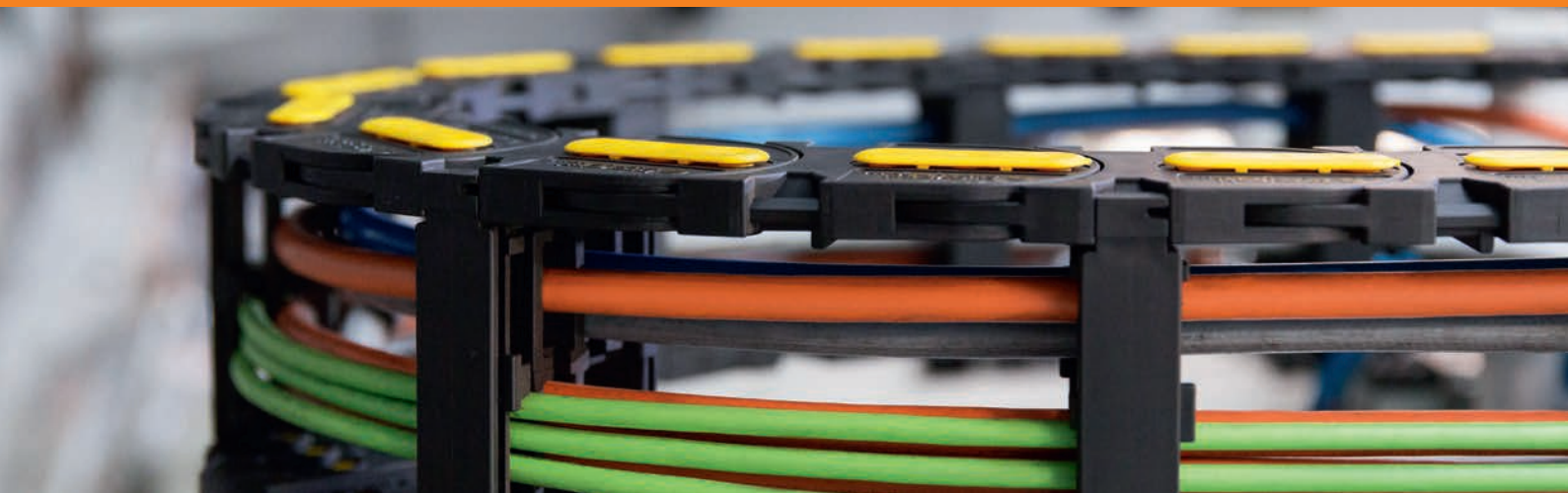


ÖLFLEX® CONNECT

Systems Solutions made by LAPP



ÖLFLEX® CONNECT

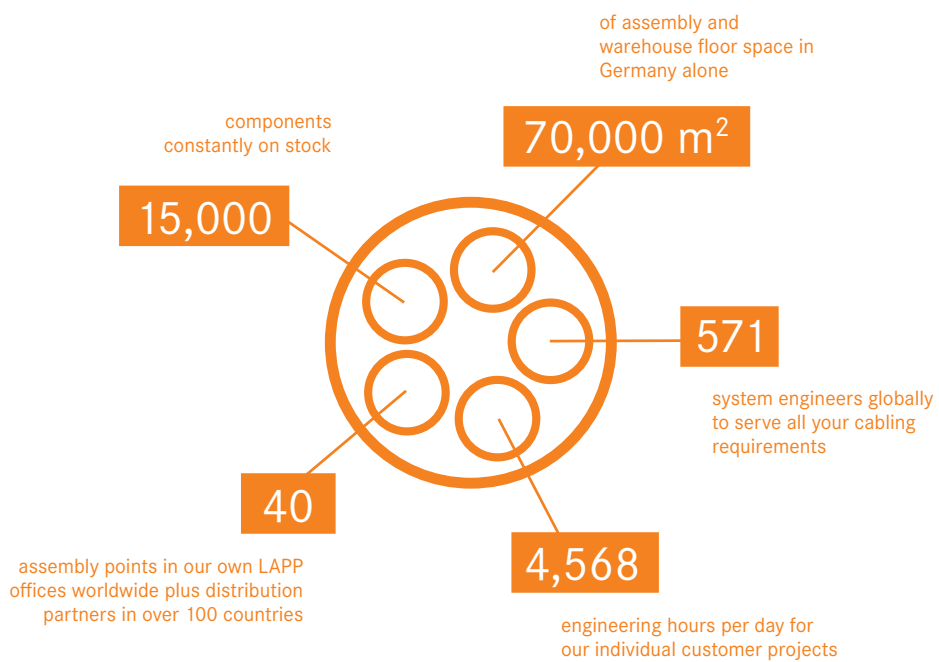
Reliably connecting the world.

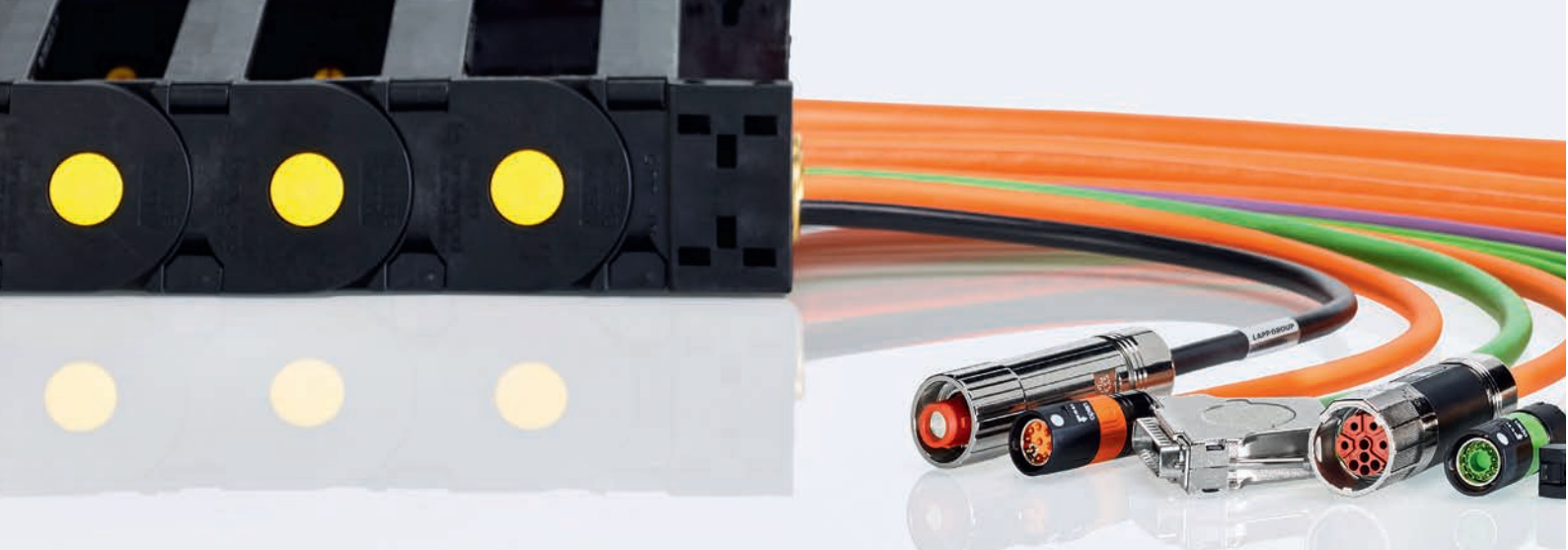
The days in which the manufacturing and service sectors could be clearly separated are well and truly over. A change is taking place in people's minds, in factories and in businesses like LAPP. Customers are searching for solutions rather than components, and manufacturers are now developing and providing complex systems.

