Product Overview
Energy Guiding Chains

CONDUCTIX wampfler

DELACHAUX GROUP

Provides a safe process: Boa steel chain with covers in a steel mill.

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 ConductixWampfler energy guiding chains are found – often in combination with other Conductix-Wampfler energy transmission systems – wherever mobility is important. Worldwide!

Top service – Assembly on site in a container facility.

Conductix-Wampfler Cobra energy guiding chain on a port crane.

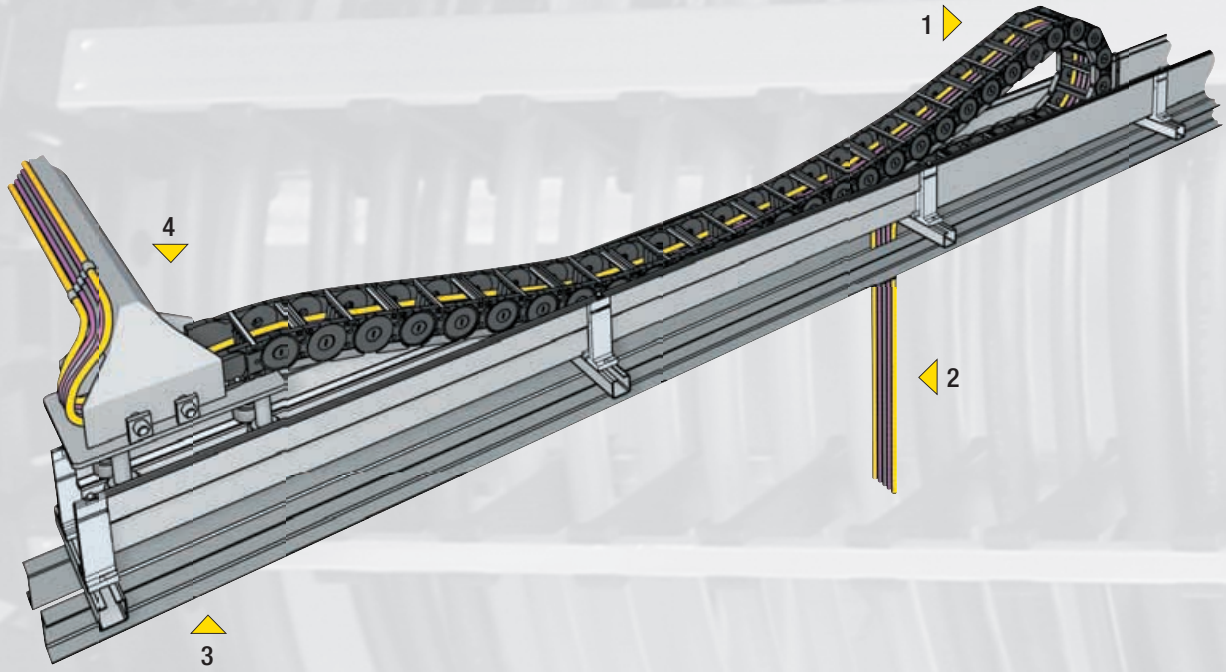
Everything from a single source – Conductix-Wampfler also supplies optimum cables.

Some like it wet – In this car wash, for example.

A portal robot equipped with a Cobra chain permits reliable, efficient picking, placing and positioning.

Five lines –Thousands of possibilities!

Five product lines – one philosophy: meeting all application requirements and customer requests with a highly flexible and modular system!



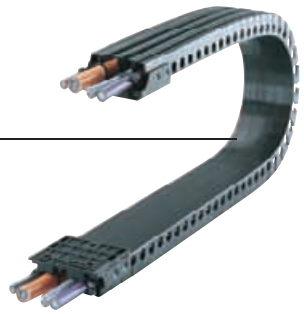
1 Energy Guiding Chain
2 Cables with strain reliefs
3 Guiding system
4 Driver unit

Installation principles
Exemplified versatile. Conductix-Wampfler energy guiding chains for all applications.

Mamba

Hinge-free and continuously extruded energy guiding pro-file. Easy cable assembly by open cross-section of profile.

