

**We make it compatible...
and safe!**



magnetic connection

disconnects immediately in case of fall down

guarantees proper function of the fall protection system

reusable

safe and easy handling, solid design

solid design, can be certified** with every usual fall protection system

meets applicable standards

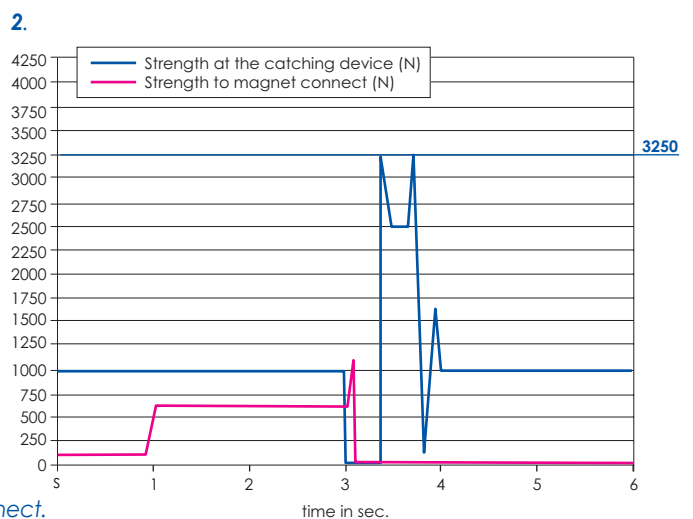
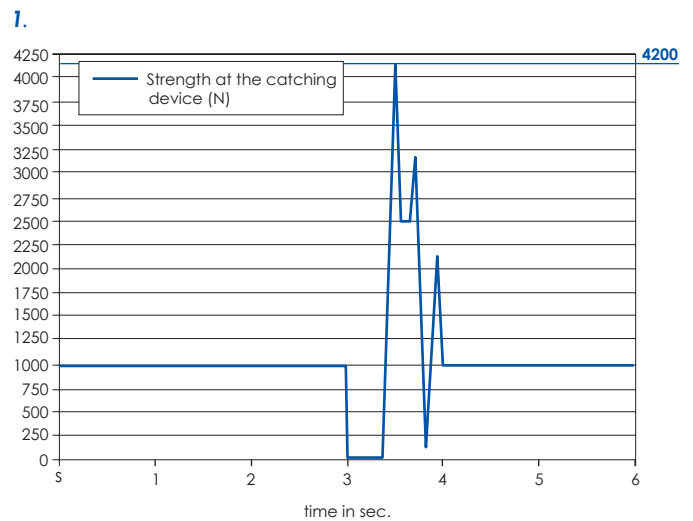
**** EN 353-1
ANSI Z359.1-2007
OSHA 1910.66 App C**

When it comes to jobs at high, the safety of employees must be first priority. Our engineers are fully aware of their responsibility

Whilst developing our ladder climbing drive within recent years we investigated to what extent the climbing help influences the function of fall protection systems.

Investigations both in-house and also with DEKRA EXAM and leading manufacturers of fall protection systems have shown that the climb assists can have both positive and negative influences on the fall protection system.

It causes less body strain of ascending and descending personnel and also a reduction of the climbing duration without forcing the climber to a particular speed the investigations positively pointed out that the forces which act on the body if a person falls are cushioned by the magnet connect (see figures 1 and 2 below). This significantly reduces the injury risk in case of a fall. It should, however be noted that every ladder climber has an influence on the respective fall protection system used. This is due to the permanent connection of the person ascending with PPE and the ladder climber.



1. Diagram of the force curve between the safety device and the belt in fall tests in accordance with the standard without a ladder climbing drive.

2. Diagram of the force curve between the safety device and the belt in fall tests in accordance with the standard with a ladder climbing drive. In addition force curve of the magnet connect.

