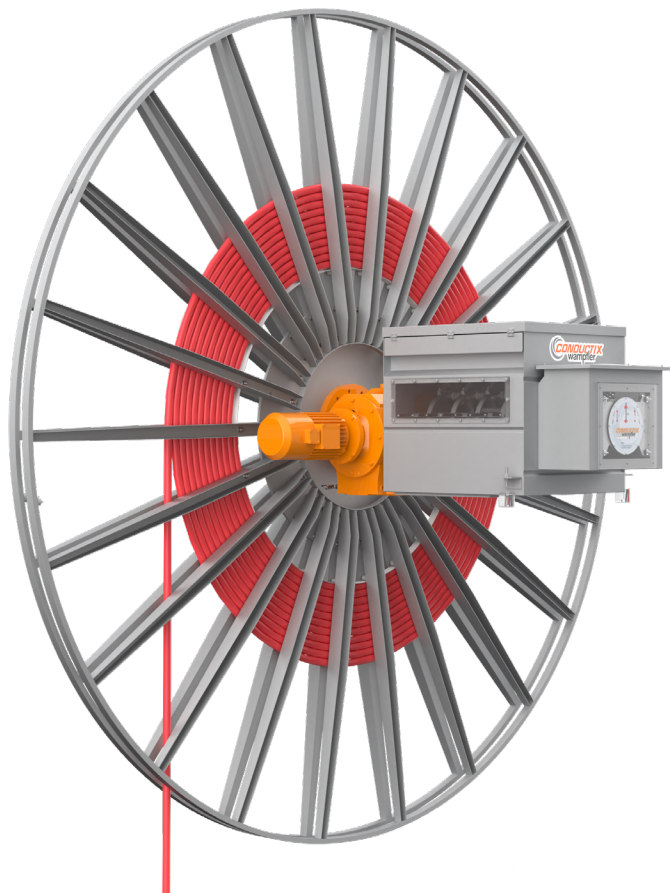


Motor Driven Reels

CHD VFD Cable Reel







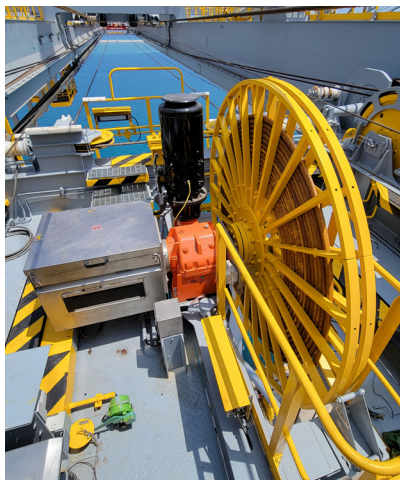
The reliable solution for cable and hose management

Wherever goods are being moved, and 24x7 operation at maximum reliability is required, you will find motor driven reels designed and built by Conductix-Wampfler. If you need to manage critical power and/or data cables, air hoses, or fluid hoses, we have the optimal solutions!

Our many decades of experience in developing and manufacturing motorized reeling systems have resulted in a sophisticated and highly developed product line.

For the management of low voltage and high voltage cables or hoses, Conductix-Wampfler motor driven reels cater to all types of applications.

Reliability cannot be compromised.
Conductix-Wampfler reels safely
handle cables for critical applications.



Power Cable Reel on
Ship To Shore crane
in Singapore

At container and bulk ports, steel mills, theaters, waste water treatment plants, and mines, Conductix-Wampfler motorized reels reliably handle demanding requirements, even in harsh environmental conditions.

Installation on-site can be completed quickly and periodic maintenance is fast and easy. During their long lifetime, Conductix-Wampfler motor driven reels will minimize your total cost of ownership.

Conductix-Wampfler offers a complete package of services to our customers. In addition to the delivery of the motorized reel, we offer qualified project consulting, complete system engineering services, selection of the right cable, and a full array of accessories designed to maximize cable lifetime.

Management of project logistics and on-site commissioning are important services we provide for our customers.

Thus, energy and data are available to your machinery reliably, night and day, in all climates, for decades.

Conductix-Wampfler provides service before and after the sale from our global network of sales offices. We support you - worldwide!