Noiseless and vibration-free by means of hinge-free pitch. Ideal solution for standardized applications.



Viper

Plastic mono-link chain with locking yoke. Low-noise design for especially quiet operation and minimal vibration.

Special plastic materials available for low or high temperatures or for use in explosion-protected areas.

Cobra

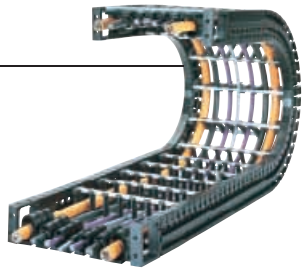
Duo-link chain with aluminum frame stays for optimum design as a function of customer-specific requirements. Especially high torsional rigidity.

Also available with sliders to permit maximum travel speed.

Racer

Advantages of Mamba and Cobra combined. Hinge-free and continuously extruded sidebands in combination with rigid aluminum frame stays.

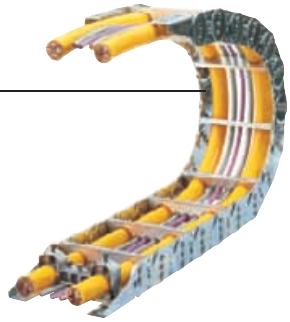
For tough requirements in terms of load, smoothness, pollution and quietness.



Boa

Duo-link chain of galvanized or stainless steel for operation in harsh industrial environments. Suitable for applications that call for long travel distances without support.

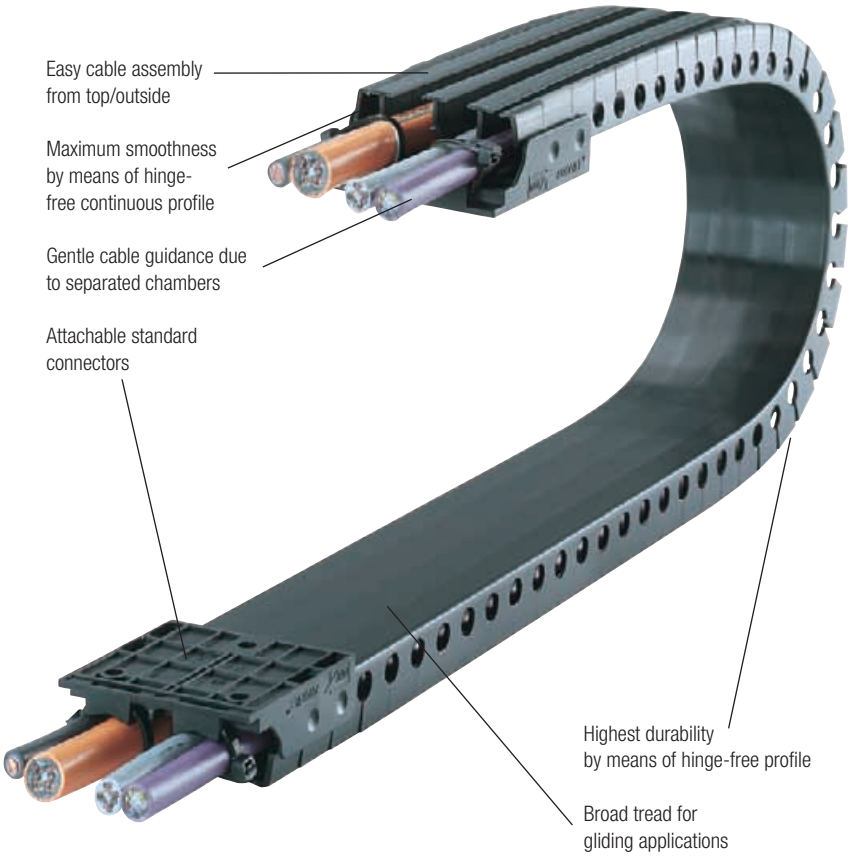
Self-supporting guides permit especially long travel distances with no difficulty.