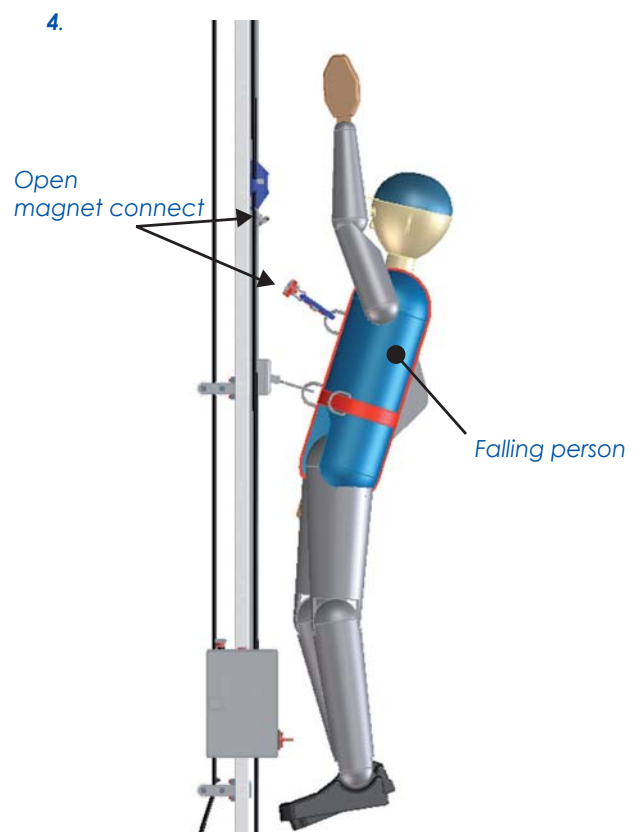
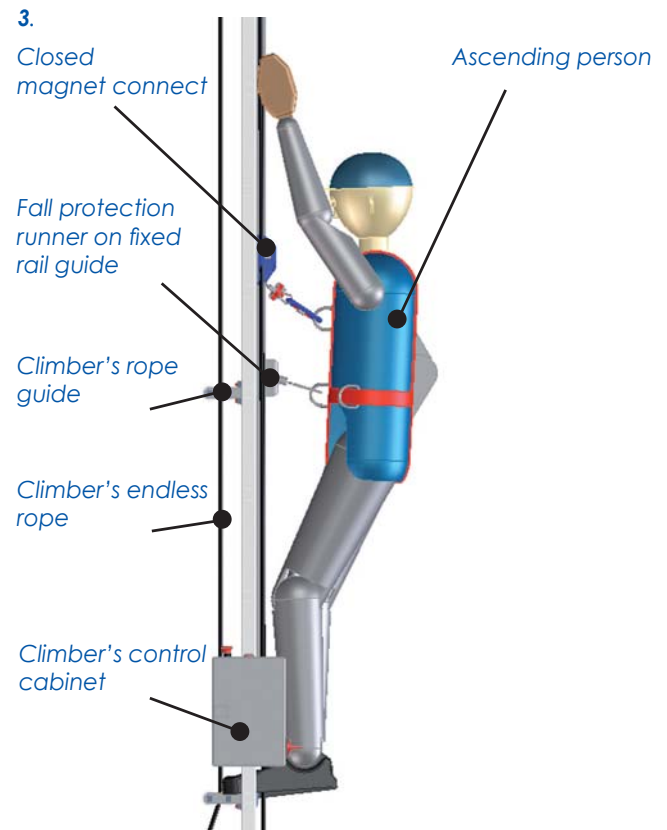
Magnet connect has been developed to guarantee the required regulations for using different fall protection systems and thus to eliminate excessive falling distances or prevent ascending persons from falling.

The function of the magnet connect guarantees a maximum of safety via a magnetic connection as the ladder climb drive is completely disconnected from the fall protection system in the event of a person falling. The permanent connection is thus abruptly interrupted and the ladder climber cannot have a negative effect on the fall protection system any more (See figures 3 and 4).

With this new development we are in a position to receive certification in accordance with current regulations for all common protecting fall systems available on the market.

- EN 353-1
- ANSI Z 359.1-2007
- OSHA 1910.66 App C

Please contact us to have your fall protection system certified for use with the our ladder climbing device, because we make it compatible... Absolutely!



3. Person ascending a ladder secured with a fall protection system and supported by the ladder climber.

4. Person falling, magnet connect opened, person falls into fall protection system.

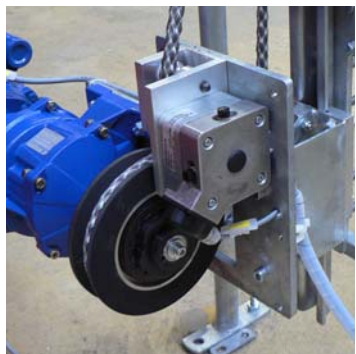
Ladder Climbing Drive



The ladder climbing drive can be used with existing fall arrest rail or steel rope ladder systems. The ladder climbing drives rope runs parallel to the fall arrest systems so that the climber is connected to the fall arrest system and climbing is supported by the additional connection to the ladder climbing drives rope.

The safety harness is fastened to the continuous rope by an ascender and snap hooks. The motor, fitted to the bottom end of the ladder on the rear side, drives the continuous rope via an infinitely variable slip clutch with driving pulley.

The rope runs around the top end of the ladder via a sheave. The ladder climbing drive is started or stopped by pulling up the rope and stops when the climber comes to a halt on the ladder. The rope is pulled up again to continue climbing.



Unlike comparable products there is no risk of accident if the slip clutch fails, as the signal to the control system is transmitted via a separate shaft and not via the motor shaft.