Our **ÖLFLEX® CONNECT** range shows what can happen when components and solutions are seen as a single entity rather than treated separately.



Andreas Lapp,
Matthias Lapp,
Ursula Ida Lapp,
Alexander Lapp,
Siegbert Lapp.





When eight high-quality brands become one strong solution: **ÖLFLEX® CONNECT**

Products

With over 40,000 branded components and thousands of products in stock, we are able to support you with individual cabling solutions and optimum development expertise.



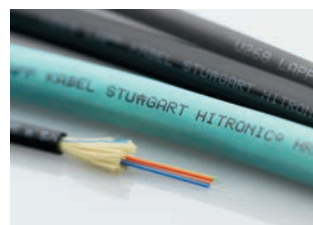

ÖLFLEX®
Power and control cables




UNITRONIC®
Data communication systems




ETHERLINE®
Data communication systems for ETHERNET technology




HITRONIC®
Optic transmission systems




EPIC®
Industrial connectors




SKINTOP®
Cable glands




SILVYN®
Protective cable conduit systems and cable carrier systems




FLEXIMARK®
Marking systems



Solutions

Everything is possible – from customised cable assemblies to industry standard servo connections right through to sophisticated high-speed cable chain systems. Do it all with

ÖLFLEX® CONNECT –
System Solutions made by LAPP.

ÖLFLEX® CONNECT: This is the name under which LAPP is expanding its range of cable assemblies, taking the logical step from a component supplier to a system provider. The focus is on expanding what we do best. At LAPP, this means cables, connectors and accessories, as well as the resulting complete system solution.

INFOBOX

ÖLFLEX® CONNECT

Expanding cable assembly, giving better advice to customers and standardising global activities – these are the ideas behind **ÖLFLEX® CONNECT**. To this end, LAPP is building up its engineering, production and assembly capacities in America, Europe and Asia. We have invested in many sites all over the world and will continue investing to strengthen the service we provide to our customers.

With our three distinct harnessing services, we customize solutions, covering all your connectivity needs:

ÖLFLEX® CONNECT CABLES

Cable Systems made by LAPP



ÖLFLEX® CONNECT SERVO

Servo Systems made by LAPP



ÖLFLEX® CONNECT CHAIN

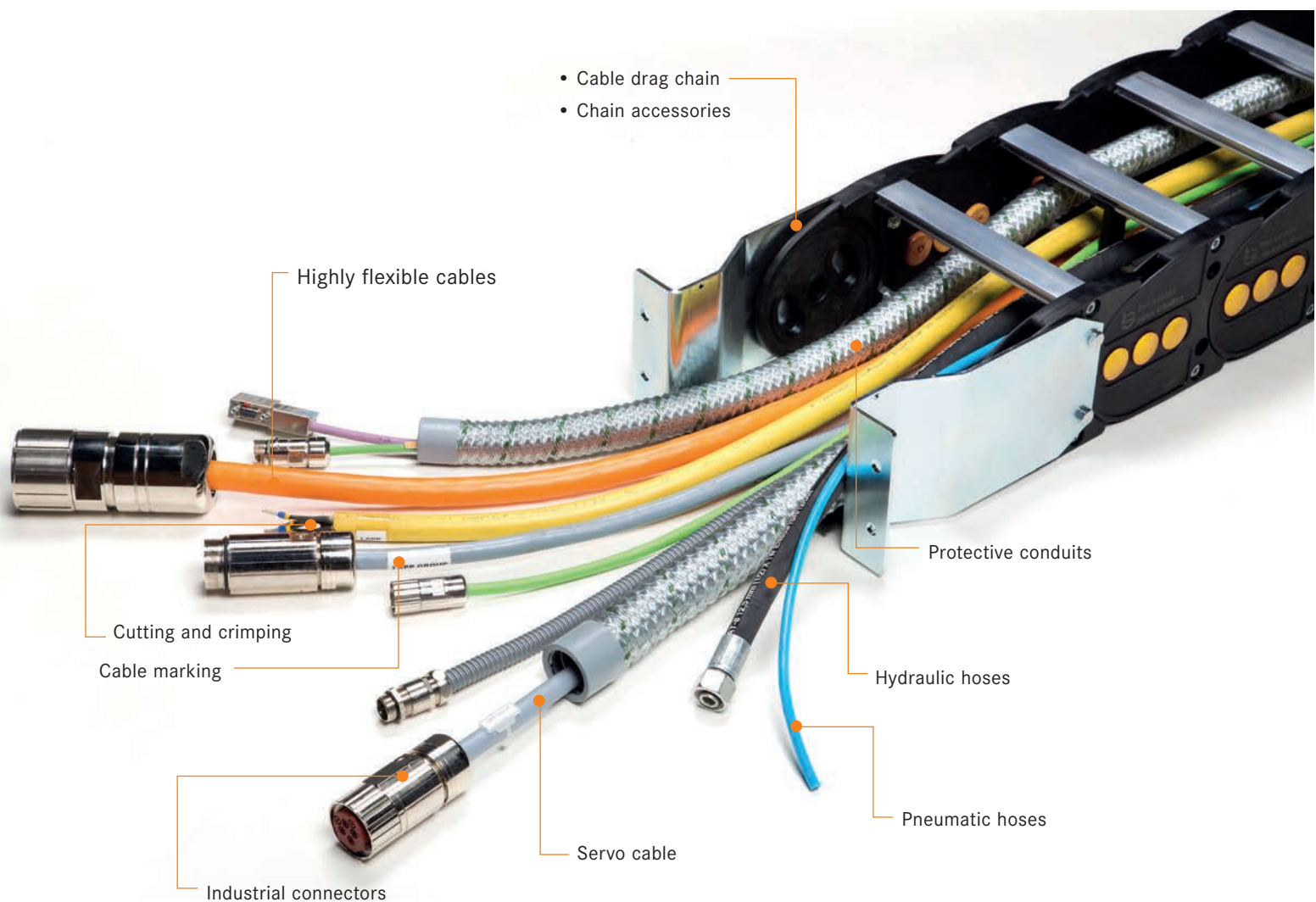
Chain Systems made by LAPP



ÖLFLEX® CONNECT

Our idea of a system

Start focusing your resources on your core project and let LAPP handle your connectivity needs for maximum profitability.