Program *Mamba*

Main applications:

- Small to medium-sized bridge cranes
- Optical systems
- Common machinery
- Rack feeder
- Applications with high degree of pollution
- Door drives
- Handling systems
- Refrigeration systems
- Standardized applications with fixed cable packages



Standard Specifications[1]

Travel distance Ls	27 m
Travel speed	2 m/s for self-supporting chains
Acceleration	10 m/s² for self-supporting chains
Ambient temperature	-20° C ... 60° C permanent
Max. temperature	80° C intermittent
Use in explosion-protected areas acc. to ATEX-RL 94/9/EG	not possible
Use in food industry	not possible
Use in dust-free rooms	possible
Chemical resistance	resistant against fats and oils
Not resistant against	halogens, hydrocarbons, ether
Labs-compliant	yes
UV-resistant	yes
Cable allocation	Mamba 20: flat cables
	Mamba 22: round cables

Dimensions	Outside width B_x (mm)	For cable type	Max. amount of cables	Preferred cable allocation Ø (mm)	Bending radius KR (mm)
Mamba 20	49	flach	4	12 x 1,5 und 4 x 6	100 - 200[3]
				12 x 1,5 und 4 x 16[2]	
Mamba 22	72	rund	4	Ø 5 -17	75/100/150/200

[1] The application data may vary depending on important parameters (chain type, cable weight, environmental conditions, duty cycles).

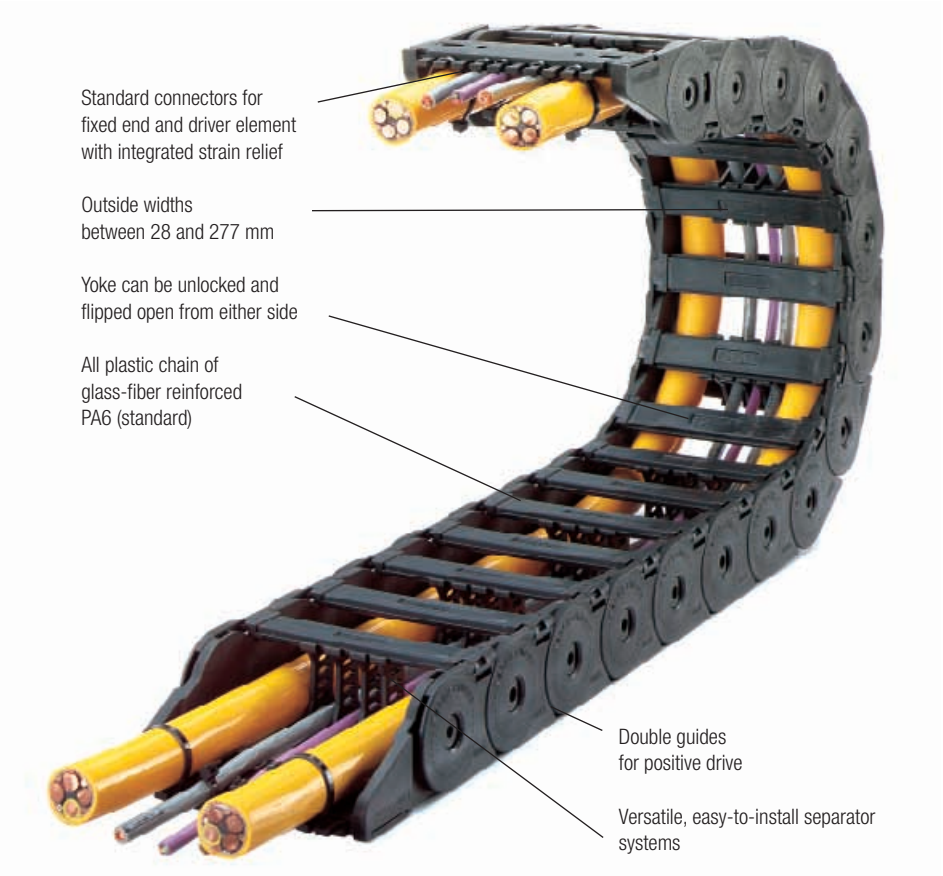
[2] Other cable allocations are possible and must be engineered together with Conductix-Wampfler.

[3] The bending radius varies depending on cable weight and will not be determined by the profile.

