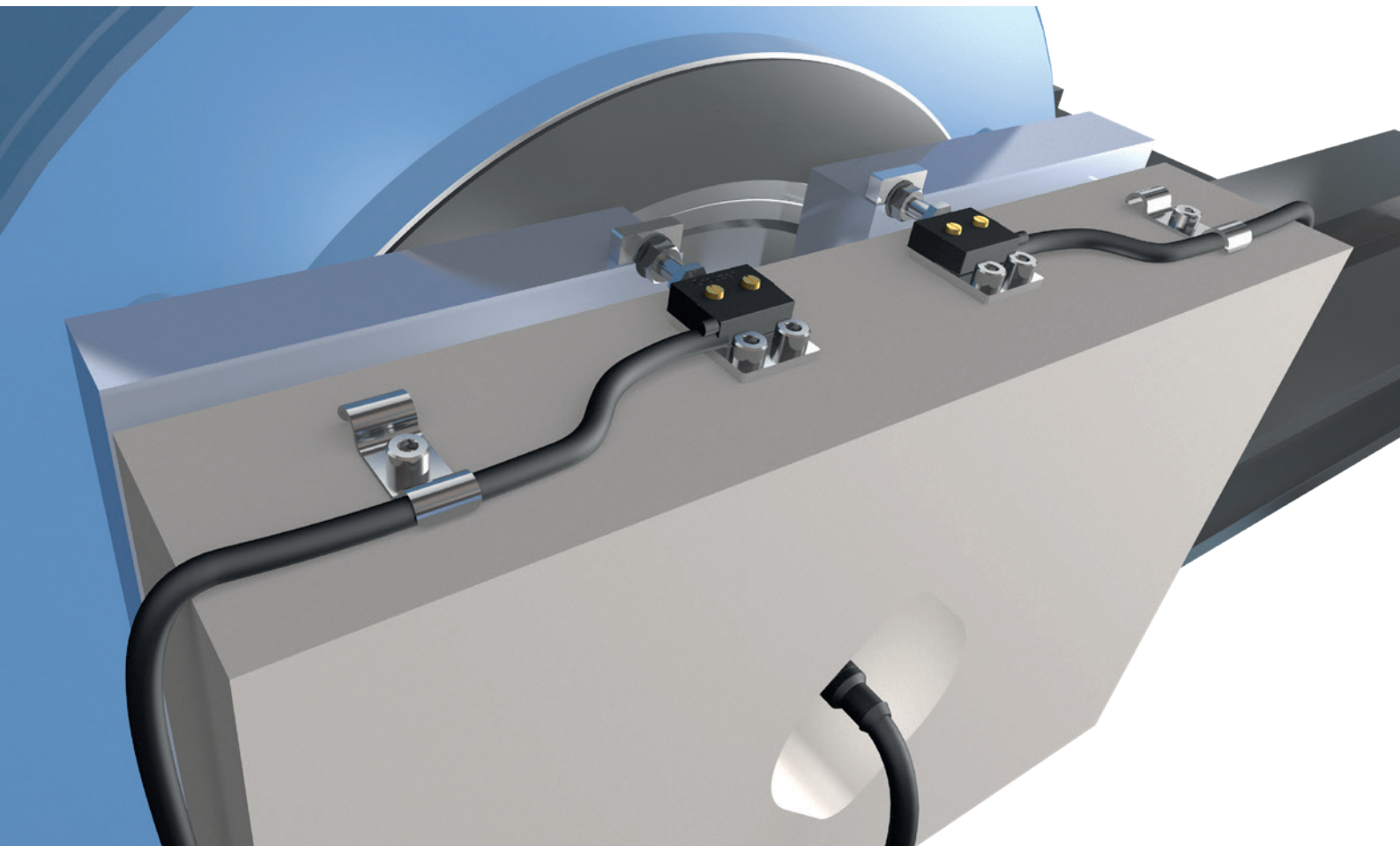
The HEIDENHAIN KCI 419 *Dplus* rotary encoder for the elevators of tomorrow

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In the near future, microswitches will no longer be needed for brake release monitoring. That's because the new HEIDENHAIN KCI 419 *Dplus* rotary encoder for elevators provides not only position feedback for motor control but also additional data for brake and temperature monitoring.

