e-loop®

for top drive applications

•motion plastics

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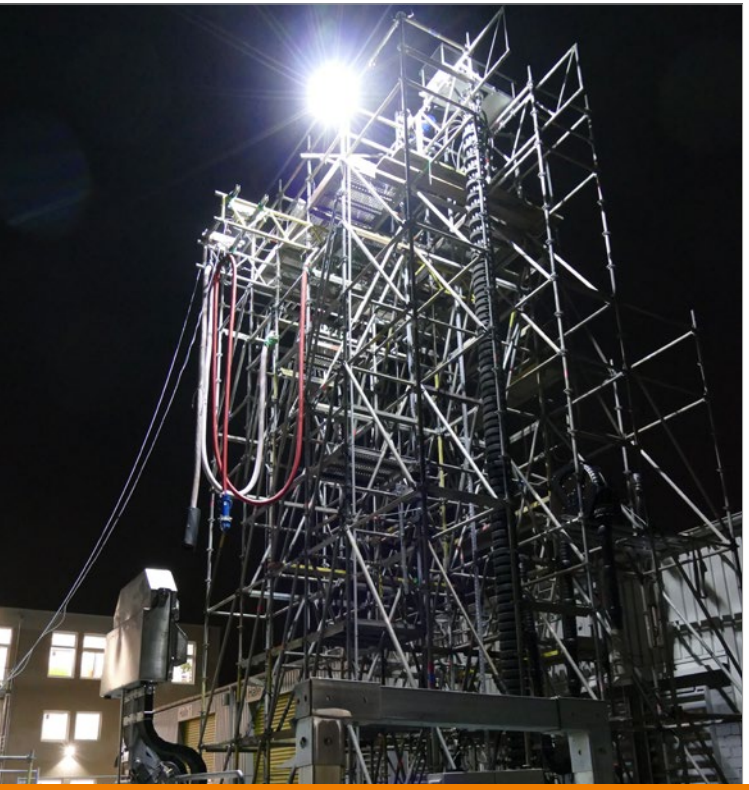
e-loop®

For top drive systems

To guide cables safely in hanging applications, igus® has developed the e-loop® as an alternative to the service loop.

e-loop® modular energy chain system

In order to safely and reliably guide cables and hoses in hanging and especially top drive applications, igus® developed the e-loop® as an alternative to the service loop - ideal for 3-dimensional applications. The e-loop® combines the advantages of a plastic energy chain with those of a high-strength composite rope. Inside the chain, the rope transfers the pull forces to the mounting brackets and the structure. As a result, the cables are kept completely relieved of strain. The modular e-chain® made of high-performance polymer always enables a defined bend radius and easily copes with vibrations and impacts.



Continuous outdoor testing of a completely harnessed e-loop® with cable filling for a 500t top drive. Result: the test already completed 170.000 double strokes - equivalent to 4.5 years top drive service life.

e-loop® | Design

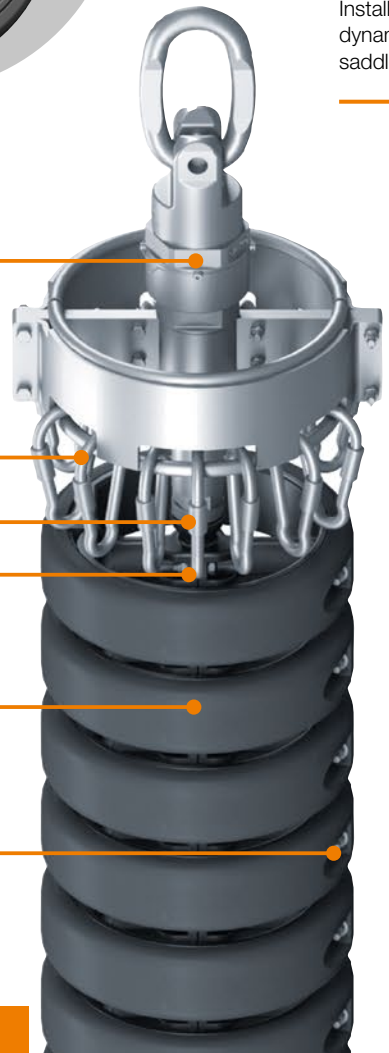
PUR bumper

2- or 4-chamber design

Screw for clamping link to rope

Pin & bore link connection

Installation example to connect dynamic and static e-loop® via a saddle and plug board



