THE WORLD OF LAPP

Servo cable expertise



LAPP GROUP

ÖLFLEX® SERVO FD 796 CP

- **The new premium cable replaces seven ÖLFLEX® servo motor cables**
- **Less items, lower storage costs, greater performance, more dynamic**
- **Less expensive**
- **Less space requirements, lighter weight and much more...**

Seven at a stroke

High-speed multiple changes of position is exactly where the new premium cable from Lapp shows its excellence, in energy supply chains with an acceleration of up to 50 m/s², speeds of up to 5 m/s and travel distances up to 100m. It thus faciliates a significantly faster and more efficient operation than previous drag chain cables. Furthermore, the proportional run-up and braking times have been reduced by up to 96%. In short, the new premium cable saves time and increases productivity, offers an exceptionally long service life and is compact and lightweight.

The new premium cable was developed by the Lapp Group in Stuttgart. Thanks to a low capacitance polyolefin insulation, it offers lower EM-effective leakage currents while simultaneously providing extremely high dielectric and electrical strength. It is halogen-free and flame-retardant and has all of the key certifications, including UL and CSA. The VDE registration process is ongoing. If required, the servo motor cable is also available with additionally shielded signal current circuits for monitoring the temperature of the motor winding and/or an optional electromagnetic brake.

The new ÖLFLEX SERVO FD 796 CP is manufactured at the Lapp Group's cable plant in Stuttgart. To permanently guarantee the required quality standards, Lapp has invested in new drag chain cable testing facilities at its in-house test centre. Here, cables can be subjected to extremely high dynamic alternate bending loads. In the new testing facilities, travel speeds of up to 10 m/s and accelerations of up to 100 m/s² are possible.

Further information, ordering information and assistance with product orders can be found at: **www.lappgroup.com/worldwide**