The flawless operation of brakes is a key safety characteristic of elevators. Currently, elevator brakes are monitored by means of separate microswitches. They are installed for brake release monitoring and cause significant cost and effort both prior to and during elevator operation. This includes cost and effort for the following:

- Procurement and storage
- Installation and cabling
- Maintenance and adjustment



What if an elevator rotary encoder could also provide brake monitoring?

The new **KCI 419 *Dplus*** offers all of these capabilities in a single encoder:

- Motor feedback
- Brake release monitoring
- Wear indication data
- Temperature monitoring
- Digital data transmission



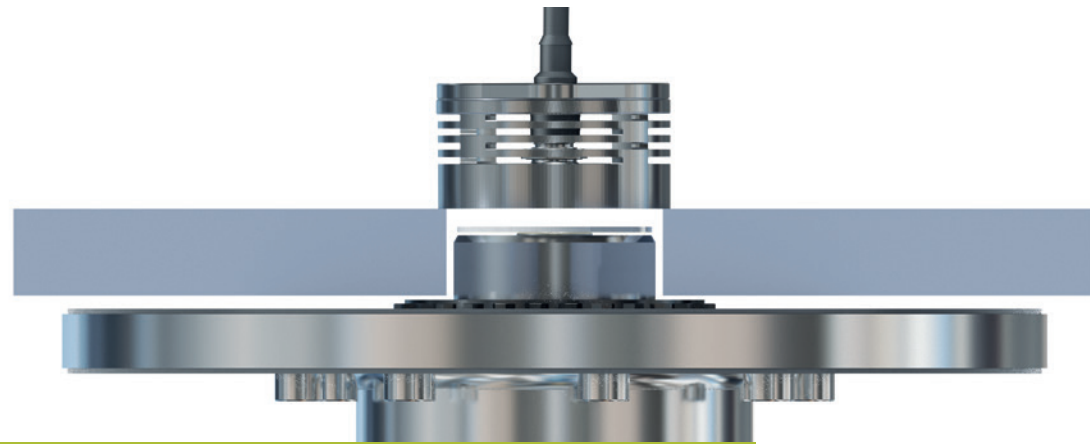
Your benefits:

- You no longer need additional microswitches for brake monitoring, thus saving all the cost and effort normally associated with them
- You benefit from improved remote monitoring and predictive maintenance capabilities
- Implementation is easy and economical with the EnDat Master Mini

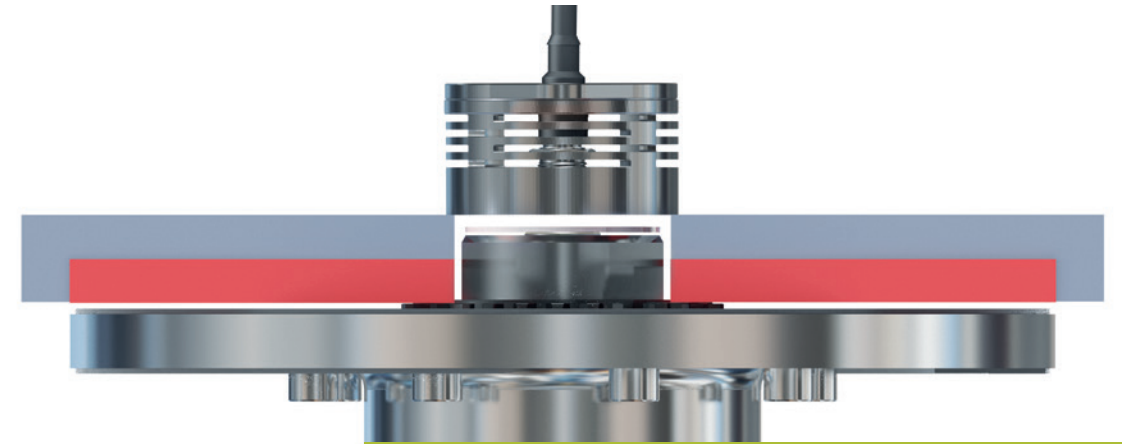
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Intelligent integration of brake release monitoring