Hook-type mounting bracket

Strain relief for cables

Composite rope red

e-loop® inner link, clamped to rope

e-loop® outer link (PUR bumper)

Screw (incl. secondary retention)

The new generation of service loops

e-loop®

e-loop® benefits

Weather-proof design
One drag chain style loop which fits all service loops/cables (Power, Aux & Control) into **ONE compact system.** It is possible to access, replace and maintain all cables and hoses individually – even in operation.

Time saving handling for rig moves
Integrated strain relief for all cables and hoses to install and remove the entire system for rig moves without disconnecting the cable package.

Space saving design
The system fits into the smallest mast types due to a very small bend radius of the e-loop®.

Available for all top drives
The mounting bracket makes it possible to be installed to any top drive type. Two types of mounting brackets available, either hook (eyelet) or flange style.

High pulling loads
The composite rope in the center core is 15x stronger than a steel rope and guides all acting forces into the end brackets. Cables are relieved from all strain.

Suitable for all environemts
Thanks to the used materials the e-loop® system is suitable to be used in arctic or desert conditions. It provides great chemical and UV resistance.

e-loop® | Product range overview

Series e-loop®	Inner width [mm]	Outer width [mm]	Bend radius [mm]	Max. cable ø [mm]	Permissible operating load* [kN]
					
			e-loop®, dynamic, crossbars every link for all moving applications		
ELP.220.01.D	150	220	380	38	4 [1]
ELP.300.01.D	230	300	500	75	7 [1]
ELP.430.01.D	360	430	680	108	11 [1]
					
			e-loop®, static, with crossbars every 2nd link for purely static cable guidance		
ELP.220.01.S	150	220	175	38	4 [1]
ELP.300.01.S	230	300	210	75	7 [1]

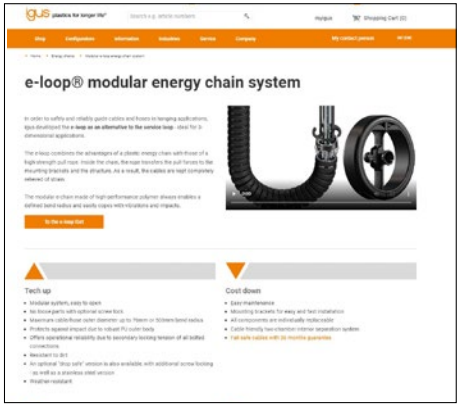
*1)With standard mounting brackets; higher loads possible with special solutions.

Part No.	Type	Inner width [mm]	Outer width [mm]	Bend radius [mm]	Max. cable ø [mm]	Permissible operating load* [kN]
ELP.TD.300	Crossbars every link, dynamic	230	300	500	75	50

Discover e-loop® energy chains in the shop ...

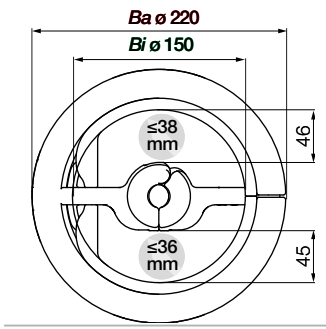
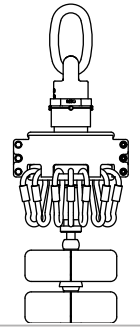
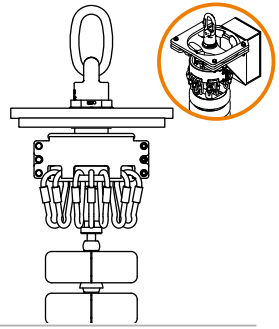
Visit our web pages for more information, products, application examples and useful online tools.