Program *Viper*

Main applications:

- Small to medium-sized bridge cranes, for interior and exterior use
- Automated storage and retrieval systems
- Transfer cars
- Sliding door systems
- Irrigation systems
- Carousels
- Telescopic booms
- Material handling



Standard Specifications[1]

Travel distance Ls	40 m
Travel speed	10 m/s for self-supporting chains
	150 m/min for long travel distance
Acceleration	10 m/s² for self-supporting chains
Ambient temperature	-20°C...+ 60°C (permanent)
Max. temperature	80°C (intermittent)
Use in explosion-protected areas acc. to ATEX-RL 94/9/EG	possible with special plastics
Use in food industry	possible
Chemical resistance	resistant against fats and oils
Not resistant against	acidic liquids like salt acid, lactic acid,
	acetic acid, chromate and chlorine
Labs-compliant	yes
UV-resistant	yes
Cable allocation	exclusively round cables, max. Ø 32 mm

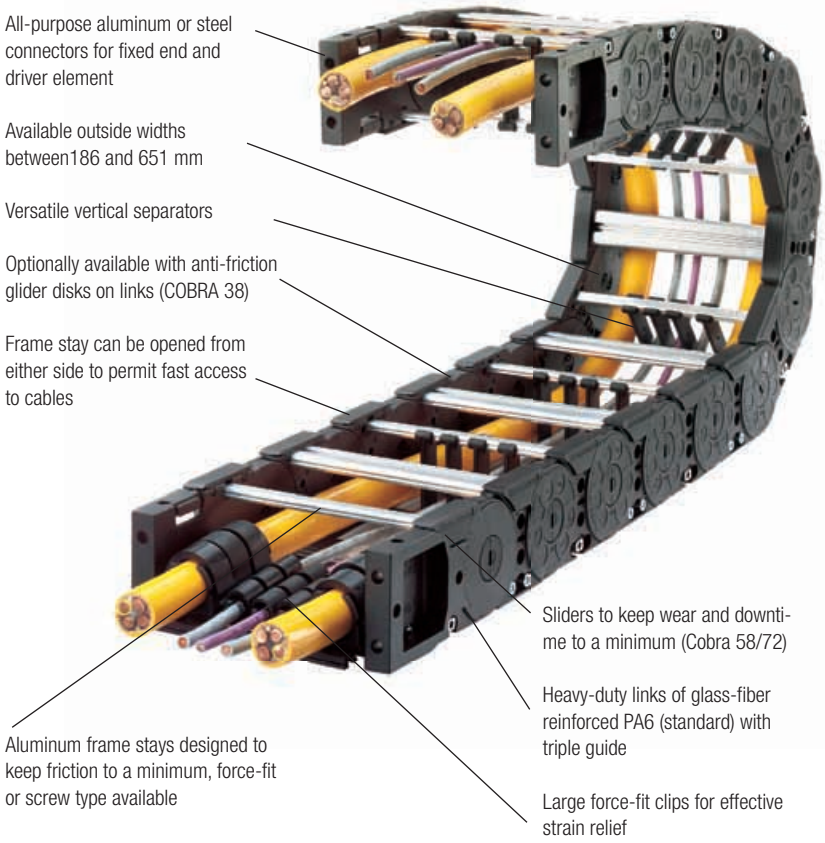
Dimensions	Outside width B_k (mm)	Inside height (mm)	Bending radius KR preference line (mm)	Max. self-supporting length L_r (mm)	Max. additional load (kg/m)
Viper 20	28... 103	20	50/75/100/125	1.700	2
Viper 26	43... 148	26	65/95/125/150/200	2.000	4
Viper 38	72... 172	38	80/100/125/160/200	2.800	7
Viper 44	77... 277	44	100/120/140/200/250	3.200	10

[1] The application data may vary depending on important parameters (chain type, cable weight, environmental conditions, duty cycles).