Previous parts						New parts					
Control/ Actuation 2. Pair No. Cores x mm²	Control/ Actuation 1. Pair No. Cores x mm²	Power No. Cores x mm²	OD Outer ⌀ mm	Product	Part-number	Part-number	Product	OD Outer ⌀ mm	Power No. Cores x mm²	Control/ Actuation 1. Pair No. Cores x mm²	Control/ Actuation 2. Pair No. Cores x mm²
2 x 0.75	2 x 0.75	4G1.5	15.9	..755 CP	0036360	0027969	..796 CP	12.2	4G1.5	2 x 0.75	2 x 0.75
2 x 0.75	2 x 0.75	4G2.5	16.1	..755 CP	0036361	0027970	..796 CP	14.6	4G2.5	2 x 1.0	2 x 1.0
2 x 1.0	2 x 0.75	4G4	16.9	..755 CP	0036362	0027971	..796 CP	16.3	4G4	2 x 1.0	2 x 1.5
2 x 1.0	2 x 0.75	4G6	18.6	..755 CP	0036363	0027972	..796 CP	18.1	4G6	2 x 1.0	2 x 1.5
2 x 1.0	2 x 0.75	4G10	22.0	..755 CP	0036364	0027973	..796 CP	21.8	4G10	2 x 1.0	2 x 1.5
2 x 1.0	2 x 1.0	4G16	24.4	..755 CP	0036365	0027974	..796 CP	25.5	4G16	2 x 1.5	2 x 1.5
2 x 1.5	2 x 1.5	4G25	29.1	..755 CP	0036366	0027975	..796 CP	28.9	4G25	2 x 1.5	2 x 1.5
	2 x 1.0	4G1.5	13.2	..755 CP	0036370	0027959	..796 CP	12.0	4G1.5	2 x 1.5	
	2 x 1.0	4G2.5	14.2	..755 CP	0036371	0027960	..796 CP	13.8	4G2.5	2 x 1.5	
	2 x 1.0	4G4	15.7	..755 CP	0036372	0027961	..796 CP	14.9	4G4	2 x 1.5	
	2 x 1.0	4G6	16.9	..755 CP	0036373	0027962	..796 CP	17.0	4G6	2 x 1.5	
	2 x 1.0	4G10	21.0	..755 CP	0036374	0027963	..796 CP	19.4	4G10	2 x 1.5	
	2 x 1.5	4G16	23.9	..755 CP	0036375	0027964	..796 CP	23.8	4G16	2 x 1.5	
		4G1.5	10.6	..785 CP	0036390	0027950	..796 CP	9.2	4G1.5		
		4G2.5	12.5	..785 CP	0036391	0027951	..796 CP	10.6	4G2.5		
		4G4	14.5	..785 CP	0036392	0027952	..796 CP	11.9	4G4		
		4G6	15.9	..785 CP	0036393	0027953	..796 CP	14.4	4G6		
		4G10	20.6	..785 CP	0036394	0027954	..796 CP	17.6	4G10		
		4G16	23.8	..785 CP	0036395	0027955	..796 CP	22.0	4G16		
		4G25	28.7	..785 CP	0036396	0027956	..796 CP	25.2	4G25		
		4G35	34.0	..785 CP	0036397	0027957	..796 CP	28.7	4G35		
	2 x 1.0	4G1.5	13.2	..755 CP DESINA®	0036620	0027959	..796 CP	12.0	4G1.5	2 x 1.5	
	2 x 1.0	4G2.5	14.2	..755 CP DESINA®	0036621	0027960	..796 CP	13.8	4G2.5	2 x 1.5	
	2 x 1.0	4G4	15.7	..755 CP DESINA®	0036622	0027961	..796 CP	14.9	4G4	2 x 1.5	
		4G1.5	10.6	..785 CP DESINA®	0036630	0027950	..796 CP	9.2	4G1.5		
		4G2.5	12.5	..785 CP DESINA®	0036631	0027951	..796 CP	10.6	4G2.5		
		4G4	14.5	..785 CP DESINA®	0036632	0027952	..796 CP	11.9	4G4		
		4G6	15.9	..785 CP DESINA®	0036633	0027953	..796 CP	14.4	4G6		
		4G10	20.6	..785 CP DESINA®	0036634	0027954	..796 CP	17.6	4G10		
		4G16	23.8	..785 CP DESINA®	0036635	0027955	..796 CP	22.0	4G16		
		5G1.5	11.8	..785 CP	0036660	kein Ersatz					
		4G1.5	9.7	..790 CP	0037030	0027950	..796 CP	9.2	4G1.5		
		4G2.5	11.2	..790 CP	0037031	0027951	..796 CP	10.6	4G2.5		
		4G4	12.7	..790 CP	0037032	0027952	..796 CP	11.9	4G4		
		4G6	14.9	..790 CP	0037033	0027953	..796 CP	14.4	4G6		
		4G10	18.7	..790 CP	0037034	0027954	..796 CP	17.6	4G10		
		4G16	24.2	..790 CP	0037035	0027955	..796 CP	22.0	4G16		
		4G25	27.9	..790 CP	0037036	0027956	..796 CP	25.2	4G25		
		4G35	33.0	..790 CP	0037037	0027957	..796 CP	28.7	4G35		
		4G50	39.1	..790 CP	0037038	0027958	..796 CP	33.4	4G50		
2 x 0.75	2 x 0.75	4G1.5	15.3	..790 CP	0037042	0027969	..796 CP	12.2	4G1.5	2 x 0.75	2 x 0.75
2 x 0.75	2 x 0.75	4G2.5	15.6	..790 CP	0037043	0027970	..796 CP	14.6	4G2.5	2 x 1.0	2 x 1.0
2 x 1.0	2 x 0.75	4G4	16.8	..790 CP	0037044	0027971	..796 CP	16.3	4G4	2 x 1.0	2 x 1.5
2 x 1.0	2 x 0.75	4G10	21.9	..790 CP	0037046	0027973	..796 CP	21.8	4G10	2 x 1.0	2 x 1.5
2 x 1.0	2 x 1.0	4G16	26.3	..790 CP	0037047	0027974	..796 CP	25.5	4G16	2 x 1.5	2 x 1.5
	2 x 1.0	4G1.5	14.0	..790 CP	0037051	0027959	..796 CP	12.0	4G1.5	2 x 1.5	
	2 x 1.0	4G2.5	14.8	..790 CP	0037052	0027960	..796 CP	13.8	4G2.5	2 x 1.5	
	2 x 1.0	4G4	15.9	..790 CP	0037053	0027961	..796 CP	14.9	4G4	2 x 1.5	
	2 x 1.0	4G6	17.5	..790 CP	0037054	0027962	..796 CP	17.0	4G6	2 x 1.5	
	2 x 1.0	4G10	21.0	..790 CP	0037055	0027963	..796 CP	19.4	4G10	2 x 1.5	
	2 x 1.5	4G16	26.6	..790 CP	0037056	0027964	..796 CP	23.8	4G16	2 x 1.5	
	2 x 1.0	4G1.5	14.0	..795 CP	0037060	0027959	..796 CP	12.0	4G1.5	2 x 1.5	
	2 x 1.0	4G2.5	14.5	..795 CP	0037061	0027960	..796 CP	13.8	4G2.5	2 x 1.5	
	2 x 1.0	4G4	15.8	..795 CP	0037062	0027961	..796 CP	14.9	4G4	2 x 1.5	
	2 x 1.0	4G10	22.6	..795 CP	0037064	0027963	..796 CP	19.4	4G10	2 x 1.5	
	2 x 1.5	4G35	33.4	..795 CP	0037067	0027966	..796 CP	31.2	4G35	2 x 1.5	
2 x 1.0	2 x 0.75	4G4	17.6	..795 CP	0037070	0027971	..796 CP	16.3	4G4	2 x 1.0	2 x 1.5
2 x 1.0	2 x 0.75	4G10	23.2	..795 CP	0037072	0027973	..796 CP	21.8	4G10	2 x 1.0	2 x 1.5
2 x 1.5	2 x 1.5	4G25	31.8	..795 CP	0037074	0027975	..796 CP	28.9	4G25	2 x 1.5	2 x 1.5
		4G6	15.4	..795 CP	0037078	0027953	..796 CP	14.4	4G6		
		4G16	26.9	..795 CP	0037080	0027955	..796 CP	22.0	4G16		
		4G25	30.6	..795 CP	0037081	0027956	..796 CP	25.2	4G25		
		4G35	34.5	..795 CP	0037082	0027957	..796 CP	28.7	4G35		
		4G1.5	9.8	..781 CP	0037210	0027950	..796 CP	9.2	4G1.5		
		4G2.5	11.9	..781 CP	0037211	0027951	..796 CP	10.6	4G2.5		
		4G4	13.5	..781 CP	0037212	0027952	..796 CP	11.9	4G4		
		4G6	15.3	..781 CP	0037213	0027953	..796 CP	14.4	4G6		
		4G25	28.9	..781 CP	0037216	0027956	..796 CP	25.2	4G25		