igus.eu/e-loop

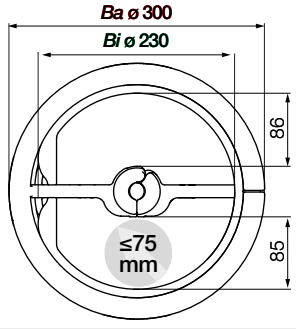
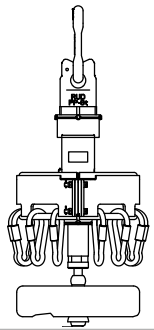
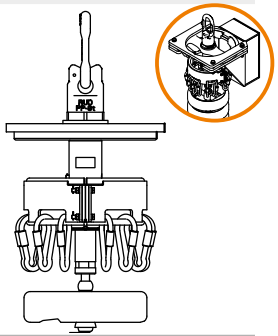


e-loop® | Installation dimensions

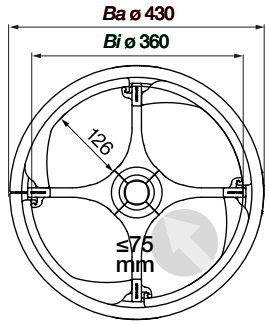
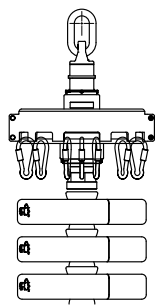
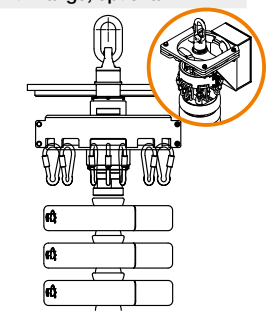
ELP.220

2-chamber design interior separation	Standard fastening: hook-type mounting bracket without flange	Special solution: hook-type mounting bracket with flange, optional
		

ELP.300

2-chamber design interior separation	Standard fastening: hook-type mounting bracket without flange	Special solution: hook-type mounting bracket with flange, optional
		

ELP.430

4-chamber design interior separation	Standard fastening: hook-type mounting bracket without flange	Special solution: hook-type mounting bracket with flange, optional
		

chainflex® CFSPECIAL.5xx

Cable package for top drive systems

The right cable package consisting of motor, data & hybrid cable for your top drive system

For the energy chain e-loop®, a high-quality, modular family of cables is being created that are exactly matched to this application and guarantee maximum durability. With the new CFSPECIAL.5xx cables, there is now finally a suitable range of cables in the chainflex® catalogue, which can save a further 35% in costs when purchased from this single igus® source.

Order now in our online shop
igus.eu/chainflex

Guarantee igus chainflex 36 up to 36 months guarantee

igus 36-month chainflex cable guarantee and service life calculator based on 2 billion test cycles per year

chainflex® CFSPECIAL.5xx | Product range overview

PUR data cable **CFSPECIAL.532**

Part No.	Number of cores and conductor nominal cross section [mm²]	Outer diameter (d) max. [mm]	Copper index [kg/km]	Weight [kg/km]
CFSPECIAL.532.15.08.02	(8x(2x1.5)C)C	30.0	513	1014
CFSPECIAL.532.15.16.02	(16x(2x1.5)C)C	36.5	972	1669

PUR motor cable **CFSPECIAL.572**

Part No.	Number of cores and conductor nominal cross section [mm²]	Outer diameter (d) max. [mm]	Copper index [kg/km]	Weight [kg/km]
CFSPECIAL.572.2400.01	(1x240)C	34.5	2581	3081
CFSPECIAL.572.3000.01	(1x300)C	37.5	3189	3799
CFSPECIAL.572.4000.01	(1x400)C	42.0	4269	5007