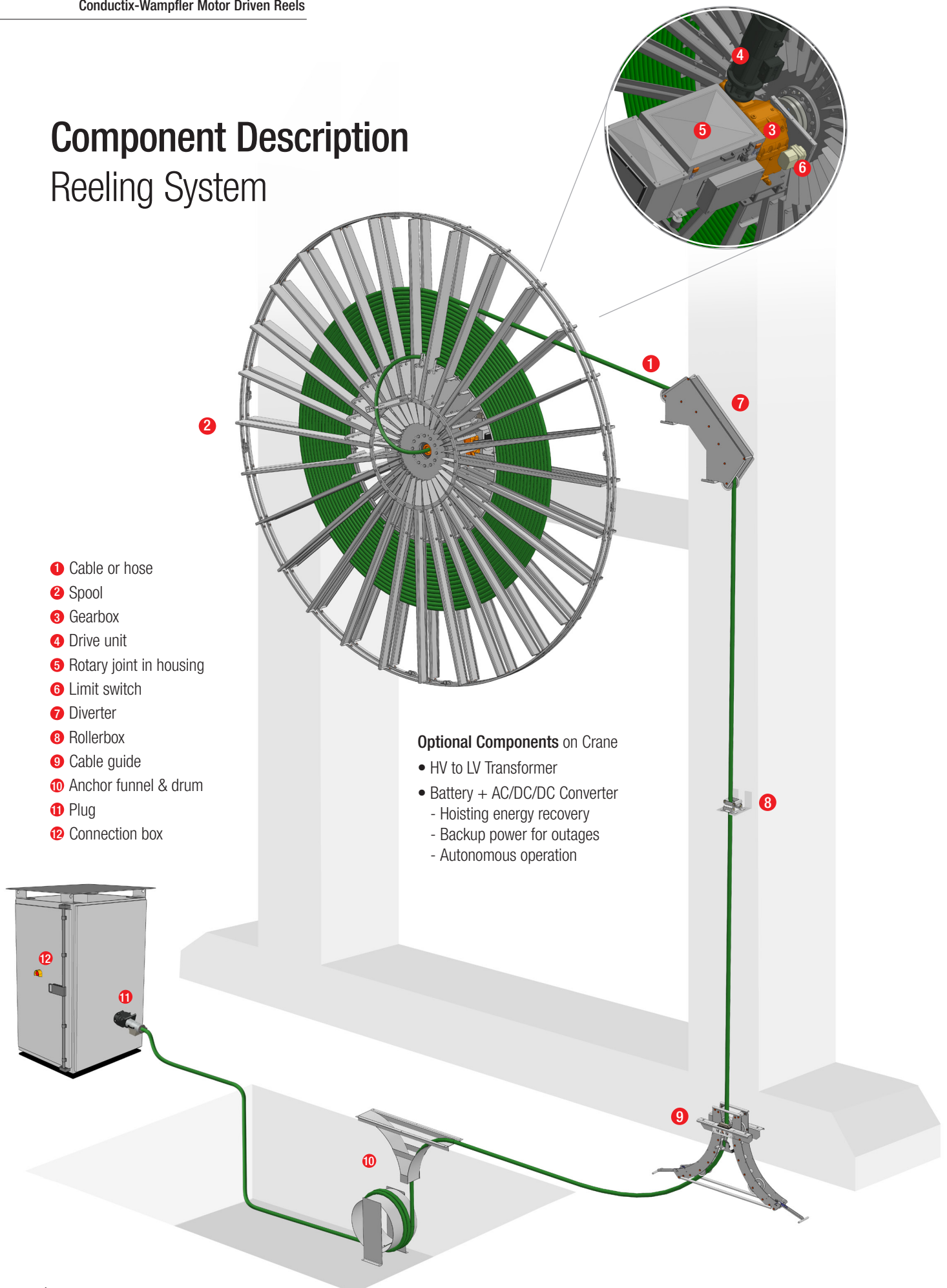
24/7 operation in demanding environments
such as bulk material handling

Everything from one source!
The right cable is always recommended.



