

## Servo cable | iguPUR | chainflex® CF897

- For flexing applications
- iguPUR outer jacket
- Oil-resistant
- Shielded
- Flame retardant

## Dynamic information

|                                                                                   |                        |                        |                                                  |
|-----------------------------------------------------------------------------------|------------------------|------------------------|--------------------------------------------------|
|  | <b>Bend radius</b>     | <b>e-chain® linear</b> | minimum 15 x d                                   |
|                                                                                   |                        | <b>flexible</b>        | minimum 12 x d                                   |
|                                                                                   |                        | <b>fixed</b>           | minimum 8 x d                                    |
|  | <b>Temperature</b>     | <b>e-chain® linear</b> | -20 °C to +80 °C                                 |
|                                                                                   |                        | <b>flexible</b>        | -40 °C to +80 °C (following DIN EN 60811-504)    |
|                                                                                   |                        | <b>fixed</b>           | -50 °C to +80 °C (following DIN EN 50305)        |
|  | <b>v max.</b>          | <b>unsupported</b>     | 3 m/s                                            |
|  | <b>a max.</b>          |                        | 20 m/s²                                          |
|  | <b>Travel distance</b> |                        | Unsupported travel distances up to 10 m, Class 3 |

## Cable structure

|                                                                                   |                            |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   |
|-----------------------------------------------------------------------------------|----------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
|  | <b>Conductor</b>           | Conductor consisting of bare copper wires (following DIN EN 60228).                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               |
|  | <b>Core insulation</b>     | Mechanically high-quality, especially low-capacitance TPE mixture.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                |
|  | <b>Core structure</b>      | Power cores and control pair elements wound with an optimised pitch length.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       |
|  | <b>Core identification</b> | <b>Power cores:</b> Black cores with white numerals, one core green-yellow.<br>1. Core: U / L1 / C / L+ 2. Core: V / L2 3. Core: W / L3 / D / L-<br><b>1 Control pair:</b> Black cores with white numerals.<br>1. Control core: 5 2. Control core: 6<br><b>2 Control pairs:</b> Black cores with white numerals.<br>1. Control core: 5 2. Control core: 6<br>3. Control core: 7 4. Control core: 8<br><b>Element shield</b><br>Foil taping of optimised, bending-resistant foil shield.<br>Coverage approx. 100 % optical<br><b>Overall shield</b><br>Braiding made of tinned copper wires.<br>Coverage approx. 60 % optical<br><b>Outer jacket</b><br>Low-adhesion iguPUR mixture, adapted to suit the requirements in e-chains®.<br>Colour: Pastel orange (similar to RAL 2003) |

## Electrical information

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

## Properties and approvals

|                                                                                     |                      |         |
|-------------------------------------------------------------------------------------|----------------------|---------|
|  | <b>UV resistance</b> | Medium. |
|-------------------------------------------------------------------------------------|----------------------|---------|

|                    |             |   |   |   |   |   |   |   |         |
|--------------------|-------------|---|---|---|---|---|---|---|---------|
| Basic requirements | low         | 1 | 2 | 3 | 4 | 5 | 6 | 7 | highest |
| Travel distance    | unsupported | 1 | 2 | 3 | 4 | 5 | 6 | 7 | ≥ 400 m |
| Oil resistance     | none        | 1 | 2 | 3 | 4 | 5 | 6 | 7 | highest |
| Torsion            | none        | 1 | 2 | 3 | 4 | 5 | 6 | 7 | ±180°   |

## Class 3.1.3.1

|                                                                                     |                        |                                                                                         |
|-------------------------------------------------------------------------------------|------------------------|-----------------------------------------------------------------------------------------|
|  | <b>Oil resistance</b>  | Oil-resistant (following DIN EN 50363-10-2), Class 3.                                   |
|  | <b>Flame retardant</b> | According to IEC 60332-1-2, CEI 20-35, FT1, VW-1                                        |
|  | <b>Silicone-free</b>   | Free from silicone which can affect paint adhesion (following PV 3.10.7 – status 1992). |
|  | <b>UL/CSA</b>          | Style 10492 and 21223, 1000 V, 80 °C                                                    |
|  | <b>NFPA</b>            | Following NFPA 79-2012 chapter 12.9.                                                    |
|  | <b>EAC</b>             | Certificate no. RU C-DE.ME77.B.01561 (TR ZU)                                            |
|  | <b>CTP</b>             | Certificate no. C-DE.PB49.B.00450 (Fire safety)                                         |
|  | <b>Lead-free</b>       | Following 2011/65/EU (RoHS-II).                                                         |
|  | <b>CE</b>              | Following 2014/35/EU.                                                                   |

## Guaranteed lifetime according to guarantee conditions (Page 22-23)

| 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                |

\* Higher number of double strokes? Online lifetime calculation: [www.igus.eu/chainflexlife](http://www.igus.eu/chainflexlife)

## Typical mechanical application areas

- For flexing applications
- With influence of oil
- Indoor and outdoor applications without direct solar radiation
- Especially for unsupported travels
- Machining units/machine tools, low temperature applications

| Part No.                        | Number of cores and conductor nominal cross section | Outer diameter (d) max. [mm] | Copper index [kg/km] | Weight [kg/km] |
|---------------------------------|-----------------------------------------------------|------------------------------|----------------------|----------------|
| <b>1 Control pair shielded</b>  |                                                     |                              |                      |                |
| CF897.15.15.02.01               | (4G1.5+(2x1.5)C)C                                   | 12.5                         | 132                  | 202            |
| CF897.25.15.02.01               | (4G2.5+(2x1.5)C)C                                   | 13.5                         | 194                  | 271            |
| CF897.40.15.02.01               | (4G4.0+(2x1.5)C)C                                   | 14.5                         | 252                  | 353            |
| <b>2 Control pairs shielded</b> |                                                     |                              |                      |                |
| CF897.15.15.02.02               | (4G1.5+2x(2x1.5)C)C                                 | 13.5                         | 175                  | 262            |

**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