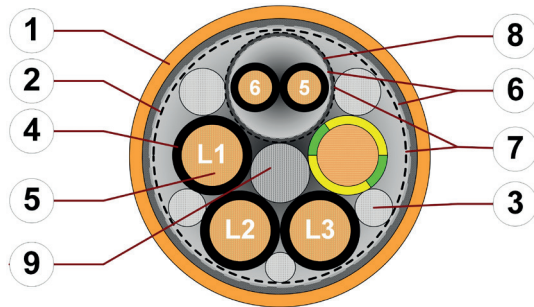


Data sheet

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

Power cores: 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-

1 Control pair: Black cores with white numbers.

1. Control core: 5 2. Control core: 6

2 Control pairs: Black cores with white numbers.

1. Control core: 5 2. Control core: 6

3. Control core: 7 4. Control core: 8



Element shield

Foil taping of optimised, bending-resistant foil shield.



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®.

Colour: Pastel orange (similar to RAL 2003)

Printing: 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

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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Dynamic information

	Bend radius	e-chain® linear flexible fixed	minimum 15 x d minimum 12 x d minimum 8 x d
	Temperature	e-chain® linear flexible fixed	-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)
	v max.	unsupported	3m/s
	a max.		20m/s ²
	Travel distance		Unsupported travels up to 10m, 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. [x d]	R min. [x d]	R min. [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

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



Example image

igus® chainflex® CF897

Data sheet

chainflex® CF897



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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)
	PTFE-free	The design of these products does not contain PTFE
	UL-verified	Certificate No. V293650: „igus 4-year 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
	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

Properties and approvals

UL/CSA AWM Details

Conductor nominal cross section [mm ²]	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



Example image

Data sheet

chainflex® CF897

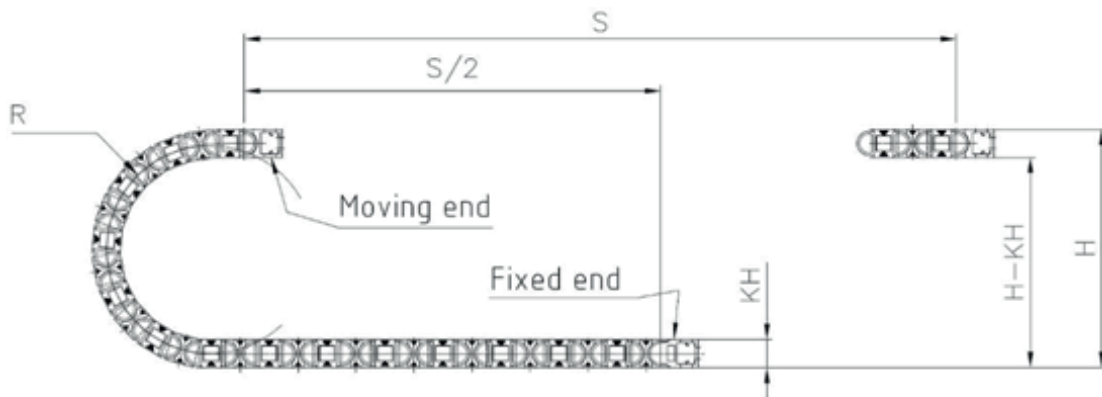


Servo cable (Class 3.1.3.1) ● For flexing applications ● iguPUR outer jacket ● Oil-resistant
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Typical lab test setup for this cable series

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 ²



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 sun radiation
- Machining units/machine tools, low temperature applications



igus 4-year
chainflex cable
guarantee and
service life
calculator based
on 2 billion test
cycles per year



Data sheet

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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 Capacity [approx. pF / m]	Core/Shield Capacity [approx. pF / m]	Core/Core Capacity [approx. pF / m]	Core/Shield 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



igus 4-year chainflex cable guarantee and service life calculator based on 2 billion test cycles per year



Example image

igus® chainflex® CF897

Data sheet

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



Example image