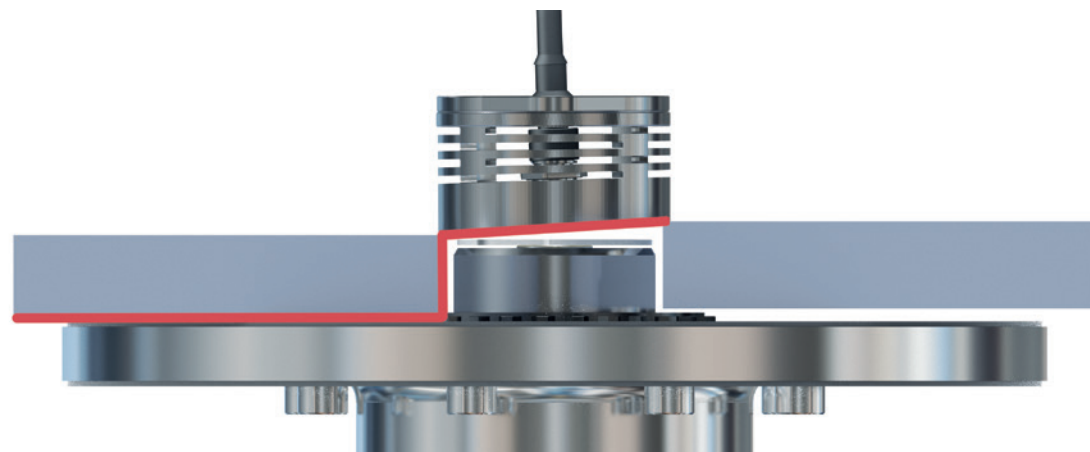
In addition to transmitting rotational position values, the KCI 419 *Dplus* inductive rotary encoder for elevators also measures the amount of axial travel. When mechanically coupled with the armature plate of the brake, the KCI 419 *Dplus* can detect the brake stroke. Based on these data, the subsequent electronics can derive not only the motor feedback but also the following safety brake statuses:



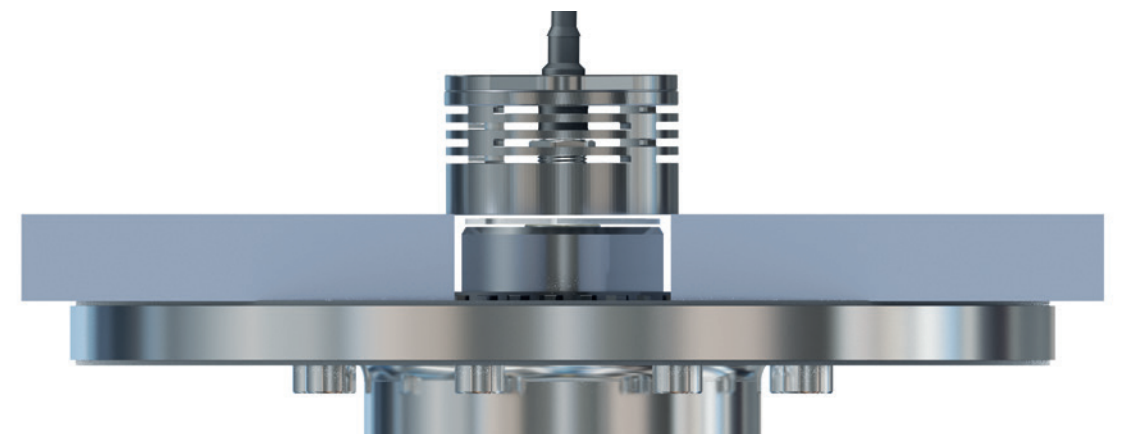
Releases properly



Releases properly, but increased armature plate travel indicates wear



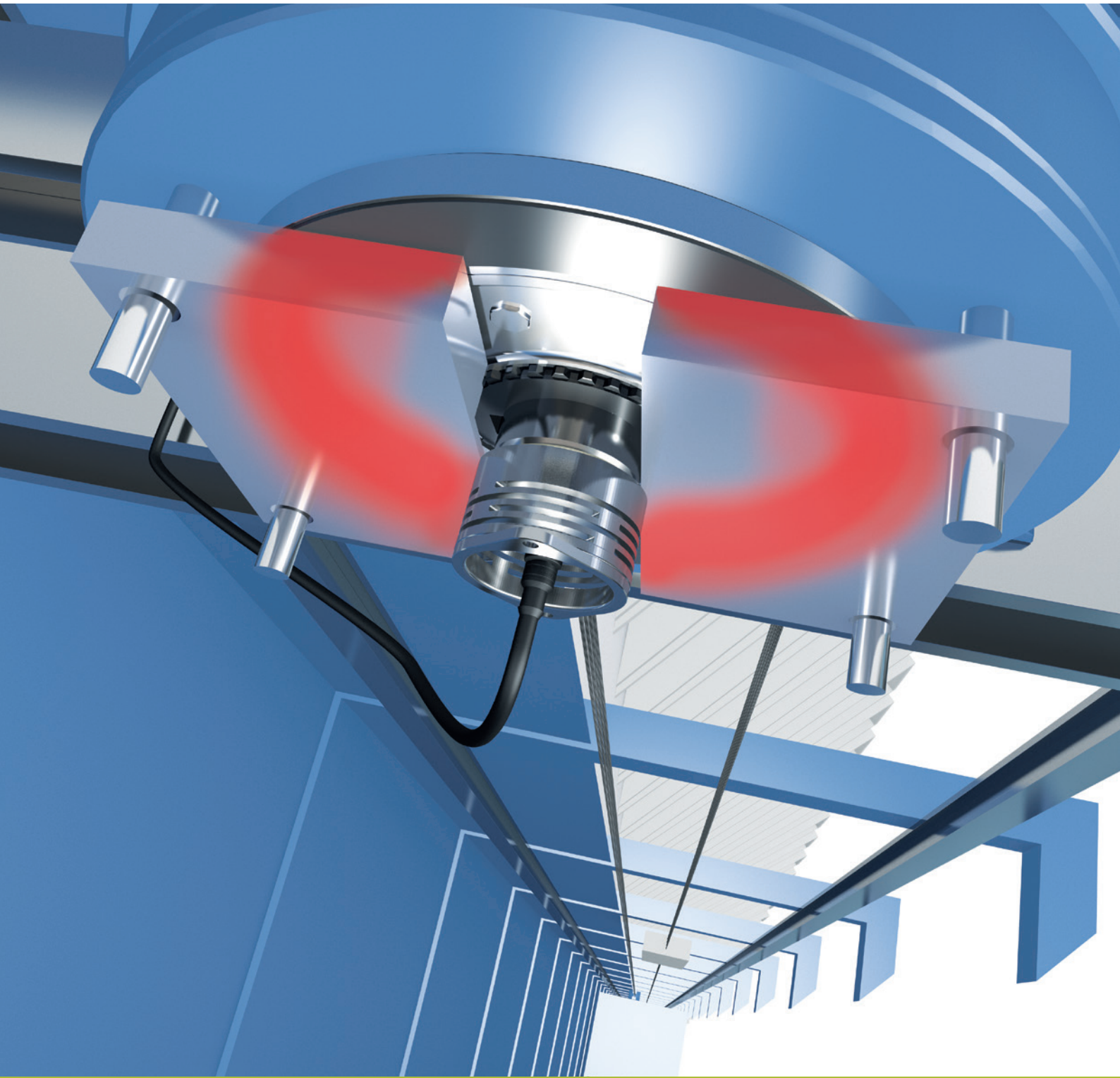
Releases on one side only:
one brake is malfunctioning