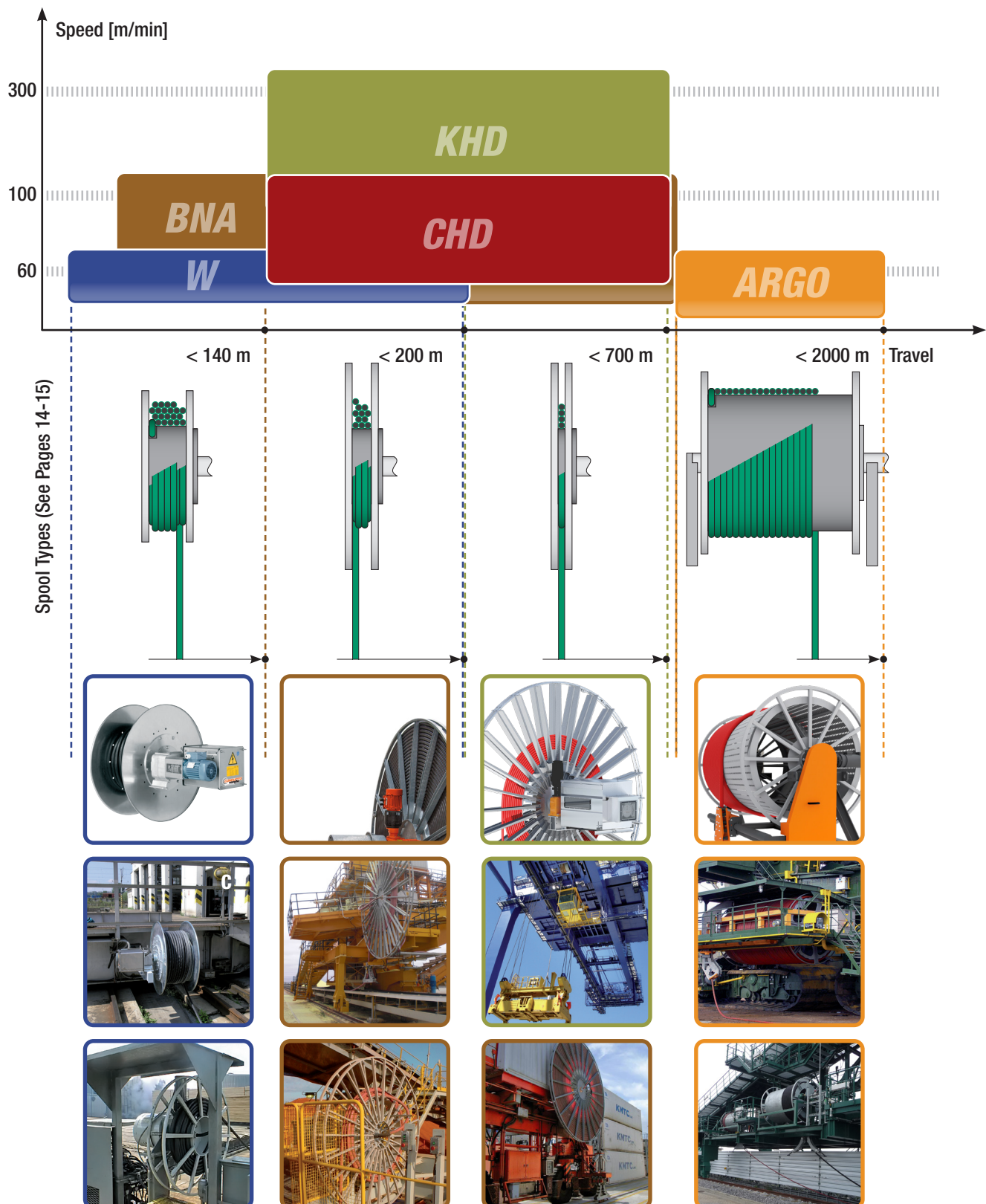
Component Description

Reeling System



Typical Reel Parameters

What are your requirements?

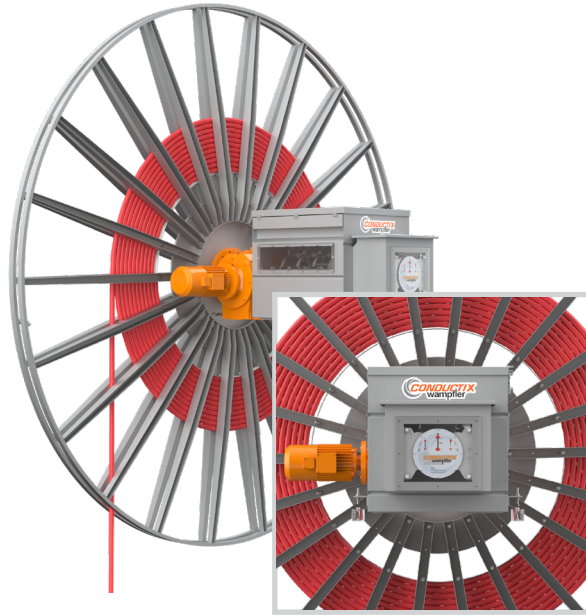




Series CHD | CHD16 and CHD20

Typical applications

- Intermodal cranes
- Ship unloaders
- Stackers / reclaimers
- Shipbuilding cranes
- Overhead cranes
- Process cranes



Modular assembly system

assures precise adaptation to a vast number of different applications with the industrial quality and reliability brought by common high volume components

Optimal corrosion protection to handle aggressive environments

Flanges and reel drum are manufactured from hot dip galvanized steel or stainless steel.

