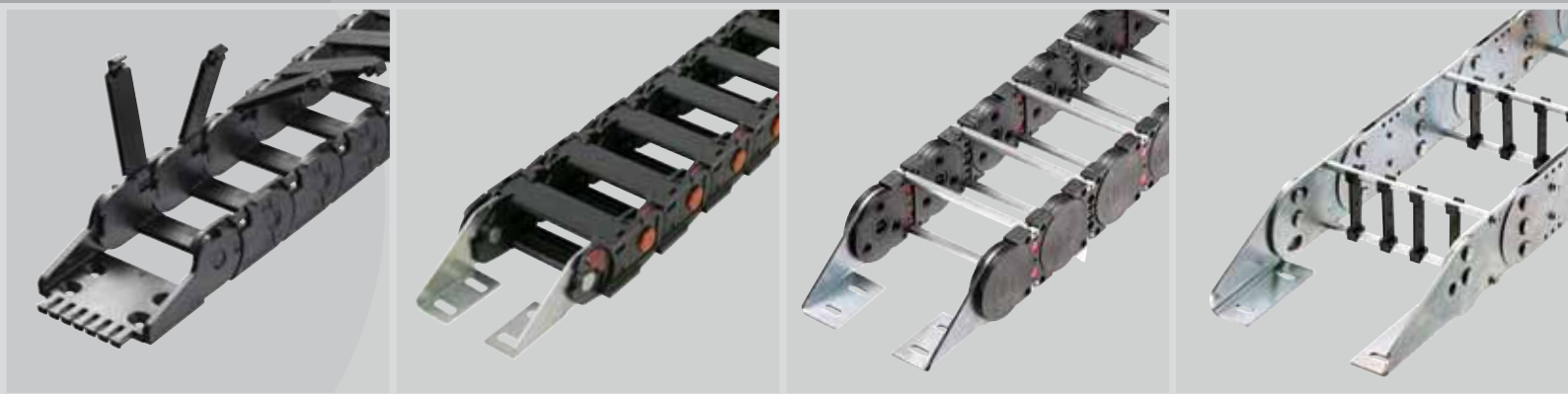


Product Overview

Energy Guiding Chains



CONDUCTIX
wampfler

Ⓞ DELACHAUX GROUP



A chain of successes!

Solutions for a moving world: Wherever you find people and things in motion, you'll also find custom-configured Conductix-Wampfler solutions for the transmission of energy, data and media.

These solutions include an extensive line of energy guiding chains. Container cranes, steel mills and powerplants, high-rack storage and retrieval systems, green-houses and car washes are only a few of the many typical applications for Conductix-Wampfler energy guiding chains. The enormous variety of different configurations, materials, designs and accessories makes Conductix-

Wampfler energy guiding chains the choice of preference when it comes to finding the right solution, no matter how difficult or unusual the application!

And, not only that, Conductix-Wampfler offers not only products that feature robust, heavy-duty construction and reliable operation even under punishing operating conditions but also fast, efficient service and support.

As a result it's no surprise that Conductix-Wampfler energy guiding chains are found – often in combination with other Conductix-Wampfler energy transmission systems – wherever mobility is important. Worldwide!



Nylon chain LC85 mounted on a drilling machine



Program LZ94: Rotary application of chain, compliant with ATEX Zone 2



Everything from a single source – Conductix-Wampfler also supplies optimum cables.

