

## ÖLFLEX® SERVO FD 796 CP

DB 0027950

valid from: 16.04.2012

**Application**

ÖLFLEX® SERVO FD 796 CP cables are high-flexible, screened, oil-resistant, halogen free, low capacitance servo motor cables with an outer sheath of Polyurethane. They are designed for use in high-dynamic applications with acceleration up to 50 m/s<sup>2</sup> in power chains as well as for fixed installation subject to medium mechanical load conditions. They are among others designed for use in dry, damp and wet conditions. Outdoor use: They may only be installed considering the indicated temperature range. ÖLFLEX® SERVO FD 796 CP cables are increased oil resistant and at room temperature widely resistant to acids and caustic solutions. The outer sheath is resistant to high mechanical load, particularly to abrasion and scouring, is cut resistant, microbe-proof and hydrolysis resistant. Usage on cable drums or pulleys or under a tensile strain of more than 20 N/mm<sup>2</sup> conductor cross-section is not allowed. The screen is a protection against electrical interference, the data pairs are additionally screened.

**Application range:**

Connecting cable between servo controller and motor, in power chains or moving machine parts, for use in assembling- & pick-and-place machines, machine tools and transfer lines, for assembly lines, production lines in all kind of machines.

Use acc. to UL: PUR sheathed cable for external wiring of electronic equipment.

Use acc. to CSA: PUR sheathed cable for external wiring of electronic equipment with or without mechanical load conditions.

**Design**

Design	according to UL AWM 758, Style 20234 and based on EN 50525-2-21 resp. VDE 0285-2-21
Conductor	extra fine wire strands of bare copper acc. to IEC 60228 resp. VDE 0295, Class 6
Core insulation	PP Polypropylen
Core identification	power conductors: U/L1/C/L+; V/L2; W/L3/D/L-; GN/YE ground conductor signal pairs: 1 pair: WH; BK 2 pairs: BK with WH numbers 5-8 acc. to VDE 0293-334 signal pairs with different conductor cross-section: 1 mm <sup>2</sup> : BK with WH numbers 5-6 1.5 mm <sup>2</sup> : BK with WH numbers 7-8
Pair shield	signal pairs: 1 pair: Braid of tinned copper wires, coverage = 85% (nominal value) 2 pairs: Aluminium-laminated foil, drain wire, braid of tinned copper wires, coverage = 85% (nominal value)
Cable make-up	4 power conductors (optionally with 1 resp. 2 signal pairs) in common stranded with filler cords
Screen	braid of tinned copper wires, coverage = 85% (nominal value)
Outer sheath	Polyurethane-compound TMPU acc. to EN 50363-10-2 resp. VDE 0207-363-10-2 UL AWM 758, CSA AWM C22.2 No.210-05 Colour: Orange, similar RAL 2003

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**Electrical properties**

Nominal voltage	VDE U <sub>0</sub> /U:	600/1000 V
	UL/CSA:	max. 1000 V
Test voltage	Core/Core:	4000 V AC
	Core/Screen:	4000 V AC
	Pairscreen/overall screen:	500 V AC
Transfer impedance at 30 MHz		max. 300 mΩ/m
Mutual capacity at 800 Hz	1.5 – 6 mm <sup>2</sup> : C/C max.	150 pF/m
	10 – 50 mm <sup>2</sup> : C/C max.	300 pF/m

**Mechanical and thermal properties**

Min. bending radius	flexing ≤ 16 mm <sup>2</sup> :	7.5 x cable diameter
	flexing ≥ 25 mm <sup>2</sup> :	10 x cable diameter
	fixed installation:	4 x cable diameter
Temperature range	flexing:	-40 °C up to +80 °C max. conductor temp.
	fixed installation:	-50 °C up to +80 °C max. conductor temp.
Oil resistance		acc. to EN 50363-10-2 resp. VDE 0207-363-10-2
MUD		MUD resistant acc. to IEC 61892-4 Annex D
Halogen-free		acc. to VDE 0472 part 815
Flammability	flame retardant in acc. with IEC 60332-1-2 resp. VDE 0482-332-1-2	
	UL: VW-1	
	CSA: FT1	
Tests		acc. to IEC 60811 resp. VDE 0473 part 811, VDE 0472, EN 50395, UL 1581
Approvals	UL AWM 758, Style 20234	
	CSA AWM I A/B II A/B C22.2 No. 210-05	
	VDE-REG.-No. 8591	
EC Directives		This cable is conform to the EC-Directives 2006/95/EC (Low Voltage Directive) and 2002/95/EC (RoHS, Restriction of the use of certain hazardous substances).