Program
Cobra

Main applications:

- Medium-size to large bridge cranes
- Container cranes and RTG's
- Automated storage and retrieval systems
- Vertical people movers
- Compost plants
- Woodworking machinery
- Washing systems/car washes
- Water-treatment plants
- Transport of fluid media (molding sand, hydraulic oil, compressed air)



Standard Specifications[1]

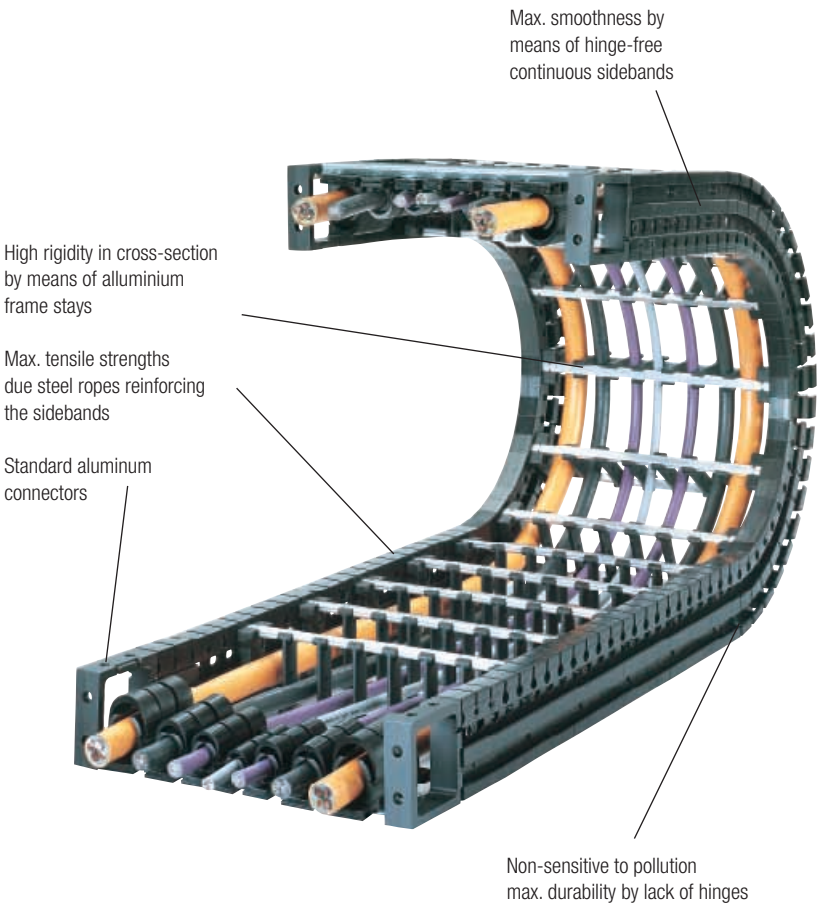
Travel distance Ls	90 m; longer distances with rolling carriage
Travel speed	8 m/s for self-supporting chains
	240 m/min for long travel distance
Acceleration	15 m/s2for self-supporting chains
Ambient temperature	-20°C ... 80°C (permanent)
Max. temperature	95°C (intermittent)
Use in explosion-protected areas acc. to ATEX-RL 94/9/EG	possible with special plastics
Use in food industry	possible
Chemical resistance	resistant against fats and oils
Not resistant against	acidic liquids like salt acid, lactic acid,
	acetic acid, chromate and chlorine
Labs-compliant	yes
UV-resistant	yes
Cable allocation	exclusively round cables, max. Ø 56 mm

Dimensions	Outside width B_x (mm)	Inside height (mm)	Bending radius KR preference line (mm)	Max. self-supporting length L_F (mm)	Max. additional load (kg/m)
Cobra 38	109... 526	38	75/115/145/175/220	2.500	20
Cobra 58	139... 639	58	140/170/200/260/320	3.600	30
Cobra 72	145... 845	72	180/220/260/300/340	4.800	50

[1] The application data may vary depending on important parameters (chain type, cable weight, environmental conditions, duty cycles).