DESINA® is a registered trademark of the Association of German Machine Tool Manufacturers.
Control pair(s), Advise: We have an one-step increase of the conductor size to most of our new 796 CP articles.

Power chain applications

Servo applications - power drive systems, approved

New

ÖLFLEX® SERVO FD 796 CP

Info

- **New high-end version! For very dynamic motion sequences**
- **Slim = less space required**
- **Multiple certifications**

Benefits

- Allows much faster speed and accelerations which increases the economic efficiency of the machines
- Multi-standard = fewer part varieties = cost savings
- Suitable for the most important servomotor drive systems of leading manufacturers.
- Benefit: The modified design of the control pairs brings less voltage drop and allows significant higher working voltage of the associated circuits
- To substitute 7 ÖLFLEX SERVO FD product lines: 755CP/-755CP DESINA®/-781CP/-785CP/ -785CP DESINA®/-790CP/-795CP

Application range

- Connecting cable between servo controller and motor
- In power chains or moving machine parts
- For use in assembling- & pick-and-place machines
- Particularly in wet areas of machine tools and transfer lines.
- For assembly lines, production lines in all kinds of machines

Product features

- Dynamic performance in power chains: Accellerations up to 50m/s².
  Travel speed: up to 5m/s.
  Travel lengths up to 100m.
- Low-capacitance design: This may results in lower EMI interference, depending on the drive`s electrical operating conditions.
- Halogen-free materials
- Flame retardancy:
  UL/CSA: VW-1, FT1.
  IEC/EN: 60332.1-2
- Oil resistant