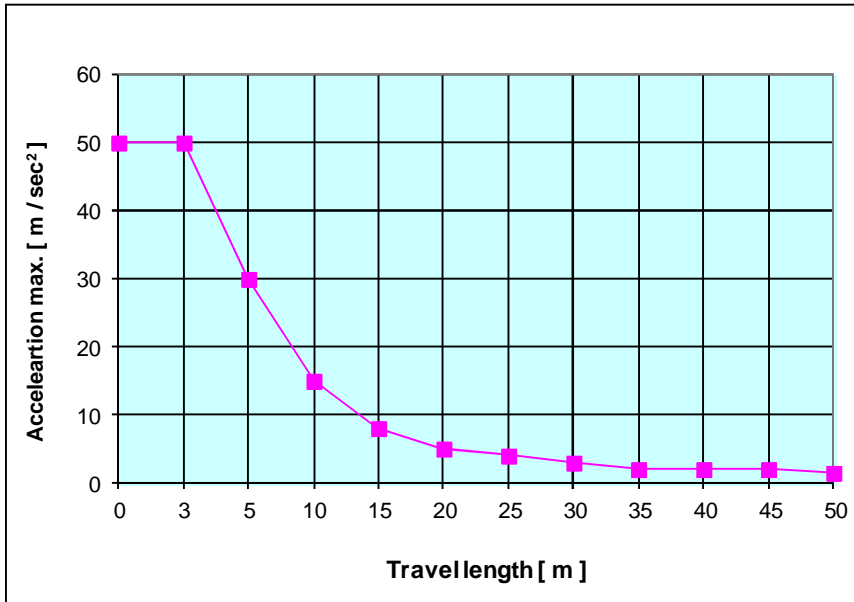
**Dynamic performance**

Pulling force (Dynamic):	≤ 20 N/mm <sup>2</sup>
Pulling force (Static):	≤ 50 N/mm <sup>2</sup>
Max. Acceleration:	see Table A and B
Max. Speed:	5 m/s resp. 300 m/min
Max. Length (horizontal)	see Table A and B (typically 50 m, max. 100 m)
Max. Torsion load:	+/- 30° /m
Bendings:	10.000.000

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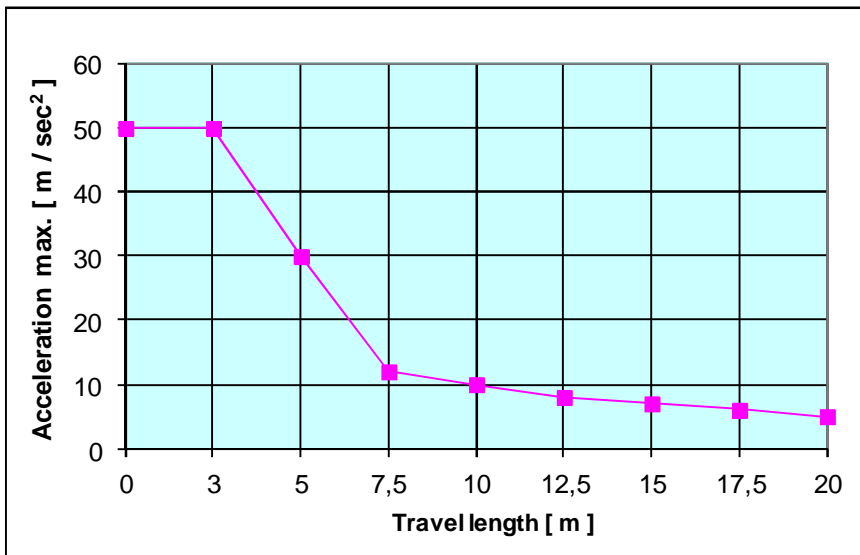
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**Table A 1.0 mm<sup>2</sup> - 16 mm<sup>2</sup>**



travel length [ m ]	acceleration [ m / sec <sup>2</sup> ]
0	50
3	50
5	30
10	15
15	8
20	5
25	4
30	3
35	2
40	2
45	2
50	1.5
100	1.0

**Table B 25 mm<sup>2</sup> - 50 mm<sup>2</sup>**



travel length [ m ]	acceleration [ m / sec <sup>2</sup> ]
0	50
3	50
5	30
7.5	12
10	10
12.5	8
15	7
17.5	6
20	5