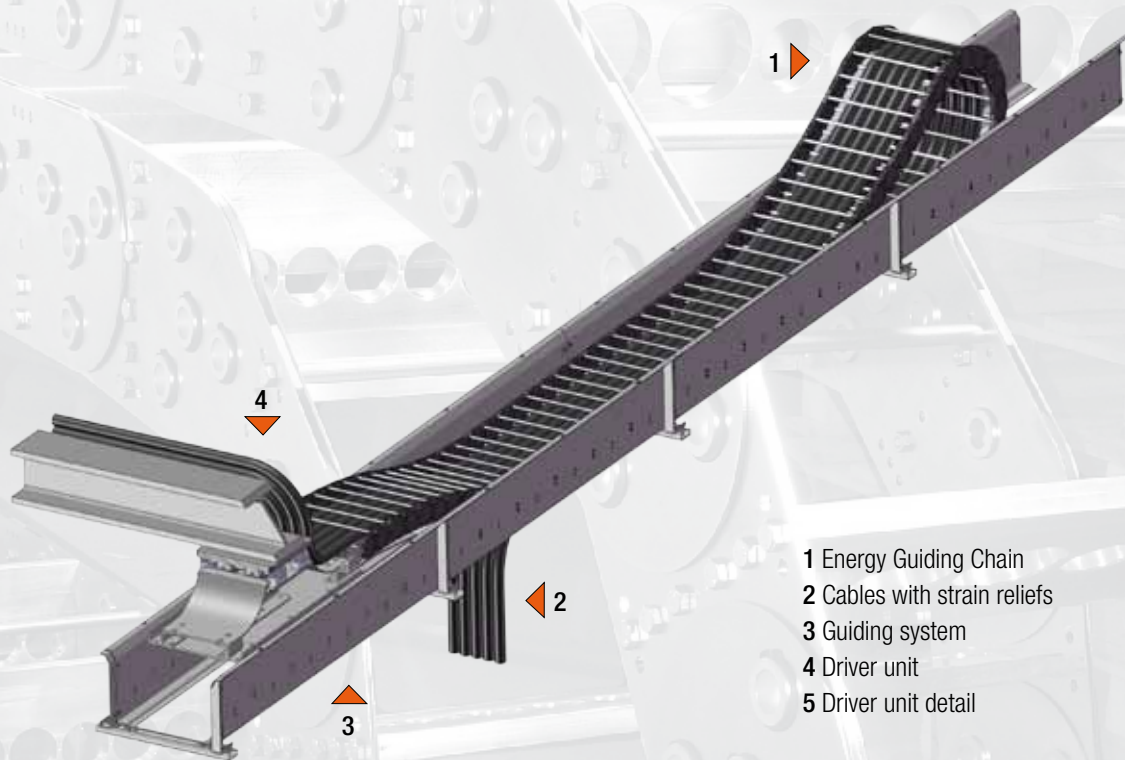
LF chains for a process crane application, on wooden spools for easy installation



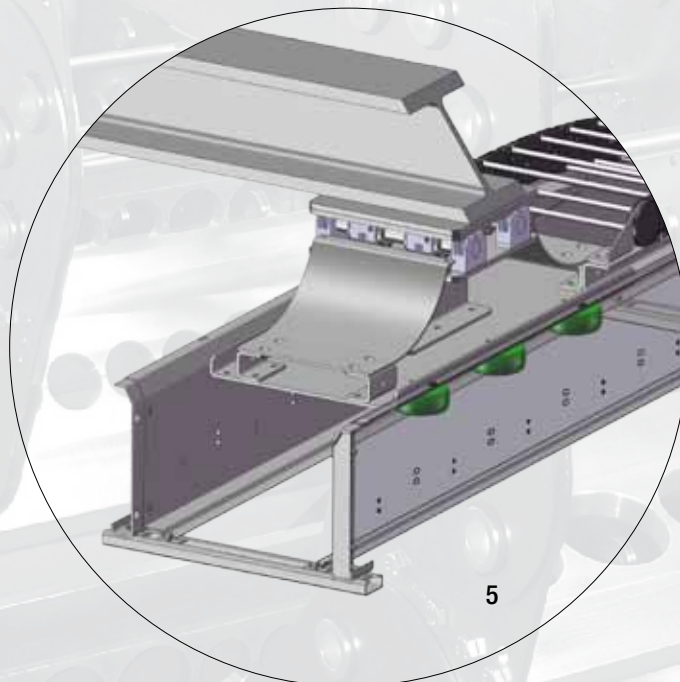
Program LZ: Double rotary AISI 316L stainless steel chain for a stacker/reclaimer application

We can follow all your movements!

Conductix-Wampfler specialists can design chains for numerous applications, starting from the standard horizontal movement of machine tools, to a 360° rotation of a port's crane, to the vertical movement of a theatre machine.



- 1 Energy Guiding Chain
- 2 Cables with strain reliefs
- 3 Guiding system
- 4 Driver unit
- 5 Driver unit detail



LC 10 - LC 31

Series of small nylon PA6 chains with mono link design or duo-link design with snap opening frame stays.

Special design for low noise operation and minimal vibration. Suitable for high speed in short travel distance (machine tools applications), as well as for long travel distance inside a channel (standard cranes applications).