Program
Racer

Main applications:
- Medium-size to large bridge cranes
- Container cranes
- Cement plants
- Washing plants
- Applications with high degrees of pollution
- Applications sensitive to noise or vibrations
- Refrigeration systems
- Hangar doors
- Applications with high duty cycles



Standard Specifications[1]

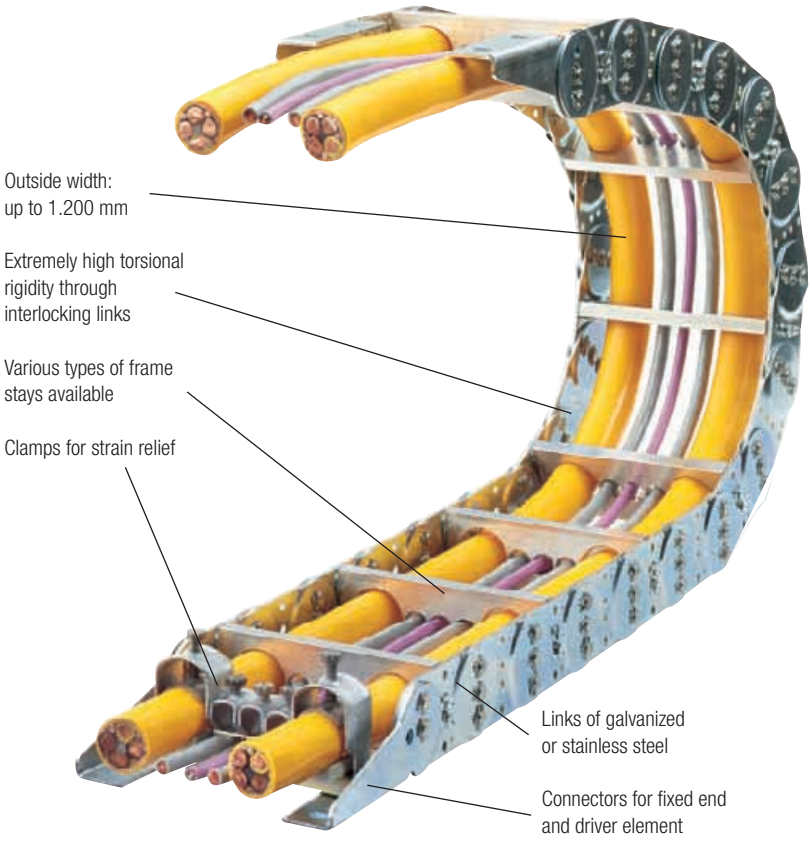
Travel distance Ls	200 m with rolling carriage
Travel speed	10 m/s for self-supporting chains
	200 m/min for long travel distance
Acceleration	15 m/s² for self-supporting chains
Ambient temperature	-30°C ... 60°C (permanent)
Max. temperature	80°C (intermittent)
Use in explosion-protected areas acc. to ATEX-RL 94/9/EG	not possible
Use in food industry	not possible
Use in dust-free rooms	possible
Chemical resistance	resistant against fats and oils
Not resistant against	halogens, hydrocarbons, ether
Labs-compliant	yes
UV-resistant	yes
Cable allocation	exclusively round cables,max. Ø 58 mm

Dimensions	Outside width B_k (mm)	Inside height (mm)	Bending radius KR preference line (mm)	Max. self-supporting length L_f (mm)	Max. additional load (kg/m)
Racer 38	90... 552	38	100/120/150/190/250	2.500	5
Racer 58	122... 672	58	170/200/250/320/420	3.000	8
Racer 72	152... 682	72	180/250/300/370/460	3.700	12

[1] The application data may vary depending on important parameters (chain type, cable weight, environmental conditions, duty cycles).

Program
Boa

Main applications:
-Steel mill cranes
-Portal cranes in foundries and rolling mills
-Stacker-reclaimers
-Transfer cars in foundries and rolling mills
-Offshore installations
-Transport means in nuclear installations
-Transport of fluid media in chemical industry



Standard Specifications[1]