Specifications

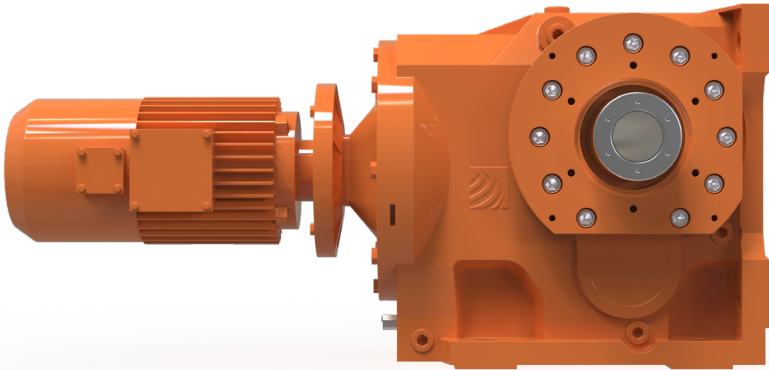
Travel speed	up to 50 m/min in specific projects (consult us)
Winding length	700 m max
OD of spool	Monospiral, 2-spiral, 3-spiral or 3-2-3 spool*: 1100 mm – 7500 mm
Gearbox	CHD16 and CHD20
Slip ring assembly <small>(Also available with rotary joint for hose installation)</small>	Power low voltage max: 1000 V – 1600 A Power high voltage max: 24000 V – 500 A Control max: 500 V – 25 A Data: Fiber Optic Single Mode – Multimode
Temperature range	-40 °C – +60 °C

* See page 14 for further description of a 3-2-3 spool



Gearbox Units

The gearbox unit supports all reel components and matches the rotational speed and torque to the application.



**Conductix Wampfler gearmotors
for heavy loads: Type CHD**

These bevel gear units are designed for medium to high torque requirements and demanding conditions, providing maximum service.

CHD gearmotors provide torque values from 4000 N m up to 5000 N m. The high dimensional stability of the cast iron housing provides long operational life even when subjected to high mechanical stress.

We specially developed the CHD gearbox for reliable high radial load and large torque output.

It passed our demanding accelerated lifetime tests on our continuously-running test benches.

Its cast iron casing and the output shaft high strength steel assure its high load and torque capacity.

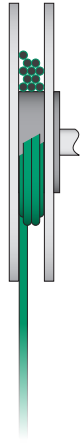
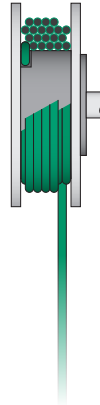
We offer 2 sizes of CHD gearbox: CHD16 and CHD20, as described in below table:

CHD Gearbox Type	CHD16	CHD20
Maximum radial load	45000N@223mm	70000N@223mm
Maximum output torque	4000N.m	5000N.m
Motor poles	4 poles or 6 poles	4 poles or 6 poles
Gear ratio	160	160
Cable max O.D	75mm	75mm

Spools

The spool is one of the most critical components of a motor driven reel system. Choosing the ideal spool will optimize performance and maximize the life of the cable. The right spool can increase maintenance cycles and avoid downtime.

With either a standard or a customized solution, Conductix-Wampfler is always able to provide the best type of spool for your application.

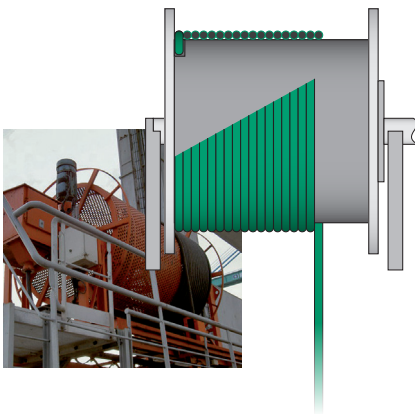


The **Random Wind Spool** is particularly suited for short or medium lengths of cable or hose.

During winding, the cable is naturally distributed around the drum without any cable guide system.

3-2-3 Spools are a combination of Monospiral and Random Wind Spools, where the cable is stacked in layers, each three cable diameters wide.

The 3-2-3 spool is generally used when space available for the spool is limited.



Level Wind Spools are designed to accommodate cables that are 1,000 meters or longer.