Approvals

- For use in power chains: Please comply with the assembly guidelines listed in Appendix T3

Design

- Extra-fine wire strand made of bare copper wires (class 6)
- Core insulation: Polypropylene (PP)
- According P/N individual design: Power cores without, or with one pair. or with two control core pairs arranged as pairs, twisted together in short lay lengths.
- Non-woven wrapping
- Tinned-copper braiding
- PUR outer sheath, orange (RAL 2003)

Technical data

Core identification code
Power: black cores with marking U/L1/C/L+; V/L2; W/L3/D/L-and 1 green-yellow core
Optional Design with one pair of control cores: black; white. Two pairs of control cores: black with white numbers: 5, 6, 7, 8

Approvals
VDE reg submitted
UL AWM Style 20234
CSA AWM I/II A/B 1000V 80° FT 1

Specific insulation resistance
> 20 GOhm x cm

Conductor stranding
Extra-fine wire according to VDE 0295, class 6/IEC 60228 class 6

Minimum bending radius
For flexible applications:
7.5 x outside diameter (1.5-16mm²)
10 x outside diameter (25-50mm²)
Fixed installation: 4 x outer diameter

Nominal voltage
IEC: Power and control cores: U0/U:
600/1000 V
UL & CSA: 1000V

Test voltage
Core/Core: 4 kV
Core/Screen: 4 kV

Protective conductor
G = with GN-YE protective conductor

Temperature range
Flexing: -40°C to +80°C
Fixed installation: -50°C to +80°C

Article number	Number of cores and mm² per conductor	Outer diameter (mm)	Copper index (kg/km)	Weight (kg/km)
ÖLFLEX® SERVO FD 796 CP				
0027950	4 G 1,5	9.2	79.0	140
0027951	4 G 2,5	10.6	129.0	197
0027952	4 G 4	11.9	186.0	268
0027953	4 G 6	14.4	296.0	397
0027954	4 G 10	17.6	449.0	591
0027955	4 G 16	22.0	716.0	955
0027956	4 G 25	25.2	1,073.0	1337
0027957	4 G 35	28.7	1,480.0	1769
0027958	4 G 50	33.4	2,115.0	2468
0027959	4 G 1,5 + (2 x 1,5)	12.0	135.0	261
0027960	4 G 2,5 + (2 x 1,5)	13.8	188.0	318
0027961	4 G 4 + (2 x 1,5)	14.9	235.0	385
0027962	4 G 6 + (2 x 1,5)	17.0	329.0	486

Article number	Number of cores and mm² per conductor	Outer diameter (mm)	Copper index (kg/km)	Weight (kg/km)
0027963	4 G 10 + (2 x 1,5)	19.4	515.0	701
0027964	4 G 16 + (2 x 1,5)	23.8	757.0	1048
0027965	4 G 25 + (2 x 1,5)	27.0	1,147.0	1532
0027966	4 G 35 + (2 x 1,5)	31.2	1,538.0	2097
0027967	4 G 50 + (2 x 1,5)	34.7	2,181.0	2721
0027969	4 G 1,5 + 2 x (2 x 0,75)	12.2	159.0	313
0027970	4 G 2,5 + 2 x (2 x 1,0)	14.6	207.0	395
0027971	4 G 4 + (2 x 1,0) + (2 x 1,5)	16.3	344.0	485
0027972	4 G 6 + (2 x 1,0) + (2 x 1,5)	18.1	436.0	588
0027973	4 G 10 + (2 x 1,0) + (2 x 1,5)	21.8	610.0	819
0027974	4 G 16 + 2 x (2 x 1,5)	25.5	801.0	1135
0027975	4 G 25 + 2 x (2 x 1,5)	28.9	1,187.0	1559
0027976	4 G 35 + 2 x (2 x 1,5)	31.4	1,588.0	2093
0027977	4 G 50 + 2 x (2 x 2,5)	36.8	2,557.0	2920

Unless specified otherwise, the shown product values are nominal values. Detailed values (e.g. tolerances) are available upon request.
Photographs are not to scale and do not represent detailed images of the respective products.

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