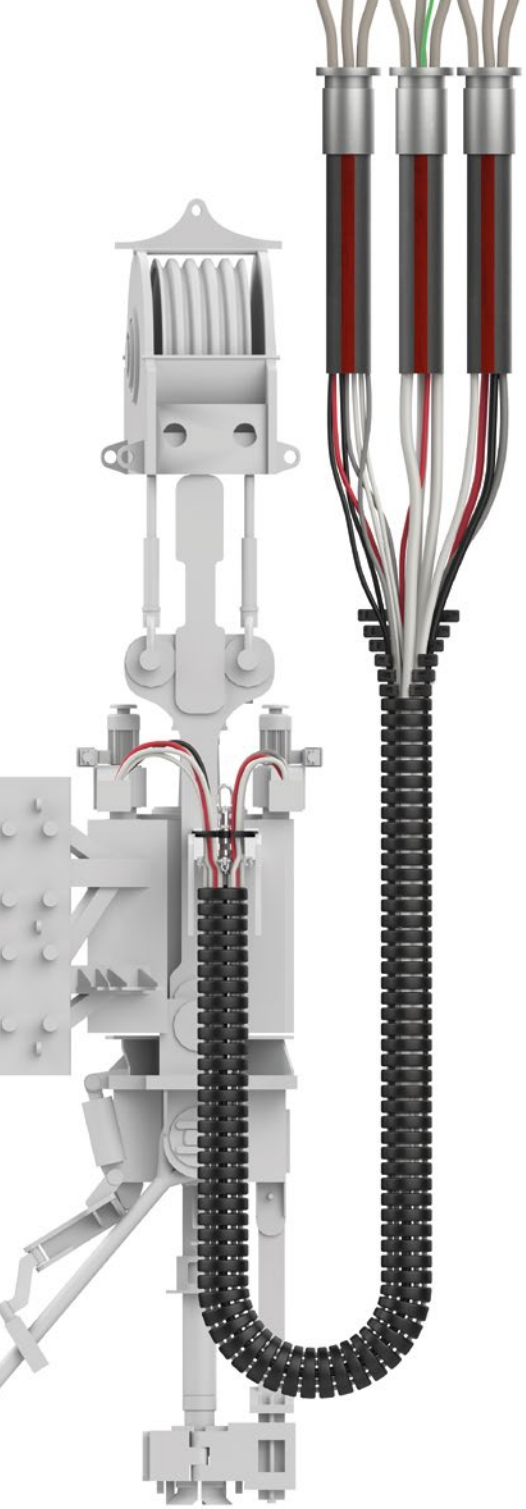
PUR motor cable **CFSPECIAL.562.PE**

Part No.	Number of cores and conductor nominal cross section [mm²]	Outer diameter (d) max. [mm]	Copper index [kg/km]	Weight [kg/km]
CFSPECIAL.562.PE.700.01	1G70	19.5	713	867

PUR hybrid cable (NOV Composite Loop) **CFSPECIAL.592**

Part No.	Number of cores and conductor nominal cross section [mm²]	Outer diameter (d) max. [mm]	Copper index [kg/km]	Weight [kg/km]
CFSPECIAL.592.001	(30G4.0+4x(2x2.5)C)C	44.0	1,750	2630

Note: The given outer diameters are maximum values and may tend toward lower tolerance limits.
G = with green-yellow earth core **x =** without earth core



e-loop®
Benefits at a glance

- One compact system instead of several service loops, all cables guided in ONE e-loop®.
- Less exposed to wind = less swinging inside the mast/derrick = less snags.
- Simple one to one replacement of existing service loop without extensive changings on the rig.
- Small controlled bend radius - no fatigue in extreme temperatures & small foot print inside the mast/derrick.
- Adding or replacing cables possible, even in service.
- Modular system, simple and time-saving maintenance: openable design for quick cable and hose replacement.
- Separate power cables from data cables with 2- or 4-chamber design interior separation.
- Continous flexible power, data & encoder chainflex® cables available.
- Cables visible at all time to prevent unexpected downtimes and simplify maintenance.

Consultation & support

Your technical innovator and cost reducer:

Tim Schneebeck

Industry Manager Offshore / Oil & Gas
Phone: +49 172 4017432
E-mail: tschneebeck@igus.net

Request project ...

Service loop retrofit on a TESCO top drive.

/9001:2015
/16949:2016
/14001:2015

igus® is certified according to ISO 9001: 2015 and IATF 16949: 2016 in the field of energy chains, cables and packaging as well as plastic plain bearings. igus® is also certified according to ISO standard 14001, a recognised basis for environmental management systems.

igus®.eu

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www.igus.eu/e-loop