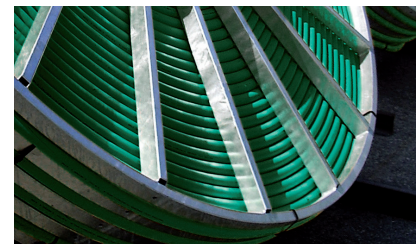
The cable is wound in one, two, or three layers on a cylindrical drum. The cable is layered with a guide system driven by the reel drum.



The **Monospiral Spool** wraps the cable in the same plane and prevents the cable from twisting. It is your guarantee of a longer cable life.

Monospiral Spools offer maximum exposure to ambient air and best cooling of the cable.

The largest Monospiral Spools can accommodate up to 700 meters of cable.



By request, Conductix-Wampfler can build **Special Spools** such as:

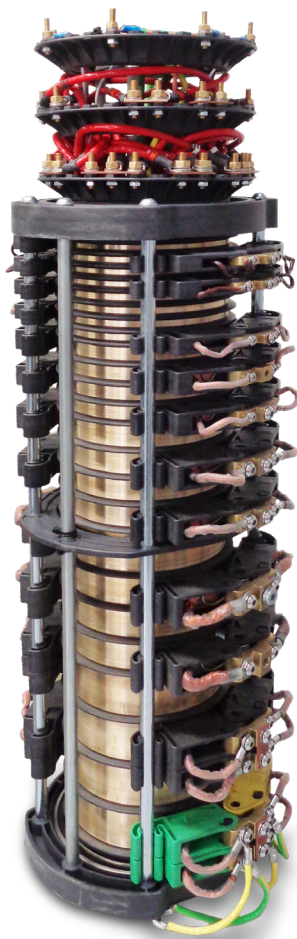
- Double monospiral spools
- Plain monospiral spools
- Spools with alternate materials such as stainless steel
- Spools with special protection and/or dimensions
- Spools with reinforced construction for harsh applications.

Rotary Joints

Slip Ring Assemblies

Conductix-Wampfler has decades of experience in the design and manufacture of slip ring assemblies.

Our slip ring assemblies comply with IEC, UL, NEMA, and VDE international standards among others. Conductix-Wampfler slip ring assemblies are designed for the following applications:



Power

- Low voltage up to 690 V and 1250 A
- High voltage up to 36,000 V and 500 A
- 100% duty cycle

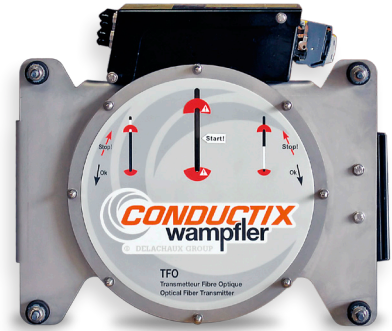
Control + Data

- Low voltage up to 690 V and 25 A
- Data transmission from controls and measurement devices, as well as from, computer, audio-video, and telecom equipment.
- 100% duty cycle

Mixed Construction

- Mixed power and control slip ring assemblies
- Rings of the same or different diameters on the same assembly

Fiber Optic Transmitter (TFO)



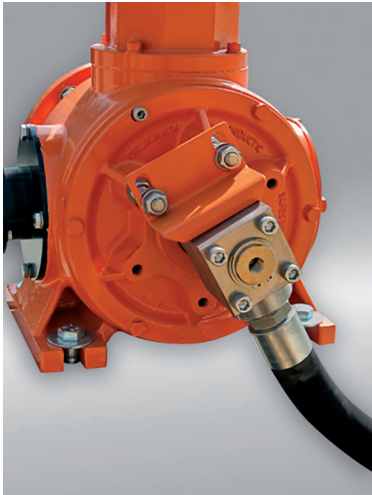
Conductix-Wampfler was one of the first cable reel manufacturers to develop a fiber optic transmitter that could meet industrial requirements.

Fiber optic cables are ideal for transmitting large amounts of information over long distances.

- Optic fibers:
 - single-mode (9/125) or multi-mode (50/125 and 62.5/125) for lower data rates and shorter distances
- Attenuation:
 - single-mode: < 1.5 dB
 - multi-mode: < 1.0 dB
- Available in models that provide 40, 80, or 120 turns and 6, 12, 18, or 24 fibers
- Standard connectors are type ST (types FC, SC and others available by request)

Rotary Joint (for hose reels)

For the transfer of air, gases, or fluids,



motorized reels can be equipped with a single or multi-channel rotary joint.

- Available pipe thread diameters:
 $\frac{3}{8}$ " - $\frac{1}{2}$ " - $\frac{3}{4}$ " - 1" - $1\frac{1}{4}$ " - $1\frac{1}{2}$ " -
 2" - $2\frac{1}{2}$ " - 3"
- The rotary joints have a standard Kanigen® (electroless nickel) plating.