LC 32 - LC 85

Series of medium and big nylon PA6 chains with modular design link, available with nylon standard or closed frame stays or aluminum stays.

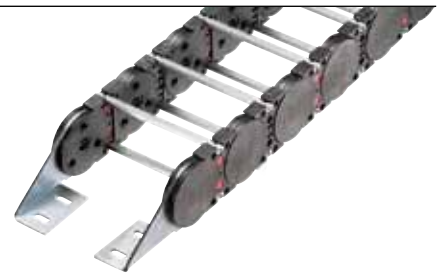
Special design with high torsions rigidity, and a complete range of separations keep these chains suitable for most applications both in self supporting and in sliding configurations with guiding channel for long travel distance.



LF

Series of medium and big nylon PA6 chains with modular design link, available with aluminum stays.

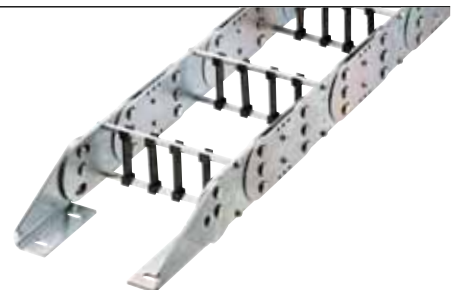
Heavy duty design with male-female links for high demanding applications in sliding configurations with guiding channel for long travel distance. Width can be set according to customer needs.



LZ

Complete series of steel chains with modular design link, available with aluminum or steel stays.

Heavy duty design with male-female links for high demanding self-supporting applications in harsh industrial environments. Long travel distance possible with supporting rollers and side support rails.



Program *LC 10 - LC 31*

Main applications:

- Small bridge cranes
- Door drives
- Theatre machines
- Filling machines
- Small to medium-sized machine tools
- Micromechanics
- Standardized applications with fixed cable packages

Always in stock! We can ship these chains worldwide in 4 working days

Main advantages:

- Little space required
- Requires little time for the installation
- Great variety of dimensions & bending radii
- Easy maintenance
- Low costs for high quality
- Easy replacement of the cables without removing the chain



Standard Specifications

Travel distance	35 m (with guiding channel)
Travel speed	maximum 4 m/s
Acceleration	maximum 20 m/s ²
Temperature	-25° to +80° (not continuous)
Use in explosion-protected areas (ATEX zone II)	available for minimum order quantities
Use in food industry	yes
Use in dust-free rooms	yes
Chemical resistance	aldehydes, bases, ketones, petroleum and derivatives, salt water
Chemical weakness	acids, alcohols, organic chlorinated compounds

Series	Available Frame Stay Configurations	Outside Height (mm)	Outside Width (mm)	Cavity Height (mm)	Cavity Width (mm)	Bending Radius (mm)
LC10	t	12	15	10	10	18/40
LC17	t	23	Cavity Width + 12	17	15...75	40...120
LC17i	t	23	Cavity Width + 12	17	15...75	40...120
LC25i	t	37	Cavity Width + 18	26	30...120	40...250
LC25e	t	37	Cavity Width + 18	26	103/120	40...250
LC27 ¹⁾	t	36	Cavity Width + 18	26	30...103	50...250
LC31i	t	47	Cavity Width + 18	34	55...105	70...250

i = Frame Stays can be opened on the internal radius side

e = Frame Stays can be opened on the external radius side

t = Frame Stays mounted on every link

¹⁾ Frame Stays can be snap-opened on the internal radius side

Program *LC 32 - LC 85*

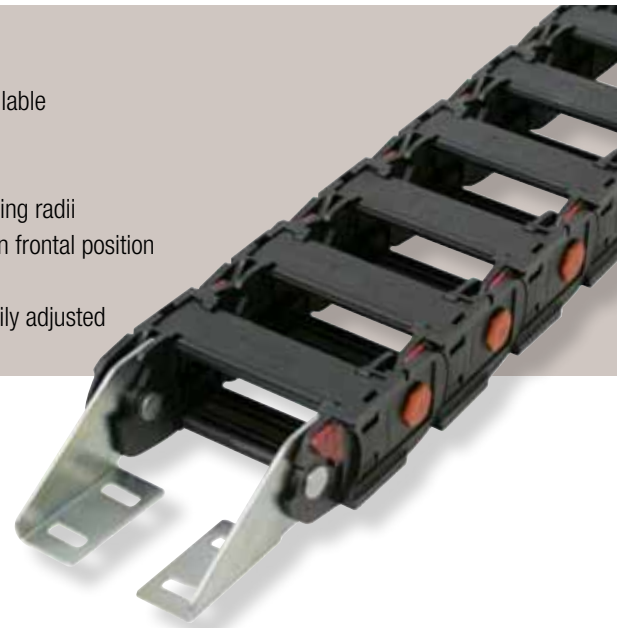
Main applications:

- Medium-size bridge cranes
- Theatre machines
- Woodworking machines
- Heavy-duty machine tool
- Transfer cars
- Material handling

Thanks to preset pins the **bending radius** of the chain can be changed in a matter of seconds

Main advantages:

- Aluminum and nylon frame stays available
- Closed nylon frame stays available
- Resistance to heavy duty cycles
- Great variety of dimensions and bending radii
- Steel ending brackets also available in frontal position
- Easy maintenance
- Width and bending radius can be easily adjusted



Standard Specifications

Travel distance	50 m (with guiding channel)
Travel speed	maximum 3 m/s
Acceleration	maximum 10 m/s ²
Temperature	-25° to +80° (not continuous)
Use in explosion-protected areas (ATEX zone II)	available for minimum order quantities
Use in food industry	yes
Use in dust-free rooms	yes
Chemical resistance	aldehydes, bases, ketones, petroleum and derivatives, salt water
Chemical weakness	acids, alcohols, organic chlorinated compounds

Series	Available Frame Stay Configurations	Outside Height (mm)	Outside Width (mm)	Cavity Height (mm)	Cavity Width (mm)	Bending Radius (mm)
LC32	t / a	49	Cavity Width + 30	32	45...275	75...200
LC32c	t	49	Cavity Width + 30	26	45...155	75...200
LC43	t / a	56	Cavity Width + 32	40	45...275	90...300
LC43c	t	56	Cavity Width + 32	35	65...200	90...300
LC55	t / a	75	Cavity Width + 36	55	45...275	150...400
LC55c	t	75	Cavity Width + 36	50	90...200	120...400
LC85	t / a	108	Cavity Width + 50*	85*	100...500*	150...500
LC85c	t	108	Cavity Width + 50*	72*	100...400	150...500

c = Enclosed Energy Guiding Chain with Nylon Frame Stays (reduced Cavity Height) t = Frame Stays mounted on every link a = Frame Stays mounted on every other link

* Custom on demand



Program *LF*

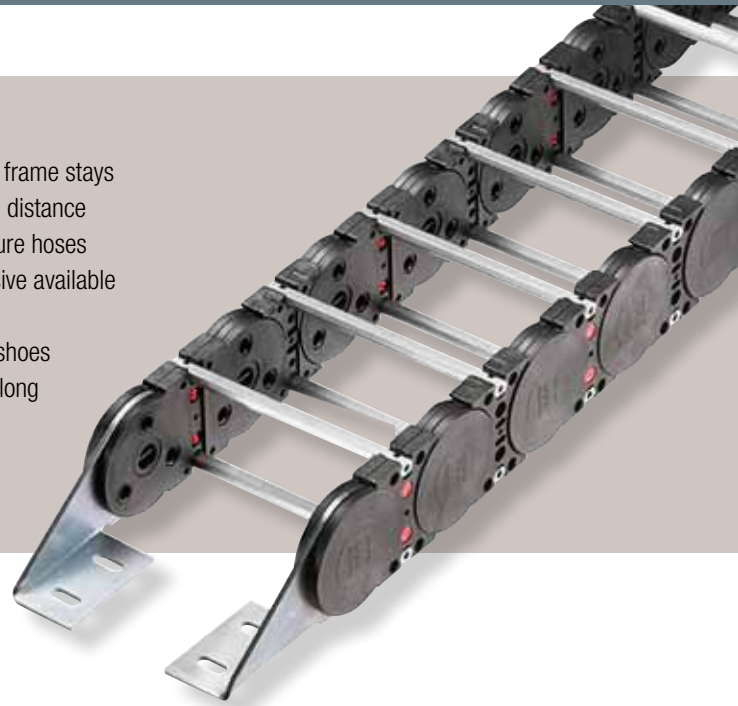
Main applications:

- Medium-size to large bridge cranes
- Container cranes and RTG's
- Washing systems, car washes
- Woodworking machinery
- Transport of fluid media
- Transfer cars
- Port cranes

Aluminum frame stays and strong junction pins allow to work in **sliding configuration for long travel distances**, even in aggressive environments

Main advantages:

- Aluminum snap opening frame stays
- Resistance to long travel distance
- Designed for high pressure hoses
- Frame stays made massive available
- Easy maintenance
- Rolling carriage, sliding shoes and guiding channel for long travel distances
- Steel frontal brackets available on request



Standard Specifications

Travel distance	from 70 m to 100 m (with guiding channel)
Travel speed	maximum 3 m/s
Acceleration	maximum 10 m/s ²
Temperature	-25° to +80° (not continuous)
Use in explosion-protected areas (ATEX zone II)	available for minimum order quantities
Use in food industry	yes
Use in dust-free rooms	yes
Chemical resistance	aldehyde, bases, ketones, petroleum and derivatives, salt water
Chemical weakness	acids, alcohols, organic chlorinated compounds

Series	Available Frame Stay Configurations	Outside Height (mm)	Outside Width (mm)	Cavity Height (mm)	Cavity Width (mm)	Bending Radius (mm)
LF38	t /a	57	Cavity Width + 32*	38	48...468*	75...220
LF58	t /a	80 (87,5**)	Cavity Width + 40 (+ 55**)*	58	49...460*	140...320 (260...320**)
LF73	t /a	95	Cavity Width + 40*	73	108...558*	190...380
LF73R	t /a	95	Cavity Width + 40*	72	108...800*	190...380

R = Frame Stays reinforced t = Frame Stays mounted on every link a = Frame Stays mounted on every other link * Custom on demand ** with Sliding Shoes

Zig-zag application of a LF58 chain, complete with basket, in a theatre stage



Program LZ

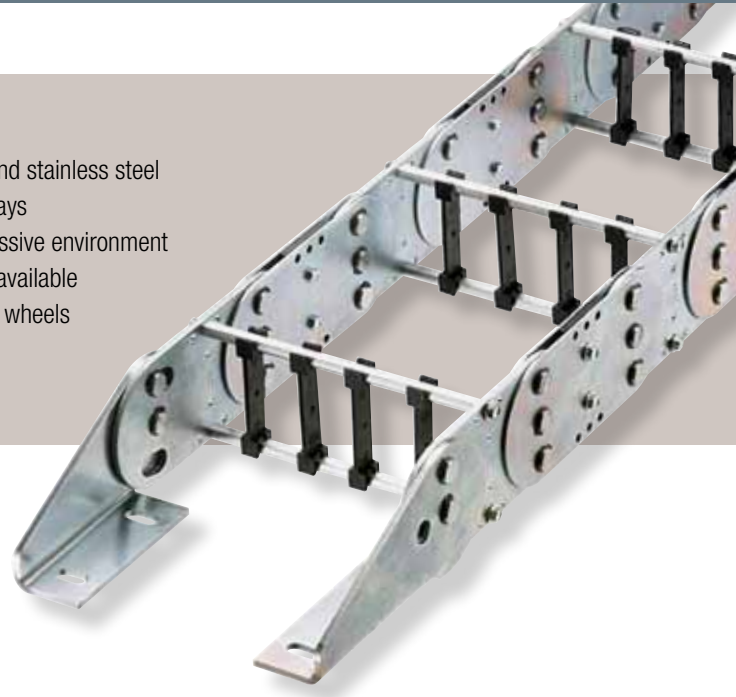
Main applications:

- Steel mills
- Foundries and rolling mills
- Stacker/reclaimers
- Offshore installations
- Big milling-boring machine tools
- Transport and construction machinery
- Applications where long self-supported travel length is required

Full range of steel energy guiding chains that unify resistance in aggressive environment with high customization level

Main advantages:

- Available in galvanized and stainless steel
- Great variety of frame stays
- High resistance to aggressive environment
- Stainless steel covering available
- Support rollers, rails and wheels available for long travel distance



Standard Specifications

Travel distance	from 32 m to 45 m (with support rollers and rails)
Travel speed	from 10 m/min to 35 m/min
Acceleration	from 1 m/s ² to 5 m/s ²
Temperature	-30° from +80° to +200° (steel frame stays configuration, G)
Use in explosion-protected areas (ATEX zone II)	yes
Use in food industry	yes
Use in dust-free rooms	yes
Chemical resistance	In general very good
Chemical weakness	galvanized steel is not resistant against acid