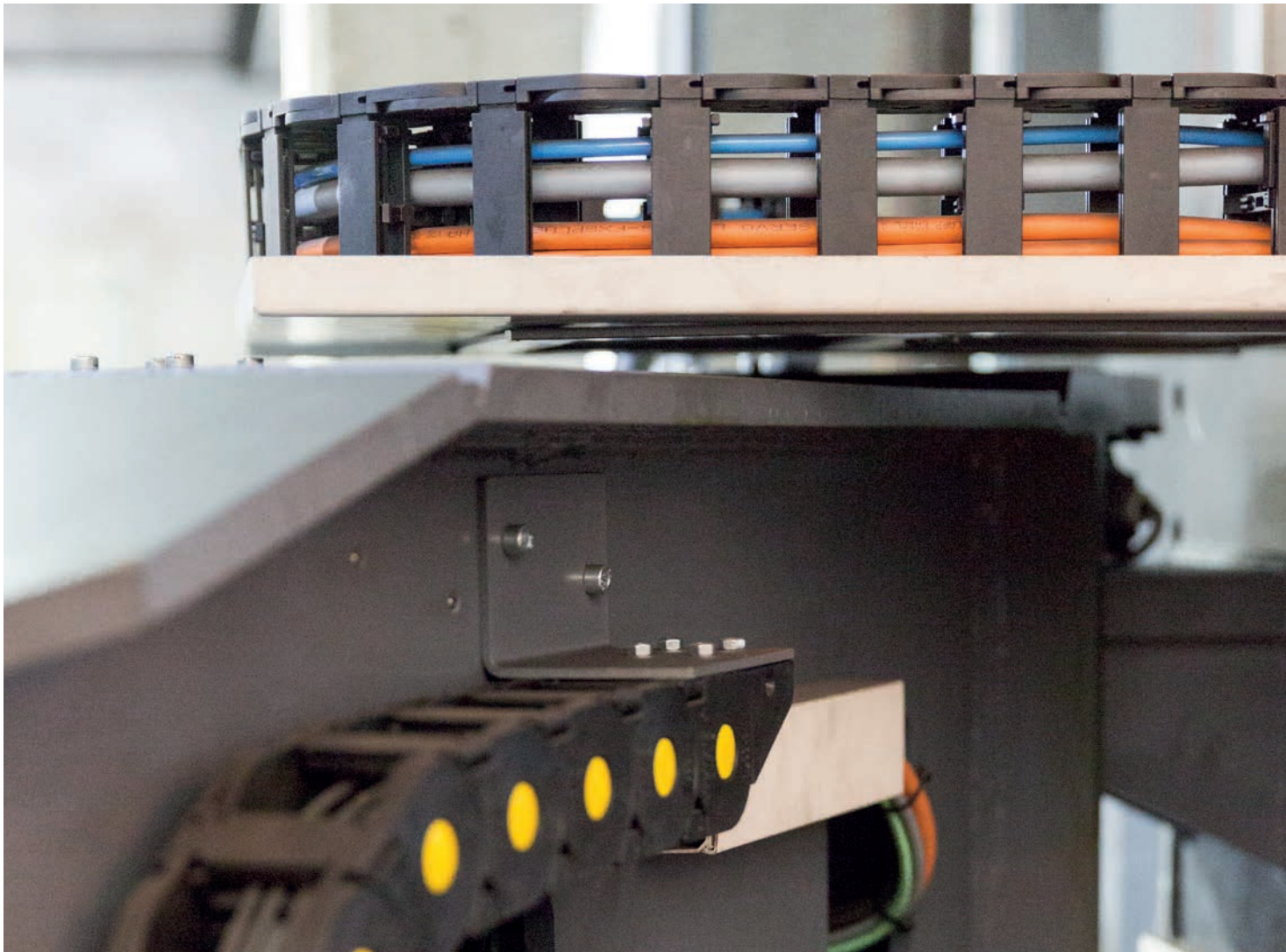
Start thinking smart today

We accompany you on the search for sophisticated, tailored and cost-efficient connectivity solutions.

With **ÖLFLEX® CONNECT**, we provide you with an extensive selection of custom cable or industry standard servo assemblies right through to complex drag chain applications. From engineering and design to customer specific testing, delivery or on-site installation to small batch sizes or series production - we do it all.

ÖLFLEX® CONNECT – your benefits

- 1 No capital expenditure:** Avoid investing in your own production facilities – leverage our state-of-the-art equipment and tools
- 2 Fewer personnel expenses:** Due to handling of a more streamlined supplier base and outsourcing of your inhouse assembly.
- 3 Reduced stock:** Pre-assembled components instead of many individual components (connectors, cables, pipes, hoses, etc.)
- 4 Highest scalability:** React flexibly to market drops or increases in demand.
- 5 Global technical expertise:** Production know-how, engineering expertise, assembly facilities – available in more than 140 countries.



ÖLFLEX® CONNECT CABLES

For over 30 years, our dedicated and highly qualified team of engineers, technicians, sales and service personnel have been coming up with customised assembled cable solution – from the design phase to the creation of the prototype, right through to production and quality control.

Our comprehensive inventory of cables, connectors and accessories that we have developed, enables us to respond quickly and flexibly to your requirements – from ad-hoc to large-scale projects. We have state-of-the-art system solutions assembly sites around the world.