High Voltage Slip Ring Enclosures

Two versions of housings are available:

Eco

- Stainless steel 304L
- IP66
- Anti condensation resistance and gore breathers
- Shock absorbing mounting feet
- Removable undrilled cable gland support plates

Ergo

Same as *Eco* plus:

- Top cover mounted on hinges and gas cylinders.
- Locks by spring-energized latches only
- Two very large side inspection windows (Lexan) with rubber protective flaps to avoid dirt and UV degradation.

Optional features for all versions:

- adaptation of trapped key interlocks
- 316L material



- fitting of cable glands for customer cables
- local junction box for centralized connection to the reel components



Control Unit

CHD's Core V2 control units supply continuous torque control and reel motor speed regulation. They vary the torque linearly during winding and unwinding and ensure near-constant cable tension during both phases. This effectively protects the cable and extends its lifetime.

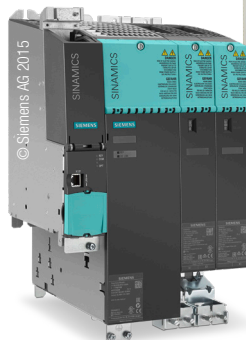
CHD's Core V2 control units accurately control the torque for each layer of cable in the monospiral spool. The analog encoder feedback enables the converter to exert precise torque control at each turn. The motor is equipped with an encoder for fine control of the speed, even at low speeds in acceleration or deceleration phases.

We select in our range the right combination of gearbox, motor and converter (VFD) with the help of automated calculation and selection tool.

We preset the converter (VFD) in our factory and test its operation with the corresponding gearmotor.

Our Service team performs the final on-site commissioning.

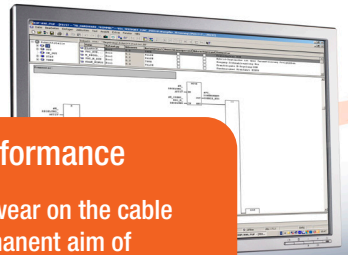
The currently validated converter brands for CHD's Core V2 control units are ABB & Siemens.



High Performance

Reducing wear on the cable is the permanent aim of Conductix-Wampfler high performance software.

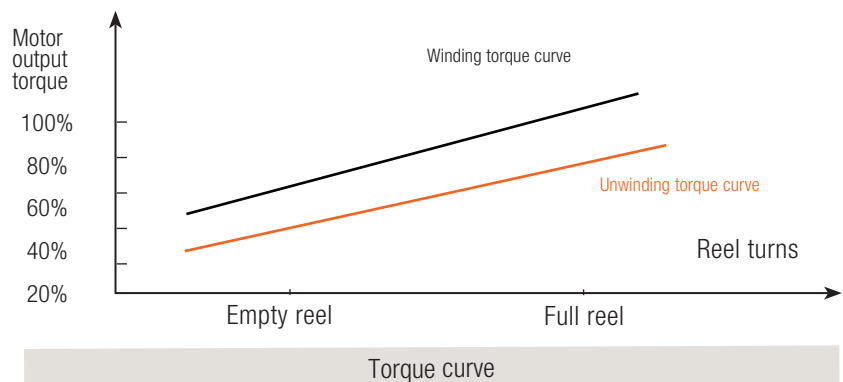
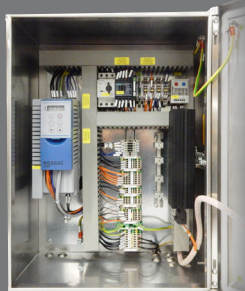
For this purpose it constantly controls the Variable Frequency Drive to deliver the exact right amount of torque.



Core Control Unit

Conductix Wampfler also offers a very efficient simplified and standardized control unit for slow applications (PCR < 50 m/min).

It is a very compact outdoor unit equipped with Nord VFD controlling one winding torque and one unwinding torque with 24 V relay interface to sensors.