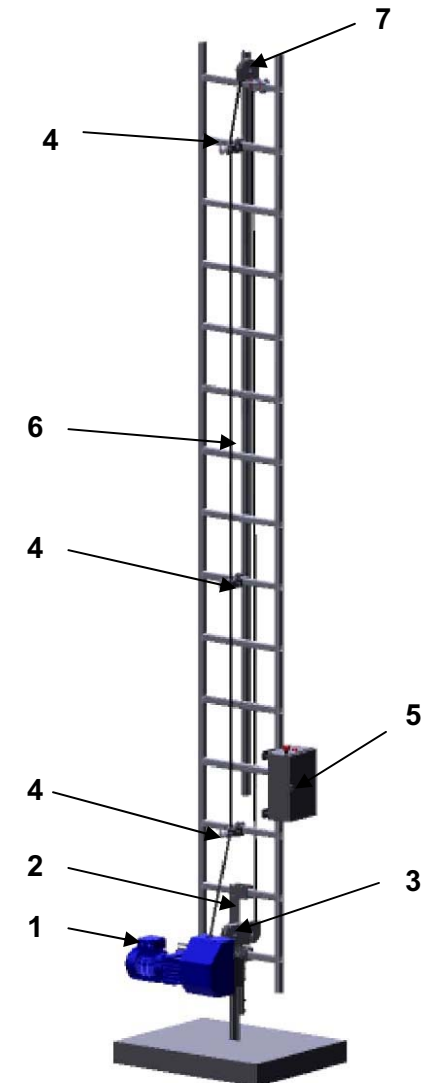
Application side beam

The ladder climbing drive type LCD-S is an equipment to facilitate the ascent of persons during the use of stationary ladders.

Climbing person is secured with fall arrester equipment in accordance with EN 353-1:2002, ANSI Z359.1-1992 and a safety harness in accordance with EN 361, ANSI Z359.1 while using the ladder.

The ladder climbing drive LCD-S is designed for **side beam ladders**

- 1) Drive unit including guide carriage
- 2) Guide rail
- 3) Lower guide pulley
- 4) Rope guides
- 5) Control cabinet (controlling)
- 6) Polyester rope
- 7) Upper guide pulley



Technical data

Description:	Ladder climbing drive
Type:	LCD-S
Total weight:	approx. 33kg incl. drive unit
Relief / Tension force:	35kg (adjustable up to 45kg)
Minimum weight of climbing person:	50kg
Drive unit:	Spur gear motor with drive shaft 0,55 kW, 230V/50Hz / IP54
Rope:	Infinite rope made of polyester, 12mm, trusted out with special Grip- coating.
Climbing high:	According to project requirements



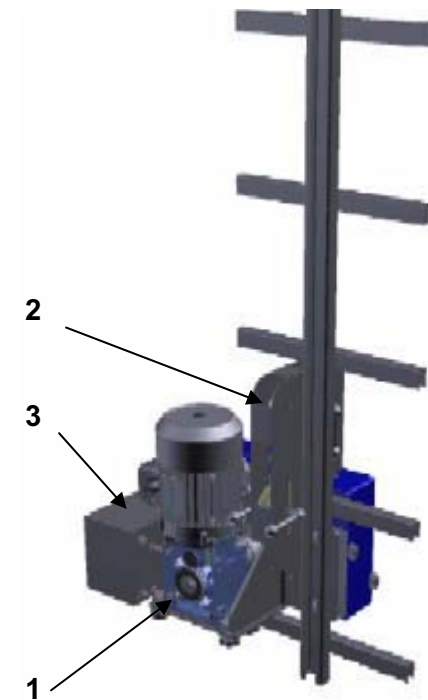
Application middle beam

The ladder climbing drive type LCD-M is an equipment facilitate the ascent of persons during the use of stationary ladders.

Climbing person is secured with fall arrester equipment in accordance with EN 353-1:2002, ANSI Z359.1-1992 and a safety harness in accordance with EN 361, ANSI Z359.1 while using the ladder.

The ladder climbing drive LCD-M is designed for **middle beam ladders**

- 1) Drive unit including guide carriage
- 2) Lower guide pulley
- 3) Control cabinet
- 4) Polyester rope (not showed)
- 5) Upper guide pulley (not showed)



Technical data

Description:	Ladder climbing drive
Type:	LCD-M
Total weight:	approx. 40kg incl. drive unit
Relief / Tension force:	35kg (adjustable up to 45kg)
Minimum weight of climbing person:	50kg
Drive unit:	Helical gear motor with drive shaft 0,55 kW, 230V/50Hz / IP54
Rope:	Infinite rope made of polyester, 12mm, trusted out with special Grip- coating.
Climbing high:	According to project requirements



 **DANGER**

Usage of the ladder climbing drive is permitted only with checked and approved fall arrester equipment.
In case of non-observance, there is a danger to life and limb!

 **DANGER**

The ladder climbing drive **does not** serve as replacement for the fall arrester equipment.
In case of non-observance, there is a danger to life and limb!