Series	Available Frame Stay Configurations	Outside Height (mm)	Outside Width (mm)**	Cavity Height (mm)	Cavity Width (mm)	Bending Radius (mm)
LZ92	t / a	50	Cavity Width +31/+36/+30*	28/31/32/ø36*	34...365*	75...300*
LZ94	t / a	70	Cavity Width +42/+49/+37*	43/46/ø45*	52...364*	125...410*
LZ95	t / a	94	Cavity Width +45/+55/+53/+65/+36*	68/72/ø52*	41...370*	145...600*
LZ96	t / a	140	Cavity Width +63/+30	90/94/100/111/ø118	173...854*	265...1405*
LZ97	t	220	Cavity Width +32/+52	155/160/ø175	*	365...1395*
LZ98	t	300	Cavity Width +102	275/280	*	500...1785*

t = Frame Stays mounted on every link a = Frame Stays mounted on every other link * Custom on demand

** Outside width depends on the frame stays type, for more information please see our Steel Energy Guiding Chains catalogue (KAT3116-0002-E).

Doble chains system, LZ96 and LZ97, in stainless steel supplied for offshore market

The choice of preference!

The choice of the right channel makes it possible to make sure that the chain is always in exactly the right position which permits optimum operation and minimum downtime. Conductix-Wampfler offers a wide range of different channels, including standard and custom solutions.



Aluminum channels

- Fast assembly, variable widths
- Special stainless steel glider to prevent wear
- Seawater resistant
- Various installations possible

Rolling carriage

- Solutions for long travel distances
- Reduction of driving forces up to 90% by means of rolling-friction
- self-guiding by means of flanged rollers
- For long durability



Steel channels

(galvanized steel or stainless steel)

- For use in aggressive operating environments
- For steel chains that are not self-supporting



Support tray

(galvanized steel or stainless steel)

- For self-supporting chains and rolling carriage applications the use of a support tray is sufficient



Sliders

- Sliding shoes permit maximum travel speed and reduce wear of the chain sidebands
- Easy to assemble and easy to change

Single-source convenience!

Conductix-Wampfler delivers complete solutions including cables especially designed for our energy guiding chains.

Cables are the "lifelines" that permit safe, reliable transmission of energy and data. Conductix-Wampfler's products cover the entire spectrum of potential applications. Of course, it goes without saying that our cables feature outstanding quality and comply with all international standards!

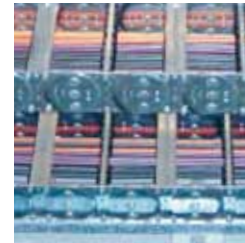
The choice of the right cable can have a significant effect upon the overall service life of an energy guiding system. In addition, proper installation, the way the cables lie in the chain and







the choice of the right strain-relief means for the specific application are also factors that have to be taken into account to create a system that will deliver years of perfect performance.

Conductix-Wampfler cables features:

- UV-stable
- EMC-tested
- Oil-resistant
- DESINA-compliant
- UL/CSA-compliant
- Silicone-free
- Flame-retardant
- Min. bending radius 7,5 x Ø
- Halogen-free (PUR)
- Resistant to cold (PUR)

Conductix-Wampfler cables are especially designed for use in Conductix-Wampfler energy guiding chains. The robust jacket protects the conductors and permits exceptional stability. The individually chosen strandings of conductors vary as a function of the mechanical and electrical properties required for the specific application.



Application	Basic Chain	Heavy Duty Chain	
Power / Control	 CV	 CXG	 CXP
Composite Power + Control + Data	 CV-D	 CXG-D	 CXP-D
Design	YRDMY + YRDMCY Y Insulation material PVC RD Round M Cable C Shield of braided copper wires Y Sheathing material PVC J With green/yellow earth conductor	11YMSL11Y + 11YMSLC11Y 11Y Insulation material thermoplastic polymer (halogen free) MSL Sheath round cable C Shield of braided copper wires 11Y Outer sheathing material polyurethane, (halogen free)	(N)GRDGOEU-J/O + (N)GRDGC6OEU-J/O (N) Adapted to a VDE standard G Core insulation constructed of a rubber compound (EPR) RD Round cable C Shield of braided copper G Outer sheathing material rubber compound Ö Oil-resistant outer sheath U Outer sheath of low flammability ("fire-proof") -O Without a green/yellow identification of the earth/ground conductor -J With a green/yellow identification of the earth/ground conductor
Suitable for use outdoors	● limited	● ideal	● ideal
Voltage range	up to 0.6/1 kV	up to 0.6/1 kV	up to 0.6/1 kV
Tensile load capacity max. [N/mm²]	15	15	15
Travel speed max. [m/min]	140	300	250
Temperature range flexing [°C]	-5 up to 80	-35 up to 80	-30 up to 80



Custom services!