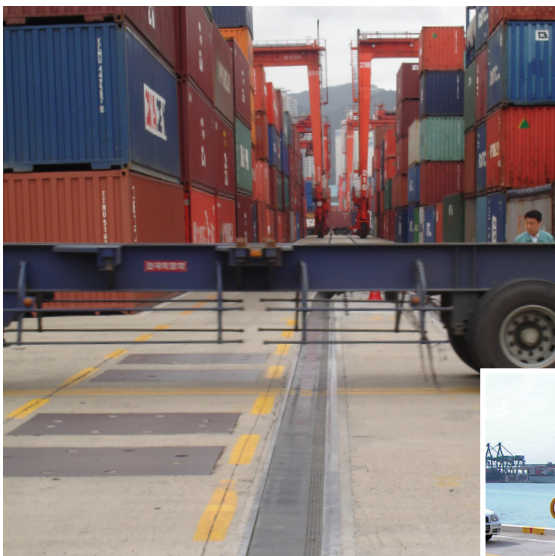
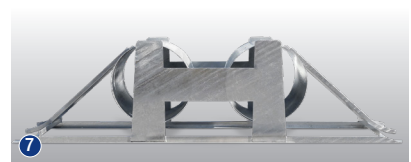
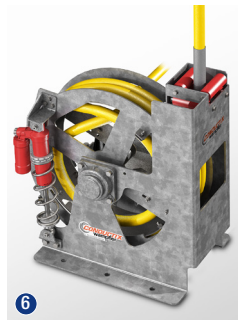
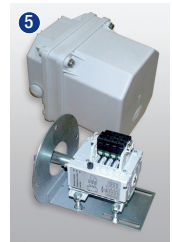
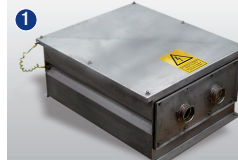


Accessories

Conductix-Wampfler offers a complete range of accessories for motorized reels...

- ❶ Connection boxes for power, control, and optic fiber
- ❷ One-way or two-way cable guides with optional slack-cable, over-pull, and position detectors
- ❸ Cable entries and anchor drums
- ❹ Guiding and diverting devices
- ❺ End limit switches
- ❻ Anchoring device with shock absorber springs for vertical applications
- ❼ On-ground "Angel-Wing" anchor drums
- ❽ Strip heaters to reduce condensation in slip ring housings (not shown)

Many more accessories are available; contact us for details.



Trenchguard® Cable Protection System

The system includes:

- Galvanized or stainless steel pre-manufactured trench channel
- Reinforced flexible rubber belt
- Stainless steel mounting hardware
- Belt lifting rollers mounted on the cable guide



Cables



























Specifying the right cable is a key part of the cable reel solution.

Lighter and smaller OD cables improve the cable reel performance and therefore the reliability of the complete system.

Through extensive tests and careful Quality Assurance, Conductix-Wampfler offers the most suitable and most reliable cables for each application, operating speed, and environmental condition. We offer a complete range of cables from basic reeling cables to the highest premium quality cables to

handle severe mechanical and dynamic demands.

Whether you need shielded or unshielded energy and control cables, data and bus cables, or fiber optic cables, Conductix-Wampfler has the right product for reeling applications!

Application															
	Basic Reeling Systems						Heavy Duty Reeling Systems								
Power / Control															
Composite Power + Control + Data															
Label respectively Design	Conductix-Wampfler	Conductix-Wampfler	12YRDT11YH	NSHTOEJ-J	Conductix-Wampfler	(N)TSFLGGEWUEJ	Conductix-Wampfler	Conductix-Wampfler	12YHRT11YH	(N)SHTOEJ-J	Conductix-Wampfler	Conductix-Wampfler	(N)TSKCGEWOEJ	(N)SHTOEJ-J	Conductix-Wampfler
Outer jacket material	PVC	PUR	PUR	Rubber	Rubber	Rubber	PVC	PUR	PUR	Rubber	PUR	Rubber	Rubber	Rubber	PUR
Suitable for use outdoors	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●
Voltage range	0.6/1 kV	0.6/1 kV	up to 0.6/1 kV	0.6/1 kV	3.6/6 kV up to 12/20 kV	3.6/6 kV up to 12/20 kV	0.6/1 kV	0.6/1 kV	up to 0.6/1 kV	0.6/1 kV	0.6/1 kV	3.6/6 kV up to 12/20 kV	3.6/6 kV up to 12/20 kV	0.6/1 kV	0.6/1 kV
Tensile load capacity max. [N / mm²]	10	12	15	15	20	15	20	20	25	30	30	20	20	30+	30+
Travel speed max. [m / min]	40	60	80	120	120	120	60	60	180	240	200	180	300	240 *	240
Temperature range flexing [°C]	-20	-25	-20	-25	-25	-25	-10	-25	-40	-35 ⁽¹⁾	-25	-30 ⁽²⁾	-35	-35	-25
	up to 60	up to 60	up to 70	up to 80	up to 80	up to 80	up to 60	up to 60	up to 80	up to 60	up to 80	up to 80	up to 80	up to 80	up to 60

⁽¹⁾ -45 °C on request ⁽²⁾ -45 °C on request

* up to 300 m/min ● ideal ● limited

Reeling Cable Features

- Reduced diameter and weight by using ideal insulation and sheathing materials.
- Better resistance to corkscrewing* due to reverse twist stranding.
- Stable construction and geometry due to the use of extruded fillers.
- Highly wear-resistant outer sheath, even in aggressive environments.
- Extremely high resilience due to very short-lay stranding.