Cable solutions from A to Z

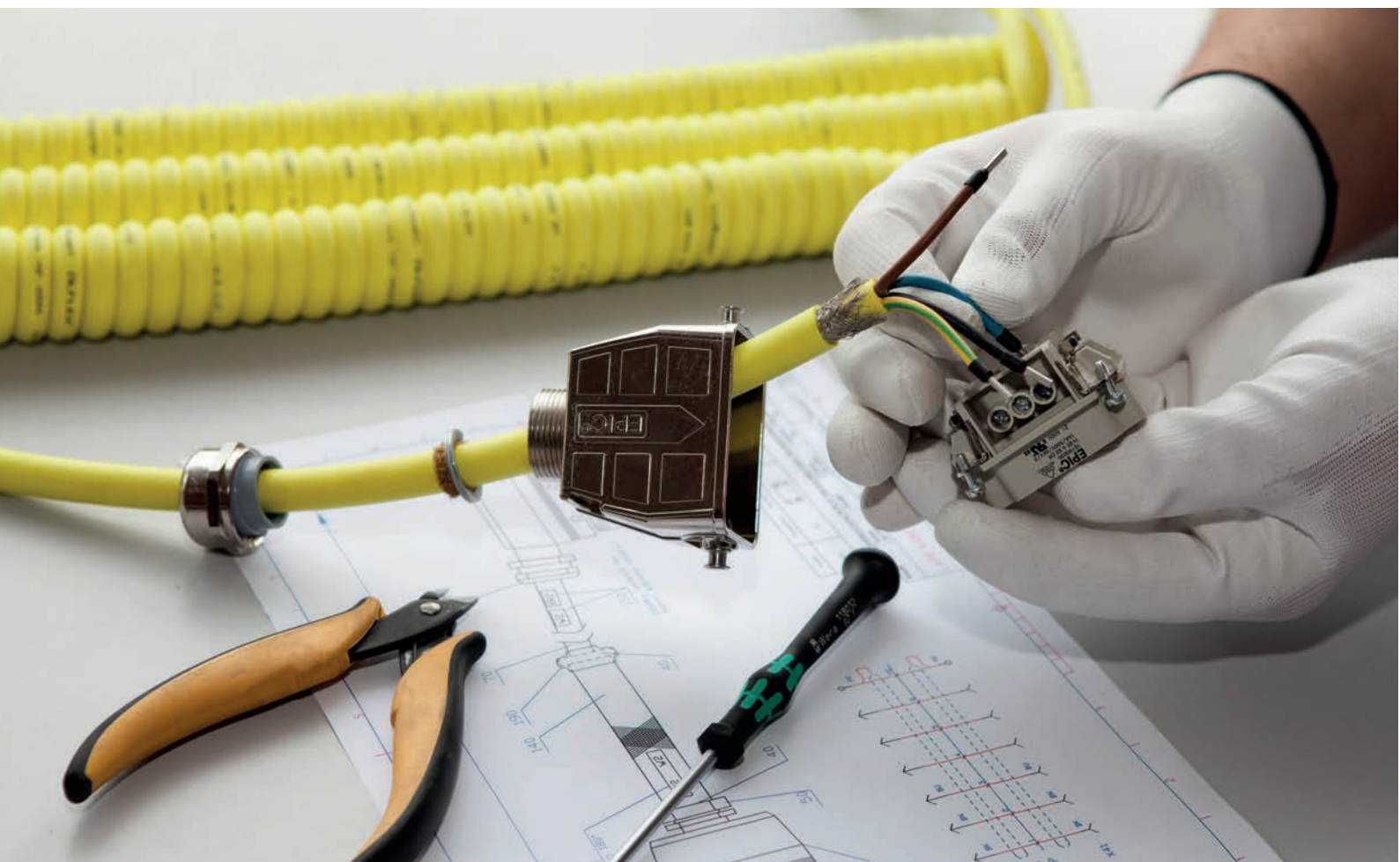
We produce different cables for CNC machinery, switch boxes, control cabinets and electrical assemblies. Our product range stretches from single core and multi-core cables through to EMC-shielded cables, all of which can be fitted with a wide selection of crimp contacts, connectors and housings

Our focus markets

- OEMs
- Industrial equipment
- Metal industry
- Automotive and suppliers
- Machine tools
- Textile industry
- Renewable energy

Our range of services

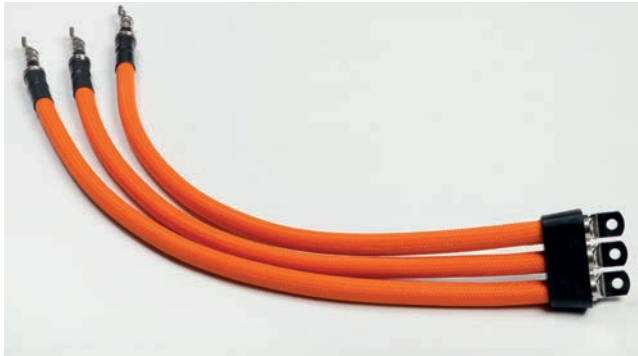
- Cable cut to specifications
- Stripping
- Crimping
- Heat shrinking
- Markings (labels, sleeves, marking rings, packing, stainless steel marking)
- Cable printing
- Crimp force monitoring
- Push-pull test
- Resistance test



Selection from our range



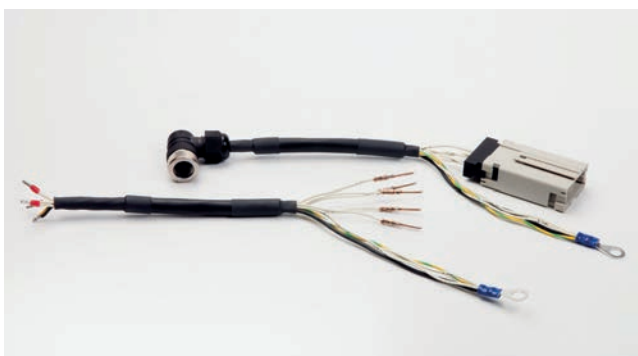
Cable harness with different connectors and end sleeves



Extruded e-mobility cabling



Cable assembly with ring eyelets



Crimped and heat-shrunk assembly with ring connector





Assembly with circular connector and earth cable with heat shrink tube

ÖLFLEX® CONNECT SERVO

Servo solutions for SIEMENS® standard

With our smart servo solutions you get cables in 3 classes: Basic Line, Core Line and Extended Line. All cables are fitted with our newly designed connector. This connector is tamper proof, as it is pressed rather than screwed like conventional connectors. The 360° screen contact makes a huge improvement to EMC shielding (6db). In addition, the cable design in our Core Line enables a semi-automated production process. This ensures higher process reliability and accordingly a globally standardised quality standard.

Our powerlines at a glance:

6FX-5002		6FX-8002	
core line ^{*1}	semi-automated assembly  PVC	core line ^{*2}	semi-automated assembly  PUR
basic line	PVC	extended line ^{*3}	PUR

^{*1} ÖLFLEX® 742, PVC, for 6FX5002

^{*2} ÖLFLEX® 752, PUR, for 6FX8002

^{*3} ÖLFLEX® 796, PUR, acc. to 6FX8002

Core Line: Your smart alternative

Core Line is the ideal alternative for
PUR 6FX-5002/PVC 6FX-8002:

- PVC 6FX-5002: Suitable for static and dynamic applications: timber processing, packaging machines, slowly moving chains
- PUR 6FX-8002: Suitable for highly dynamic applications: moving chains in tooling machines

Your benefits at a glance:

- Improved EMC shielding (6db) through new connector design (size 1, SIEMENS®)
- Improved quality through semi-automated assembly process
- Tamper proof (connector cannot be opened)
- Complete LAPP solution incl. new controller connector

More features:

- Vibration-proof
- Strain relief in line with standards
- IP67



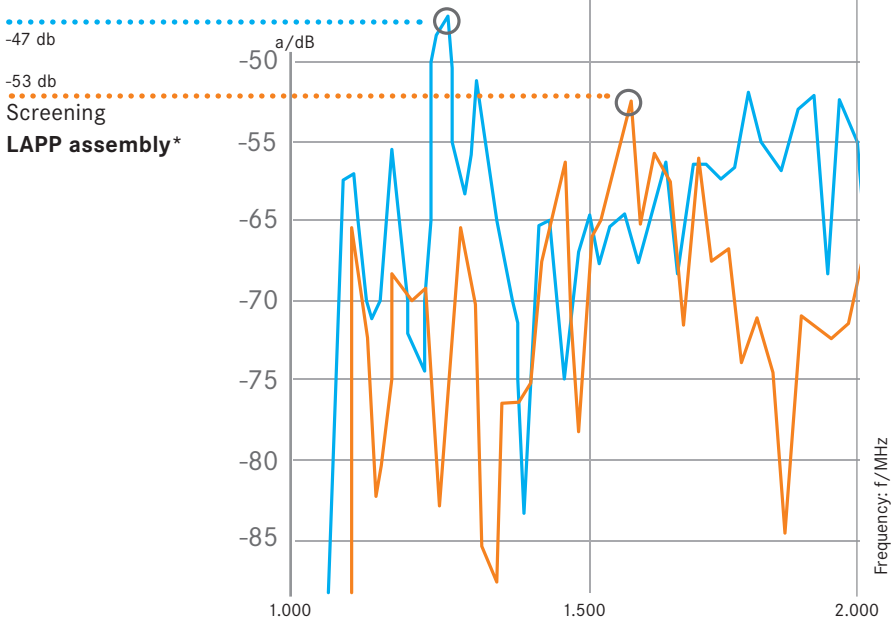
Front: Innovative LAPP connector design acc. to SIEMENS® 5002/8002, size 1

Back: Extension, size 1

EMC screening

Screening

Competitor product



*6db better screening (factor 4)

Product video:
360 degree screening



Lines in comparison

6FX-5002		
	core line PVC	basic line PVC
Number of cycles	5 mio. cycles	2 mio. cycles
Max. length	Up to 100 m	Acc. to manufacturer info
Travelling speed	Up to 3m/s	Up to 0.5 m/s
Travelling distance	Up to 10 m	From 10 m
Acceleration	Up to 3 m/s ²	Up to 2 m/s ²
Min. bending radius (1.5 – 6mm ²)	7.5 x external diameter	7.5 x external diameter

6FX-8002		
	core line PUR	extended line PUR
Number of cycles	5 mio. cycles	10 mio. cycles
Max. length	Up to 100 m	Up to 100 m
Travelling speed	Up to 3 m/s	Up to 5 m/s
Travelling distance	Up to 10 m	Up to 100 m
Acceleration*	Up to 3 m/s ²	Up to 50 m/s ²
Min. bending radius (1.5 – 6mm ²)	7.5 x outer diameter	7.5 x outer diameter

*Deviation of Core Line to Extended Line due to test parameters, i.e. Core Line was not tested up to 50m/s² in high speed drag chain. This test will be undergone in due time.

ÖLFLEX® CONNECT Basic Line according to SIEMENS® 6FX5002 (PVC)



Info

- Cables in application-oriented performance categories
- Connector with novel, safe screen connection
- Custom length available
- PVC outer sheath



Benefits

- Regional manufactured worldwide available
- LAPP quality standards

Application range

- Food production, packaging and woodworking machinery

Product features

- PVC servo cable, shielded
- Designed for average operational demands in industrial applications
- Innovative connector concept
- Basic Line for static and dynamic applications with resistant PVC outer sheath

Norm references / Approvals

- Design according to SIEMENS® standard 6FX 5002
- Flame-retardant according to IEC 60332-1-2, VW-1, FT1

Product Make-up

- Full range of types
- Brake wire with 1.5mm² wire gauge

Technical data



Minimum bending radius

Flexing: 15 x outer diameter
Power cable up to 6mm²: 7,5xD



Nominal voltage

Signal cables:
See cable datasheet
Power cable:
- Power cores:
See cable datasheet
- Control cores:
See cable datasheet

Acceleration

Power cable up to 6mm²: 2m/s²

Speed of Travel

Power cable up to 6mm²: 0.5m/s

Max. bending cycles

Power cable up to 6mm²: 2 Mio.



Temperature range

Fixed installation: -20°C to +80°C

Article number	Length (m)	SIEMENS® assembly designation	Copper index kg/1.000 pieces	Other dimensions	VPE
ÖLFLEX® SERVO Basic Line according to SIEMENS® 6FX5002 (PVC)					
5480002690	10.0	2DC10	373.7	Other lengths available	1
5480002715	10.0	2DC20	373.7	Other lengths available	1
5480002990	10.0	5CN05	888.8	Other lengths available	1
5480003015	10.0	5CN11	1333.2	Other lengths available	1
5480003240	10.0	5CQ28	888.8	Other lengths available	1
5480003365	10.0	5CS01	888.8	Other lengths available	1
5480003565	10.0	5CS31	1333.2	Other lengths available	1
5480004290	10.0	5DQ28	1686.7	Other lengths available	1
5480004415	10.0	5DS01	1686.7	Other lengths available	1
5480004515	10.0	5DS31	1959.4	Other lengths available	1

Unless specified otherwise, the shown product values are nominal values. Detailed values (e.g. tolerances) are available upon request.

SIEMENS® part designations (6FX5002/5008, 6FX7002/7008, 6FX8002/8008) are registered trademarks of Siemens AG, and are listed for comparison purposes only. Other lengths and cable terminations are available upon request.

Photographs are not to scale and do not represent detailed images of the respective products.

ÖLFLEX® CONNECT Core Line for SIEMENS® 6FX5002 (PVC)



Info

- Semi-automated assembly
- Cables in application-oriented performance categories
- Connector with novel, safe screen connection
- Custom length available



Benefits

- Regional manufactured worldwide available
- LAPP quality standards

Application range

- Specifically for machine tool building
- For travel distances up to 10 m.
- For static and dynamic applications

Product features

- New PVC servo cable, shielded
- Innovative connector concept
- Core Line for light duty power chain applications

Norm references / Approvals

- Design according to SIEMENS® standard Product Make-up

Product Make-Up

- Brake wire with 1.5 mm² wire gauge

Technical data



Nominal voltage

Power cable:
- Power cores:
1000 V (UL/CSA)
600 / 1000 V (VDE U₀/U)
- Control cores:
1000 V (UL/CSA)
600 / 1000 V (VDE U₀/U)

Distance of Travel

Power cables up to 6mm²: 10m

Acceleration

Power cable up to 6mm²: 3m/s²

Speed of Travel

Power cable up to 6mm²: 3m/s

Max. bending cycles

Power cable up to 6mm²: 5 Mio.



Temperature range

Moving: -5°C to +70°C

Article number	Length (m)	SIEMENS® assembly designation	Copper index kg/1.000 pieces	Other dimensions	PU
ÖLFLEX® SERVO Core Line for SIEMENS® 6FX5002 (PVC)					
5480008630	10.0	5CS01	818.1	Other lengths available	1
5480008210	10.0	5CQ15	1212	Other lengths available	1
5480007790	10.0	5CN31	1212	Other lengths available	1
5480007720	10.0	5CN21	818.1	Other lengths available	1
5480007650	10.0	5CN11	1212	Other lengths available	1
5480007510	10.0	5CN01	818.1	Other lengths available	1
5480007090	10.0	5CA15	1212	Other lengths available	1
5480007020	10.0	5CA05	818.1	Other lengths available	1

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SIEMENS® part designations (6FX5002/5008, 6FX7002/7008, 6FX8002/8008) are registered trademarks of Siemens AG, and are listed for comparison purposes only

Other lengths and cable terminations are available upon request.