Conductix-Wampfler is a customer-focused, market-driven company, which explains why our customers can count on us to meet their specific needs and requirements when it comes to service. With Conductix-Wampfler everything is possible from initial design and development to long-term service contracts and you can decide exactly what you want. The more complicated your system is and the greater your expectations in terms of service life and operational reliability, the more sense it makes to take advantage of our after-sales service. When it comes to service, you can count on Conductix-Wampfler to perform!

Design and development

- Initial programming to define requirements
- Determination of minimum energy guiding solution
- Selection of optimum energy guiding system in cooperation with the customer as a function of all considerations including cost, service life, operating parameters, installation and the site

Preliminary assembly

- Preparation of cables
- Assignment of cables to chains as a function of design drawings and EMC requirements
- Installation of separators and frame stays
- Securing of cable ends
- Preparation of energy guiding system for transport by suitable means

Final assembly

- Supervision of assembly on site or
- Complete assembly by our trained specialists
- Additional six-month guarantee on energy guiding systems installed by Conductix-Wampfler specialists

Service agreement

- Inspections at regular intervals
- Appropriate measures to ensure long-term reliability
- All services required on site in the event of an incident, including materials



Conductix-Wampfler's specialists provide complete support from initial programming and design to final assembly on site – worldwide!



Your Applications – our Solutions

Steel Energy Guiding Chains from Conductix-Wampfler represent only one of the many solutions made possible by the broad spectrum of Conductix-Wampfler components for the transport of energy, data and fluid media. The solutions we deliver for your applications are based on your specific requirements. In many cases, a combination of several different Conductix-Wampfler systems can prove advantageous. You can count on all of Conductix-Wampfler's Business Units for hands-on engineering support – coupled with the perfect solution to meet your energy management and control needs.



Cable reels

Motorized reels and spring reels by Conductix-Wampfler hold their own wherever energy, data and media have to cover the most diverse distances within a short amount of time – in all directions, fast and safe.



Festoon systems

It's hard to imagine Conductix-Wampfler cable trolleys not being used in virtually every industrial application. They're reliable and robust and available in an enormous variety of dimensions and designs.



Conductor rails

Whether they're enclosed conductor rails or expandable single-pole systems, the proven conductor rails by Conductix-Wampfler reliably move people and material.



Non-insulated conductor rails

Extremely robust, non-insulated conductor rails with copper heads or stainless steel surfaces provide the ideal basis for rough applications, for example in steel mills or shipyards.



Energy guiding chains

The "Jack of all trades" when it comes to transferring energy, data, air and fluid hoses. With their wide range, these energy guiding chains are the ideal solution for many industrial applications.



Slip ring assemblies

Whenever things are really "moving in circles", the proven slip ring assemblies by Conductix-Wampfler ensure the flawless transfer of energy and data. Here, everything revolves around flexibility and reliability!



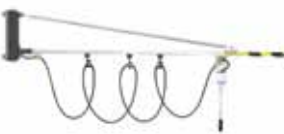
Inductive Power Transfer IPT®

The no-contact system for transferring energy and data. For all tasks that depend on high speeds and absolute resistance to wear.



Reels, retractors and balancers

Whether for hoses or cables, as classical reels or high-precision positioning aids for tools, our range of reels and spring balancers take the load off your shoulders.



Jib boom

Complete with tool transporters, reels, or an entire media supply system – here, safety and flexibility are key to the completion of difficult tasks.



Conveyor systems

Whether manual, semiautomatic or with Power & Free – flexibility is achieved with full customization concerning layout and location.

www.conductix.com

Conductix-Wampfler has just one critical mission:
To provide you with energy and data transmission systems
that will keep your operations up and running 24/7/365.

chains@conductix.com

www.conductix.com

