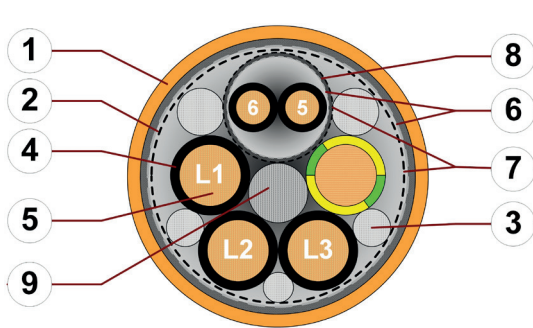


# Data sheet

## chainflex® CF897



Servo cable (Class 3.1.3.1) • For flexing applications • iguPUR outer jacket • Oil-resistant • Shielded • Flame retardant



- 1. Outer jacket: Pressure extruded iguPUR mixture
- 2. Overall shield: Braiding made of tinned copper wires
- 3. Filling: Plastic yarns
- 4. Core insulation: Mechanically high-quality, especially low-capacitance TPE mixture
- 5. Conductor: Stranded conductor consisting of bare copper wires
- 6. Shield foil: Aluminium clad plastic foil
- 7. Banding: Plastic foil
- 8. Element shield: Wrapping made of tinned copper wires
- 9. Strain relief: Plastic centre element

Example image  
For detailed overview please see design table

### Cable structure

	Conductor	Conductor consisting of bare copper wires (according to DIN EN 60228).
	Core insulation	Mechanically high-quality, especially low-capacitance TPE mixture.
	Core structure	Power cores and control pair elements wound together in an optimised pitch length.
	Core identification	<b>Power cores:</b> Black cores with white numbers, one green-yellow core. 1. Core: U / L1 / C / L+ 2. Core: V / L2 3. Core: W / L3 / D / L- <b>1 Control pair:</b> Black cores with white numbers. 1. Control core: 5 2. Control core: 6 <b>2 Control pairs:</b> Black cores with white numbers. 1. Control core: 5 2. Control core: 6 3. Control core: 7 4. Control core: 8
	Element shield	Aluminum/polyester tape
	Overall shield	Braiding made of tinned copper wires. Coverage approx. 60 % optical
	Outer jacket	Low-adhesion iguPUR mixture, adapted to suit the requirements in e-chains®. <b>Colour:</b> Pastel orange (similar to RAL 2003) <b>Printing:</b> black

„00000 m\*\* igus chainflex M CF897.--.--.--① ---② 600/1000V E310776

cRUus AWM Style 20940 VW-1 AWM I/II A/B 80°C 1000V FT1 EAC/CTP

CE UKCA DESINA RoHS-II conform www.igus.de +++ chainflex cable works +++

\* **Length printing:** Not calibrated. Only intended as an orientation aid.  
① / ② Cable identification according to Part No. (see technical table).  
Example: ... chainflex **CF897.15.15.02.01 (4G1.5+(2x1.5)C)C 600/1000V ...**








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Servo cable (Class 3.1.3.1) • For flexing applications • iguPUR outer jacket • Oil-resistant  
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### Dynamic information

	<b>Bend radius</b>	<b>e-chain® linear</b> <b>flexible</b> <b>fixed</b>	minimum 15 x d minimum 12 x d minimum 8 x d
	<b>Temperature</b>	<b>e-chain® linear</b> <b>flexible</b> <b>fixed</b>	-20 °C up to +80 °C -40 °C up to +80 °C (following DIN EN 60811-504) -50 °C up to +80 °C (following DIN EN 50305)
	<b>v max.</b>	<b>unsupported</b>	3 m/s
	<b>a max.</b>		20 m/s <sup>2</sup>
	<b>Travel distance</b>		Unsupported travel distances up to 10 m, Class 1



These values are based on specific applications or tests. They do not represent the limit of what is technically feasible.

### Guaranteed service life according to guarantee conditions

Double strokes	1 million	3 million	5 million
Temperature, from/to [°C]	R min. [factor x d]	R min. [factor x d]	R min. [factor x d]
-20/-10	17.5	18.5	19.5
-10/+70	15	16	17
+70/+80	17.5	18.5	19.5

Minimum guaranteed service life of the cable under the specified conditions.  
The installation of the cable is recommended within the middle temperature range.