Photographs are not to scale and do not represent detailed images of the respective products.

ÖLFLEX® CONNECT Core Line for SIEMENS® 6FX8002 (PUR)



i Info

- Semi-automated assembly
- Cables in application-oriented performance categories
- Connector with novel, safe screen connection
- Custom length available



- Benefits**
- Regional manufactured worldwide available
 - LAPP quality standards

- Application range**
- Specifically for machine tool building
 - For travel distances up to 10m.
 - For highly dynamic applications

- Product features**
- New PUR servo cable, halogen-free & shielded
 - Innovative connector concept
 - Core Line for light duty power chain applications

- Norm references / Approvals**
- Design according to SIEMENS® standard

- Product Make-up**
- Brake wire with 1.5 mm² wire gauge

Technical data

⚡ Nominal voltage
Power cable:
- Power cores:
1000 V (UL/CSA)
600 / 1000 V (VDE U₀/U)
- Control cores:
1000 V (UL/CSA)
600 / 1000 V (VDE U₀/U)

Distance of Travel
Power cables up to 6mm²: 10m

Acceleration
Power cable up to 6mm²: 3m/s²

Speed of Travel
Power cable up to 6mm²: 3m/s

Max. bending cycles
Power cable up to 6mm²: 5 Mio

🌡️ Temperature range
Moving: -40°C to +90°C

Article number	Length (m)	SIEMENS® assembly designation	Copper index kg/1.000 pieces	Other dimensions	PU
ÖLFLEX® SERVO Core Line for SIEMENS® 6FX8002 (PUR)					
5480005390	10.0	5CS31	1302.9	Other lengths available	1
5480000665	10.0	5CN01	818.1	Other lengths available	1
5480000715	10.0	5CN11	1212	Other lengths available	1
5480000765	10.0	5CN31	1212	Other lengths available	1
5480001065	10.0	5CS01	818.1	Other lengths available	1
5480001115	10.0	5CS11	1212	Other lengths available	1
5480001215	10.0	5CS21	818.1	Other lengths available	1
5480001765	10.0	5DN11	1828.1	Other lengths available	1
5480001840	10.0	5DN41	2727	Other lengths available	1
5480002115	10.0	5DS01	1393.8	Other lengths available	1
5480002215	10.0	5DS31	1828.1	Other lengths available	1

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SIEMENS® part designations (6FX5002/5008, 6FX7002/7008, 6FX8002/8008) are registered trademarks of Siemens AG, and are listed for comparison purposes only
Other lengths and cable terminations are available upon request.
Photographs are not to scale and do not represent detailed images of the respective products.

ÖLFLEX® CONNECT Extended Line according to SIEMENS® 6FX8002 (PUR)



Info

- Conventional production and assembly
- Cables in application-oriented performance categories
- Connector with novel, safe screen connection
- For the most demanding mechanical requirements



Benefits

- Regional manufactured worldwide available
- LAPP quality standards

Application range

- Specifically for machine tool building
- Designed for power chain use: for travel distances up to 100m (horizontal)
- For very high dynamic motion sequences

Product features

- Proven for highest dynamic stresses and long distances
- Proven PUR servo cable, halogen-free & shielded
- Extended Line for high mechanical stress in Power chains

Norm references / Approvals

- Design according to SIEMENS® standard 6FX 8002
- Flame-retardant according to IEC 60332-1-2, VW-1, FT1

Product Make-up

- Full range of types
- Brake wire with 1.5mm² wire gauge

Technical data



Nominal voltage

Signal cables:
30 V (IEC)
30 V (UL/CSA)

Power cable:

- Power cores:
1000 V (UL/CSA)
600 / 1000 V (IEC)

- Control cores:
1000 V (UL/CSA)
600 / 1000 V (IEC)

Distance of Travel

up to 100m

Acceleration

up to 50m/s²

Speed of Travel

5m/s

Max. bending cycles

10 Mio.



Temperature range

Moving: -40°C to +90°C

Article number	Length (m)	SIEMENS® assembly designation	Copper index kg/1.000 pieces	Other dimensions	PU
Konfektionen für Signalübertragungssysteme					
5480000015	10.0	2AD00	707	Other lengths available	1
5480000065	10.0	2AH00	515.1	Other lengths available	1
5480000165	10.0	2CA31	808	Other lengths available	1
5480000290	10.0	2CH00	707	Other lengths available	1
5480000390	10.0	2DC10	424.2	Other lengths available	1
5480000415	10.0	2DC20	424.2	Other lengths available	1
5480000440	10.0	2EQ10	808	Other lengths available	1
5480004940	10.0	5CN51	2989.6	Other lengths available	1
5480005290	10.0	5CS13	4534.9	Other lengths available	1
5480005440	10.0	5CS51	2989.6	Other lengths available	1
5480005990	10.0	5DN51	3322.9	Other lengths available	1

Unless specified otherwise, the shown product values are nominal values. Detailed values (e.g. tolerances) are available upon request.

SIEMENS® part designations (6FX5002/5008, 6FX7002/7008, 6FX8002/8008) are registered trademarks of Siemens AG, and are listed for comparison purposes only.

Other lengths and cable terminations are available upon request.

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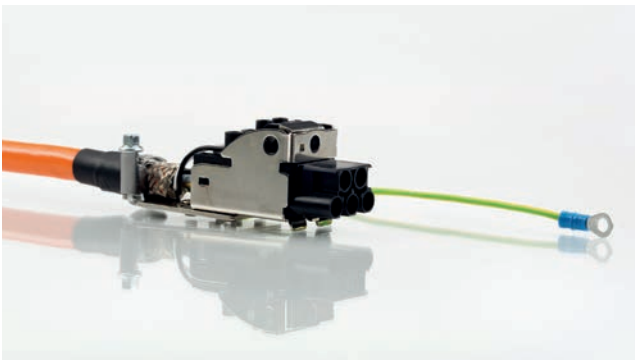
Portfolio at a glance



- Powerline for drive
- For SIEMENS® standard 5002/8002
- Size 1
- Newly designed connector
- Available as PVC/PUR



- Powerline for drive
- For SIEMENS® standard 5002/8002
- More SIEMENS® sizes available (1.5/3) as conventional assembly
- Available as PVC/PUR



- Powerline with conventional controller connector
- For SIEMENS® standard 5002/8002
- Available as PVC/PUR