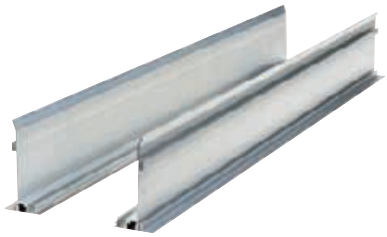
Travel distance Ls	24 m self-supporting; 35 m with support rollers;
	200 m with rolling carriage
Travel speed	90 m/min for self-supporting chains; 60 m/min with support rollers;
	120 m/min with rolling carriage
Acceleration	5 m/s² for self-supporting chains
Ambient temperature	-25°C ... 250°C permanent (aluminum cross bar)
	-25°C ... 400°C permanent (steel tube bar)
Use in explosion-protected areas	standard suitable up to zone 0
acc. to ATEX-RL 94/9/EG	
Use in food industry	possible
Chemical resistance	broadly very good, chains made of galvanized steel are not resistant
	against acids; chains made of stainless steel are resistant
Wear resistance	best on high-strength stainless steel chains
Corrosion protection	yes
Labs-compliant	yes
UV-resistant	yes
Cable allocation	exclusively round cables, max. Ø 65 mm

Dimensions	Outside width B_k (mm)	Inside height (mm)	Bending radius KR preference line (mm)	Max. self-supporting length L_f (mm)	Max. additional load (kg/m)
Boa 31	100...400	31	75/115/145/175/200/250	3.000	30
Boa 46	150...400	46	125/170/200/260/290	4.500	40
Boa 72	200...500	72	145/200/260/300/380	6.000	50
Boa 109	250...1.000	109	265/320/375/435/490	9.000	60
Boa 180	250...1.200	180	365/445/600/760/920/1.075/1.235/1.395	12.000	100

[1] The application data may vary depending on important parameters (chain type, cable weight, environmental conditions, duty cycles).

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.



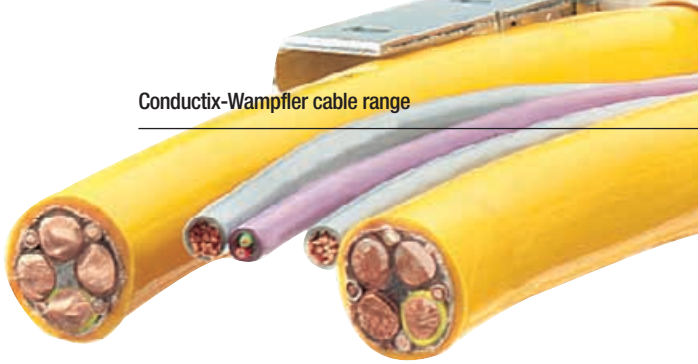
Aluminum channels
- Fast assembly, variable widths
- Special stainless steel glider to prevent wear
- Seawater resistant
- Various installations possible

Steel channels
(Galvanized 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 to permit maximum travel speed and to reduce wear of the chain sidebands
- Easy to assemble and easy to change

Rolling carriage
Solutions for long traveldistances for the chain types Viper, Cobra or Racer.
- Reduction of driving forces up to 90% by means of rolling-friction
- self-guiding by means of flanged rollers
- For long durability

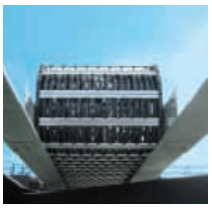


Conductix-Wampfler cable range

Single-source convenience!

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

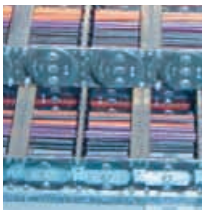
Cables are the ”lifelines“ that permit safe, reliable transmission of energy and data. Conductix-Wampfler’s products cover the entire spectrum of potential applications. Of course, it goes without saying that our cables feature outstanding quality and comply with all international standards!



Cables have to be able to take a lot of punishment – like Conductix-Wampfler Cables do!

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 rightstrain 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.

For further technical informations and selection please refer to our:
Product Overview Cables
KAT0130-0001

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 system installed by Conductix-Wampfler specialists

Service agreement
- Inspections at regular intervals
- Appropriate measures to ensure long-term availability
- 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!

Assembly: Precision work at breathtaking heights.

Your Applications - our Solutions!

Energy Guiding Chain systems 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 media supply systems. The solutions we deliver for your applications are of course 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.

Festoon systems

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

Cable reels

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

Slip ring bodies

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

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.

Energy guiding chains

The „Jack of all trades“ when it comes to transferring energy, data and media. This broad range of energy guiding chains are proven performers in industrial applications.

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.

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