### Electrical information

	<b>Nominal voltage</b>	600/1000 V (following DIN VDE 0298-3) 1000 V (following UL)
	<b>Testing voltage</b>	4000 V (following DIN EN 50395)



Example image

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# Data sheet

## chainflex® CF897



Servo cable (Class 3.1.3.1) • For flexing applications • iguPUR outer jacket • Oil-resistant  
• Shielded • Flame retardant



### Properties and approvals

- UV resistance** Medium
- Oil resistance** Oil-resistant (following DIN EN 50363-10-2), Class 3
- Flame retardant** According to IEC 60332-1-2, Cable Flame, VW-1, FT1, FT2 / Horizontal Flame
- Silicone-free** Free from silicone which can affect paint adhesion (following PV 3.10.7 – status 1992)
- UL verified** Certificate No. B129699: „igus 36-month chainflex cable guarantee and service life calculator based on 2 billion test cycles per year“
- UL/CSA AWM** See table UL/CSA AWW for details
- NFPA** Following NFPA 79-2018, chapter 12.9
- EAC** Certificate No. RU C-DE.ME77.B.00302/19
- REACH** In accordance with regulation (EC) No. 1907/2006 (REACH)
- Lead-free** Following 2011/65/EC (RoHS-II/RoHS-III)
- CE** Following 2014/35/EU
- UKCA** In accordance with the valid regulations of the United Kingdom (as at 08/2021)

### Properties and approvals

UL/CSA AWM Details

Conductor nominal cross section [mm²]	UL style core insulation	UL style outer jacket	UL Voltage Rating [V]	UL Temperature Rating [°C]
1.5	10492	20940	1000	80
2.5	10492	20940	1000	80
4	10492	20940	1000	80



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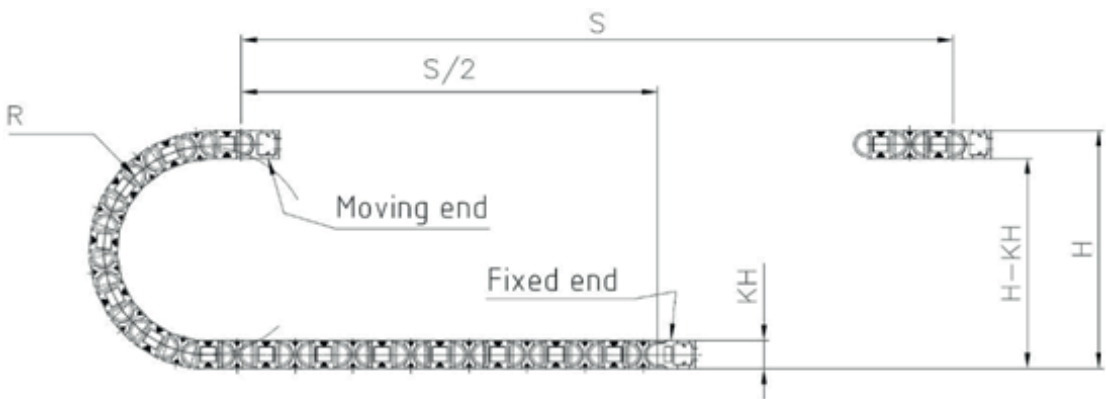
## chainflex® CF897



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### Typical lab test setup for this cable series

Test bend radius R	approx. 75 - 225 mm
Test travel S	approx. 1 - 15 m
Test duration	minimum 2 - 4 million double strokes
Test speed	approx. 0.5 - 2 m / s
Test acceleration	approx. 0.5 - 1.5 m / s <sup>2</sup>



### Typical application areas

- For flexing applications, Class 3
- Especially for unsupported travels, Class 1
- With influence of oil, Class 3
- No torsion, Class 1
- Indoor and outdoor applications without direct solar radiation
- Machining units/machine tools, low temperature applications



Example image



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### Technical tables:

#### Mechanical information

Part No.	Number of cores and conductor nominal cross section [mm²]	Outer diameter (d) max. [mm]	Copper index [kg/km]	Weight [kg/km]
1 Control pair shielded				
CF897.15.15.02.01	(4G1.5+(2x1.5)C)C	12.5	124	201
CF897.25.15.02.01	(4G2.5+(2x1.5)C)C	13.5	182	248
CF897.40.15.02.01	(4G4.0+(2x1.5)C)C	14.5	236	329
2 Control pairs shielded				
CF897.15.15.02.02	(4G1.5+2x(2x1.5)C)C	13.5	164	246

**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

#### Electrical information

Conductor nominal cross section [mm²]	Maximum conductor resistance at 20 °C (following DIN EN 50289-1-2) [Ω/km]	Max. current rating at 30 °C [A]
1.5	13.3	19
2.5	8	27
4	4.95	37

The final maximum current rating depends among other things on the ambient conditions, the type of the installation and the number of loaded cores.

### Capacity

Part No.	Power cores		Control cores	
	Core/Core	Core/Shield	Core/Core	Core/Shield
	Capacity [approx. pF / m]	Capacity [approx. pF / m]	Capacity [approx. pF / m]	Capacity [approx. pF / m]
1 Control pair shielded				
CF897.15.15.02.01	80	190	150	220
CF897.25.15.02.01	90	190	150	220
CF897.40.15.02.01	130	200	150	220
2 Control pairs shielded				
CF897.15.15.02.02	80	190	150	220



Example image

igus® chainflex® CF897

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### Design table

Art.-Nr.	Number of cores	Core design
CF897.XX.XX.XX.01	4+1x2	
CF897.XX.XX.02.02	4+2x2	



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



Example image

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