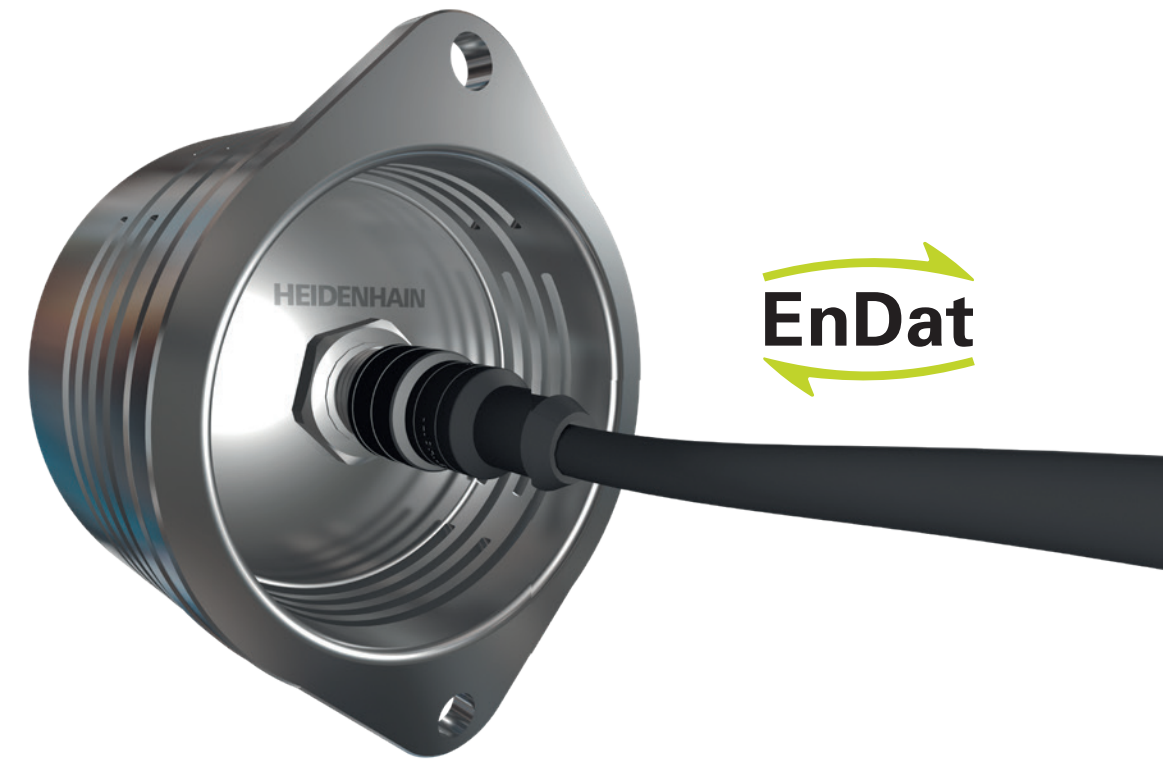
Engages securely

Greater safety through temperature monitoring and self-diagnosis

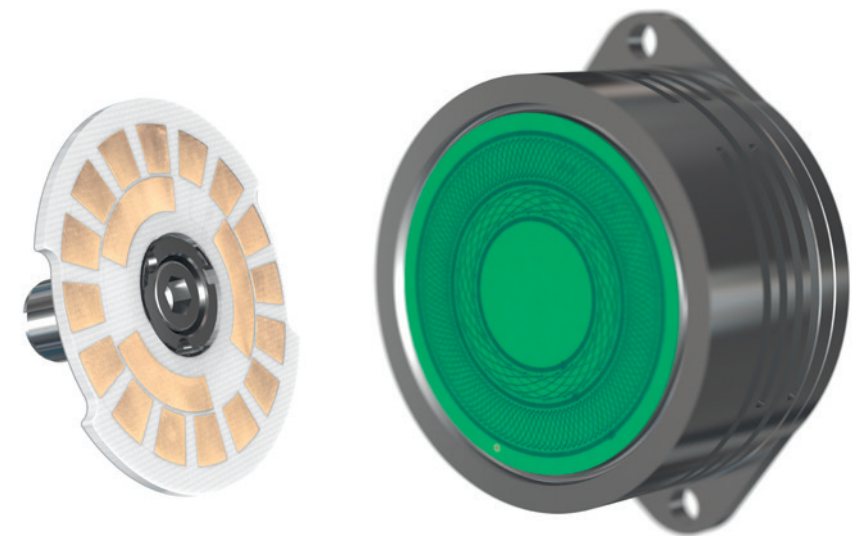
The new KCI 419 *Dplus* considerably enhances availability and safety thanks to temperature monitoring and comprehensive online self-diagnostic capabilities. By virtue of its direct proximity to the motor and brake, the KCI 419 *Dplus* elevator rotary encoder provides meaningful temperature monitoring data without additional sensors or cabling. These temperature data can then be used to infer the occurrence of malfunctions.



Because all of these parameters are transmitted on a single cable via the purely digital EnDat 2.2 interface, overall system cabling is greatly simplified. Further benefits include improved remote monitoring and predictive maintenance capabilities.



In addition to these completely new innovations, the KCI 419 *Dplus* also features all of the familiar strengths of classic rotary encoders from HEIDENHAIN. Its inductive scanning method is highly immune to contamination and vibration, and is renowned for its operational reliability.



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Two-dimensional measurement is now a thing of the past:

The new KCI 419 Dplus elevator rotary encoder delivers motor feedback, axial distance values for brake release monitoring, and temperature data for brake monitoring.



HEIDENHAIN

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