LAPP controller connector acc. to SIEMENS®
S 120 C-/D types, booksize

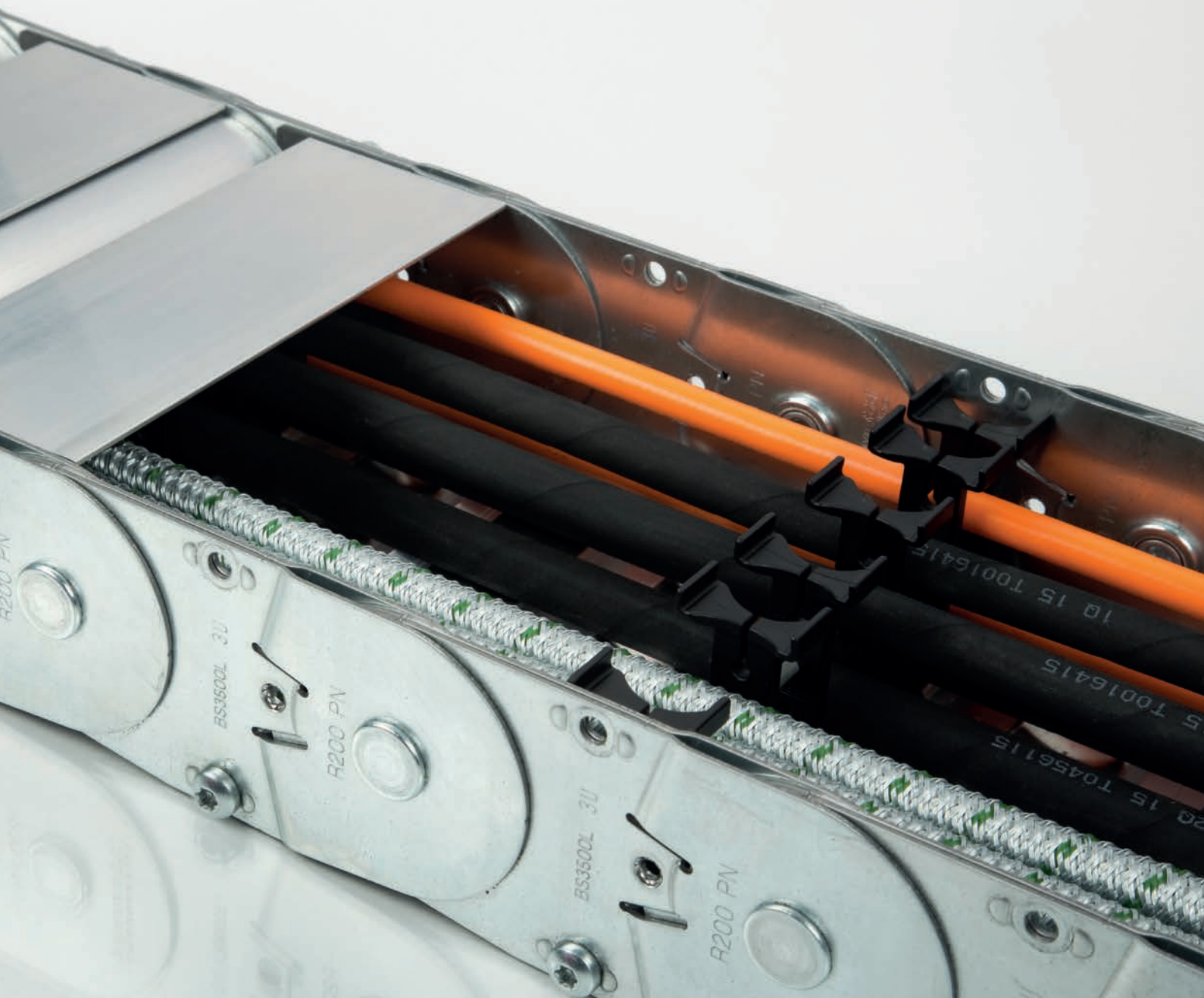
Discover our new servo configurator:
www.lappgroup.com/servoconfigurator



ÖLFLEX® CONNECT

Your Cable. Your Assembly. Your Solution. Start your designs with the connectivity experts. From cable or custom servo assemblies right up to complex drag chain applications. LAPP is with you every step of the way.

Learn more about our complete ÖLFLEX® CONNECT programme:
lappgroup.com/systems





SYSTEM
Logistics



Sealed Air D

250 kg

4

ÖLFLEX® CONNECT Delivery Programme.

Whenever and wherever you need it.

Customer service and flexibility are top priority at LAPP. As a result, we are now offering more servo shipping options tailored to your needs.

Our three delivery options:



STANDARD

Standard delivery times for all common articles.

- For orders received before 12 p.m., dispatch within 7 working days*
- Includes SIEMENS® servo types, in all lengths



FAST LANE

Your alternative for small orders in short notice.

- For orders received before 12 p.m., dispatch within 72 hours*
- Includes SIEMENS® servo types, in all lengths
- 50 EUR express surcharge per delivery
- For orders of max. 3 servo assemblies



MRO-Stock

Selected types in stock. Subject to availability.

- For orders received before 3:30 p.m., dispatch within same working day*
- No additional costs for you
- Includes 5m, 10m, 15m and 20m lengths
- Includes the following types

Signal cables	Drive cables
6FX8002 2DC10	6FX8002 5CA01
6FX8002 2DC20	6FX8002 5DA01
6FX8002 2DC30	6FX8002 5CA31
6FX8002 2AH00	6FX8002 5DG01
6FX8002 2CA31	6FX8002 5DN01
6FX8002 2CH00	6FX8002 5DS01
6FX8002 2EQ10	6FX8002 5DS31
	6FX8002 5DS11
	6FX8002 5DS41

In urgent cases, PVC variants can be replaced by 6FX8002 (PUR).

Learn more under lappgroup.com/servo

Customer Service and Orders: export.uil@lappgroup.com

Simply state the keyword when ordering: **STANDARD**, **FAST LANE** or **MRO**.

* Delivery times in Germany within 24h, in Europe between 24h and 72h from dispatch of order. Express or special delivery options also available upon request.

ÖLFLEX® CONNECT CHAIN

Chain systems made by LAPP

Our idea of a cable chain system includes chains made of nylon or steel with highly flexible cables, cable protection conduits, hydraulic hoses or pneumatic hoses **including termination** (connectors, fittings) **and functional units** such as towing arms or supporting structures.

Your benefits with our cable chain systems:

- **Reliable cutting-edge technology**
High-quality components, assembled to deliver minimum maintenance and maximum service life
- **Guaranteed brand quality**
Our cable chain systems are rigorously tested to guarantee hassle-free operation
- **Closer to you**
With multiple manufacturing sites in Europe, Asia and the Americas, we can support your cable chain assembly needs wherever you are
- **Competent system supplier**
With LAPP, you receive everything from one source, from individual cable chain assemblies to a whole integrated system

Our cable chain service

LAPP is there throughout all project phases - from design to component selection to assembly. Our experts work with you every step of the way:

- 1 Technical evaluation**
 - On-the-spot meeting
 - Definition of project scope
 - One contact person during project phase
 - Planning and timing
- 2 Initial CAD design of the cable chain system**
 - Incl. cable layout
- 3 Complete project management**
 - Documentation
 - Drawings
 - Selection of components (BOM)
 - Cost and interface controlling
- 4 Completion of chain system design**
 - Delivery to operation site
 - On-site installation service by LAPP specialists
 - Shipping in professional LAPP packaging
 - After-Sales-Services

i Comprehensive test reports and individual installation instructions can be provided upon request.





