

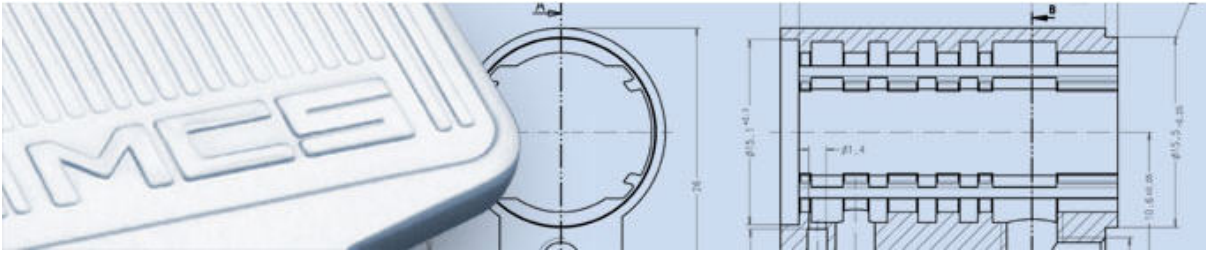
### Technology

MCS (Magnetic Code System) guarantees dual security by using magnetic and mechanical coding. The magnets are not affected by the magnetic fields present in everyday life. The permanent magnets are long-life and are resistant to re-magnetisation and de-magnetisation from the usual sources – they are practically indestructible.

There are 8 rotating magnet rotors in the cylindrical core, and the key's 4 magnet pills are arranged onto them. By using the right key the magnet rotors are brought into a locking position.

The MCS key is also curved on both sides to assist mechanical coding.

## DATA SHEET - MCS



## MCS technology in the module system

### Function

The control takes place

- via 8-fold magnetisation on the key carried out by enclosed, non-impact rotating magnet rotors on the left and right of the key channel
- via a profile system (lengthways profile)
- via a positively-controlled locking pin scan on the back of the key with manipulation control

In the cylinder core the key's 4 magnet pills are arranged on the 8 rotating magnet rotors. When the key is taken out they always end up in a different position. Each key magnet pill can be entered, all the magnet rotors are put into the locking position. When the key is first rotated, the two pressure sliders arranged over the straightened rotors are pushed forward by radial cams. The locking process is released because the locking cams do not prevent rotation. A curve is milled on to both sides of the key, which uses positive control to align the locking pins (four above, three below) in the magnet core according to the curve in the locking position. An authorised key produces a specific alignment image of the locking pins, which makes rotation possible.

### Benefits

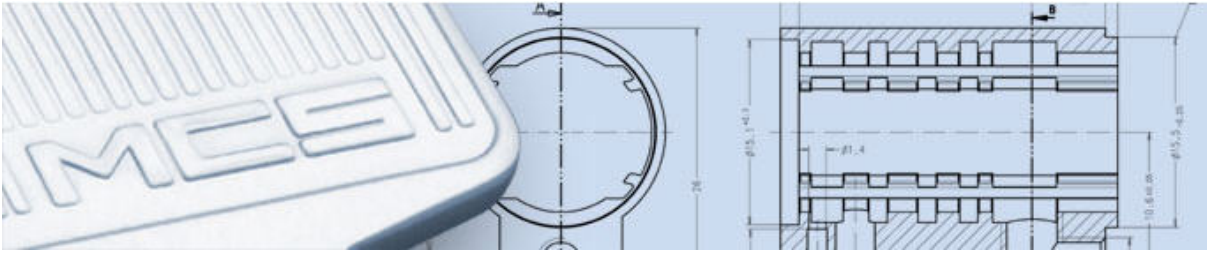
The magnetic coding guarantees that copies cannot be made and facilitates complex access control hierarchies due to the diversity of variations.

- Each lock and each key is unique.
- Triple security, provided by one magnetic and two mechanical (profile and locking pin) levels of coding.
- Technological (copy protection), organisational (security card) and legal (patents) key protection.
- Module system
- Permanent magnets made from samarium cobalt 5 guarantee a long operational life. They cannot be re-magnetised or de-magnetised using conventional methods.
- During a 360° key rotation, the coding is checked twice. These checks are independent of each other.
- Wear resistance thanks to sealed locking elements.

### Protection against break-ins

- Drilling and core pulling protection, pulling and ripping protection:  
Hard metal pins in the housing and core guarantee protection against drilling, core pulling and ripping.
- Scanning protection:  
The non-impact magnet rotors are covered by the key channel wall, meaning that the coding in the cylinder cannot be scanned.
- Key tampering protection:  
The key is protected against tampering through the use of two physically independent and/or different coding features.

## DATA SHEET - MCS



### Keys

The unique magnet keys guarantee maximum key copying protection. The system has three different safeguards that protect against keys being copied or tampered with:

- **Organisational protection**  
Keys are only made for authorised individuals with the necessary proof of legitimacy (e.g. security card).
- **Legal protection**  
The commercial manufacturing of keys only takes place at EVVA. Furthermore, EVVA protects against the unauthorised manufacturing of MCS keys by means of patented features on the key.
- **Technological protection**  
Keys have technological features such as permanent magnetisation, which require specialised machines for their manufacture. Illegal manufacture is, therefore, virtually impossible.



### Cylinders

The MCS cylinder has a modular design and technical features to protect against break-ins:

- **Scanning protection**
- **Protection against drilling**
- **Protection against pulling out the core**

MCS cylinders comply with EN 1303: 2005 in locking security grade 6 and break-in resistance grade 2. As standard they are suitable for fire and smoke doors EI 30 and E 30.

### Cylinder types

The following types of cylinder are available in the MCS locking system:

- Double cylinders
- Half cylinders
- Knob cylinders
- Round cylinders
- Scandinavian oval cylinders
- Padlocks
- Portal cylinders
- Cam cylinders
- Lever cylinders
- Garage cylinders
- Cabinet cylinders