e-spool | Introduction | Advantages

The cable drum without a slip ring - igus® e-spool

Routing many different cables in a narrow space. e-spool uniquely combines two different energy supply systems: one standard e-chain® is guided by one roller and always provides the correct length and tension of the energy supply system through an integrated retaining spring. In the starting position, the e-chain® is entirely rolled up to save space. The twisterband connects the roller with the shaft block, which serves as an interface with the supply side.

- Different media and diameters in one drum
- No tensile load on the cables
- Energy supply possible in all directions (horizontal, vertical, diagonal)
- Space-saving, no “e-chain® junction” - e-chain® rolled into the home position, paths remain free
- Cable diameters up to 17 mm
- Cables can be retrospectively added or changed
- Alternative to zig-zag solutions
- Max. deployment and retract speed: 1 m/s

Typical industries and applications
- Telescopic applications
- Light / Stage equipment
- Space-saving alternative to zig-zag applications

More information www.igus.eu/e-spool
**e-spool** | Selection table

<table>
<thead>
<tr>
<th>Part No. e-spool with 1 twisterband</th>
<th>Part No. e-spool with 2 twisterbands</th>
<th>Travel length max. [mm]</th>
<th>Drum diameter ø [mm]</th>
<th>Cable length [m]</th>
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**e-spool - Standard**

the alternative to a cable drum. Reduce cable wear and reliably guide different media.

(Illustration shows e-spool with 2 twisterbands)

**e-spool - HD-version**

for increased retraction force - e-spool with more powerful retaining spring.

(Illustration shows e-spool HD with 2 twisterbands)

<table>
<thead>
<tr>
<th>Part No. e-spool HD with 1 twisterband</th>
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Small e-spool and e-spool for manual operation

For small installation spaces and low fill, the e-spool SP1.400.4000.01.R.0 is available for up to 4 m extraction. For applications where a cable is pulled out manually there is the SP1C.300.5000.01.R.0 with locking function for up to 8 m extraction.

More information [www.igus.eu/new](http://www.igus.eu/new)
e-spool | Technical data | Order example

Technical data

- Speed ≤ 1 m/s
- Acceleration ≤ 2 m/s²
- Lateral speed ≤ 1 m/s
- Lateral acceleration (radial) / (axial) ≤ 1 m/s² / ≤ 0.25 m/s²

e-spool | Versions

Modular construction kit in 2 versions: standard and HD.
Two versions of each with different filling capacities and 1 or 2 twisterbands

1 twisterband
- Drum diameter Ø
- Max. extension length
- Standard colour black

Order key: SP1.600.4000.02.R.0
Standard-System with a single twisterband with 600 mm drum diameter, and 4000 mm maximum extension length, extension right

2 twisterbands
- Drum diameter Ø
- Max. extension length
- Standard colour black

Order key: SP2.600.4000.02.R.0
Standard-System with two twisterbands with 600 mm drum diameter, and 4000 mm maximum extension length, extension right

1 twisterband - HD
- Drum diameter Ø
- Max. extension length
- Standardfarbe schwarz

Order key: SPHD1.700.7000.02.L.0
HD-Version with a single twisterband with 700 mm drum diameter, and 7000 mm maximum extension length, extension left

2 twisterbands - HD
- Drum diameter Ø
- Max. extension length
- Standardfarbe schwarz

Order key: SPHD2.700.7000.02.R.0
HD-Version with two twisterbands with 700 mm drum diameter, and 7000 mm maximum extension length, extension left

More information www.igus.eu/e-spool
Filling rules for the e-spool
In view of the special mechanical stress in an e-spool, we recommend using igus® chainflex® cables. We also recommend that you observe the following filling rules:

1. Please put cables only side by side in the linear chain. Never put more cables upon the other!
2. Where possible, cables with a TPE outer jacket should be used for unshielded cables
3. Shielded cables should be from the CFROBOT range.
4. All cables should have an outer diameter of ≤ 17 mm.
5. The max. bend radii of 44 mm in the inner radius and 77 mm in the outer radius should be observed.
6. Where possible, use separators to protect cables against cross-over and abrasion against other cables. To save space, install the separators alternately in segments positioned one behind the other. Repeat the separators in every 4th segment.
7. Insert cables sorted according to diameter and/or bend radius. Insert thin, small ones in the inside then increasingly larger ones outward.
8. Apply strain relief on both ends of the cable. The cable tie wrap node must not be installed in the e-chain® direction.
9. Always install cables in the twisterband close to the axis of rotation with space on the outside.
10. Always install cables in the twisterband with a slight gap from the axis of rotation.

Installation instructions
For applications that move horizontally, a smooth surface is needed for the e-chain® to travel over.
e-spool | Series SP1·SP2 | Product range
Protect cables and guide different media safely, Standard

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<td>SP1.600.4000.02.R.0</td>
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Max. cable diameter: 17 mm

If the e-chain® is extracted upwards, igus® recommends the standard e-spool. If the e-chain® is extending downwards or horizontally, the application should be discussed with your igus® engineer. The HD version with a greater retraction force than is sometimes necessary.

More information ➤ www.igus.eu/e-spool
e-spool | Series SPHD1-SPHD2 | Product range

Protect cables and guide different media safely, HD-version

![e-spool HD-version with 1 twisterband](image1)

![e-spool HD-version with 2 twisterbands](image2)

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### e-spool | with e-chain® and 1 or 2 twisterbands | HD-version

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e-spool  Accessories

Interior separation | New generation for E2/000 e-chains® and twisterband

No lateral spacing to side links necessary.
Separators are assembled every 9th e-chain link.

Interior separation E2/000 e-chains®
Standard - for any application
Separator with a wide base for maximum holding strength in the e-chain®.

For even faster installation
Wide on one side for high holding strength, narrow on opposite side for easy cable fitting.

For thin cables
Separator with a narrow base for a large number of thin cables side by side. Saves space in e-chains®.

Separators are delivered unassembled. Simply push them onto the crossbar!
Separators are assembled every 4th e-chain link.

Interior separation twisterband
Separators - for installation simply open the e-chain®, insert a cable and push the separator onto the crossbar. Then add more cables. The separators provide a clear, cable-friendly interior separation.

More information ➤ www.igus.eu/e-spool
e-spool | Applications

**e-spool**

> Space-saving solution for a secure vertical movement. e-spool with 3500 mm extension length in this handling unit. Assembled with igus®* chainflex® CF9 control and CF30 motor cables as well as CF:Robot torsion cable and CA:PU pneumatic hose.

**e-spool power** - motor-driven, extraction lengths up to 25 m

- The motor-driven e-spool for long extraction lengths up to 25 m and more
- Realise longer travels with motor
- Long service life thanks to retraction system and motor
- Outdoor use possible
- For installation under the ceiling - the system is "invisible"
- Max. extraction and retraction speed 1.2 m/s


**mini-e-spool** - compact, extraction lengths up to 2 m

- The mini mini-e-spool is a compact, spring-driven cable drum in which different cable types are routed in a linear chain
- Compact cable drum without slip ring
- Extraction lengths up to 2 m
- Space saving and almost "invisible"
- Max. extraction and retraction speed 1.0 m/s
- Very light-weight design made from aluminium