Configuration options



What can be included in a cable chain system:

- Nylon or steel cable chains in accordance with application requirements
- Highly flexible power, control, signal and data network cables including accessories (cable lugs, connectors, etc.)
- Protective cable conduits with conduit glands
- Hydraulic hoses with fittings
- Pneumatic hoses
- Towing arms or other functional units
- CAD drawing of your chain including cable layout (optimal placement and separation of all energy lines in a chain)

Possible cable chain types

Nylon cable chains

- Cable chains made from nylon (polyamide PA 6) cable chains for self-supporting, sliding or circular motion applications
- Open or fully closed design available

Steel cable chains

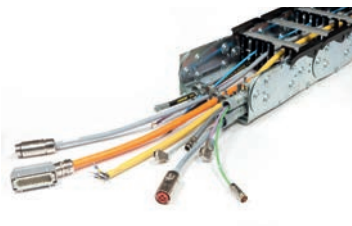
- Cable chains made of steel (galvanised steel or stainless steel) for standard self-supporting, sliding applications or applications with circular motion
- Open or fully closed design available

Combined cable chains

- Steel (galvanized or stainless) cable chains for standard self-supporting, sliding or circular motion application
- Open or fully closed design available

Robot cable chains

- The robot-concept is specifically designed for use in combination with anthropomorphic robots, and allows rotation of up to 540°.



See complete
ÖLFLEX® CONNECT
 CHAIN catalogue
 here online or
 download as pdf.



Curiosity is what drives us

Inhouse LAPP innovations

Our long term cable and chain assembly experience allows us to discover market trends quickly and work efficiently on valuable innovations for our customers.

Multi-flexible chain

In 1989 we developed the first “ROBOT” chain that you can find in nearly every cable chain catalogue in the industry today. With our next development step we will enter the level of highly flexible cable chain solutions for anthropomorphic robots.

Industry 4.0

Intelligent production requires intelligent products. Every movement, every cycle is recorded by the intelligent brain of our chains of tomorrow and wear is tracked so that maintenance can be scheduled in advance to eliminate downtimes and to guarantee fault-free performance of the entire **ÖLFLEX® CONNECT CHAIN** system.

Green manufacturing

In accordance with LAPP's ambitious environmental goals, all chains are 100% recyclable at the end of their lifecycle. Some of our new chains in addition allow a 50% (or more) reduction in the pushing-pulling force. This means lower absorption of energy for moving our chains, which saves energy costs and helps the environment.

Premium quality spiral cables

When producing spiral cables, we have a wealth of expertise at our disposal. Flexibility and durability are key factors for applications requiring long-term high performance. It is also crucial to have the appropriate insulation and the right conductor material. With LAPP, your spiral cables are definitely in safe hands.

Glass-fibre assemblies

Did you know - you can also rely on us for sophisticated glass fibre assemblies. We offer glass fibre harnessings from standard lengths available in stock and manufacture, test and deliver special lengths assembled to your needs. We can even design and incorporate them into your cable chain system.

Highly dynamic applications

Four requirements: low weight, high acceleration, compact dimensions and a long service life. With premium components from LAPP you get a wide range assortment of servo, energy and data cables as well as cable chains for your application needs. Innovative in speed and efficiency, they enable productivity improvements through faster position changes in your system.



CAD-design of cable chain system



ÖLFLEX® CONNECT – more than just a system solution

Every single component used in a LAPP system solution has undergone a demanding development and testing process. With us you will always be on the safe side.

The LAPP Lab

The electrical mechanical and chemical parameters of every component are tested in-house with state-of-the-art testing methods. Our highly flexible cables have to withstand millions of bending cycles at different speeds and with extreme bending radii. They also need to resist mechanical and chemical stresses. Our lab assures performance by:

- Heat, cold and climate tests for aging resistance
- Chemical substance tests
- Mechanical and robot torsion tests
- IP protection rating tests
- Static and dynamic pulling protection tests
- Resistance tests
- Electrical tests and material analysis

System test

Cable assemblies and entire cable chain systems are tested in-house in our test centre. The facility includes robot test applications and high-speed drag chain tracks. Specialised teams test the complete system including all products in their intended field of use – sometimes in extremely hot or cold conditions or with particular environmental influences.

Your **ÖLFLEX® CONNECT** CHAIN will be delivered with a comprehensive test report.

Service point network

With our rapidly increasing tight-knit service point network, we are able to support you globally with any kind of cable, servo or drag chain assembly. We understand your local needs, markets and language.

Scalability

We offer harnessing services from easy cable assembly to highly complex drag chain systems, from batch size 1 to serial production and from short cable harnessings, to cable trees, right through to highspeed drag chain systems with long travel distances.

In-house production

Our branded components are developed, designed and produced by our own hands. We serve your needs directly from 18 production facilities across America, Europe, and Asia.

Logistics

Who actually likes waiting for a solution or replacement? We won't leave you waiting, as we guarantee a quick delivery all over the world with our sophisticated network of logistic centres and professionally trained engineering experts.

Service

Our customers are important to us. That's why we make lots of time for them. Time to fully understand their wants and needs; time to offer the right solution. We are absolutely convinced that this is the only way to establish a long-term partnership beneficial to both sides.

Certifications

Our products are used in almost every industry and are frequently found in the most sophisticated machines that operate around the clock – where downtime is not an option. But it is not just in major machinery that you need to be able to rely on the smallest of connections. It is everywhere. As an evidence of LAPP quality and reliability, our products carry the world's strictest approvals.

Sustainability

Technological advancement and ecological sustainability are important to us. That is why we are environmentally conscious regarding natural resources. For example, our photovoltaic system in Stuttgart, Germany, generates 1,000 MWh of energy, thus reducing CO₂ emissions by around 650 tonnes per year!

Examples of global approvals:



There for you worldwide

To contact your local LAPP representative, please visit our website
www.lappgroup.com



● **ÖLFLEX® CONNECT** service-points in over 40 LAPP locations

● Regional competence centre for special cable chain applications and other system requirements.





ÖLFLEX®
Power and control cables



UNITRONIC®
Data communication systems



ETHERLINE®
Data communication systems
for ETHERNET technology



HITRONIC®
Optic transmission systems



EPIC®
Industrial connectors



SKINTOP®
Cable glands



SILVYN®
Protective cable conduit systems
and cable carrier systems



FLEXIMARK®
Marking systems

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