- High axial rigidity by means of interlinked inner and outer sheaths.
- All power cables are produced with left-hand lay.

- Cables built to withstand temperatures up to 180°C.
- Cables made to withstand especially demanding environments, water, waste waters, oil, and more.

Special Cables (available by request)

- Composite cables with power + control + fiber optics.
- Cables with compounds designed for temperatures down to -50°C.

Custom Cables

For unusual applications or environments, we can design a custom cable that meets your specific requirements. Contact us!



* Cables not designed for demanding reeling applications can become "corkscrewed" - that is, the internal conductors can become damaged.





Customized Services

The scope and depth of the Conductix-Wampfler service range are based on the requests and requirements of our customers.

We can handle anything from project planning to long-term service agreements. For maximum operational life and the continued safety of complex systems, you should consider using our experienced service team.

At the planning stage we:

- Define the application parameters
- Select the most suitable motorized reel system and cable or hose
- Optimize the whole system to your requirements, application parameters, and environmental factors

At the pre-assembly stage we:

- Assemble the reel system
- Install the cable and connect the slip ring assembly
- Pre-adjust the parameters of the variable frequency drive units

At the final assembly and inspection stage we:

- Determine any additional assembly that needs to be performed on-site
- Complete the installation and commissioning using highly trained and experienced personnel
- Perform the final inspection
- Train and debrief the customers' personnel on-site

Maintenance and service

- Regular maintenance and inspections increase the operational life of the installation and ensure long-term performance and availability
- A Conductix-Wampfler service agreement is your "Worry Free Package"!



The experts at Conductix-Wampfler assist customers from planning through pre-assembly right up to the on-site installation - anywhere in the world



Application engineering

With decades of experience designing and engineering for specific applications, Conductix-Wampfler is uniquely capable of meeting the demands and requirements of your industry or environment.

Hazardous locations (ATEX), nuclear radiation, chemically aggressive environments, extreme climatic conditions, or saline air conditions are all available as optional protection packages.

ReelQuote

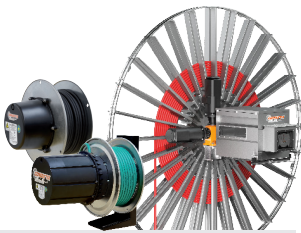


ReelQuote is a powerful software package for technical analysis of projects and selection of the best reeling solution. The program provides access to hundreds of optional features or application specific designs.

With **ReelQuote**, we guarantee you will have the reeling system best adapted to your application and its environment.

Your Applications – our Solutions

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 Conductix-Wampfler for hands-on engineering support together with the optimum solution to safely meet your needs.



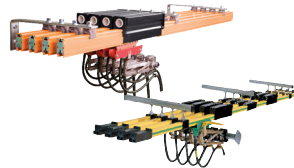
Cable and Hose Reels

Motor driven and spring driven reels by Conductix-Wampfler provide energy, data and media over a variety of distances, in all directions, fast and safe.



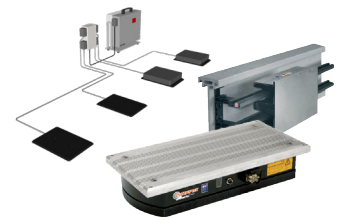
Festoon Systems

Conductix-Wampfler cable trolleys can be used in virtually every industrial application. They are reliable, robust and available in an enormous variety of dimensions and designs.



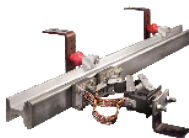
Conductor Rails

Available as enclosed or multiple unipole systems, Conductix-Wampfler conductor rails reliably move people and material.



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. Flexible installation when used with Automated Guided Vehicles.



Non-insulated Conductor Rails

Robust, non-insulated aluminum conductor rails with stainless steel cap provide the ideal basis for power supply of people movers and transit networks.



Radio Remote Controls

Safety remote control solutions customized to meet our customer needs with modern ergonomic design.



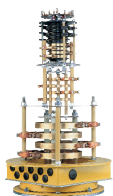
Reels, Retractors and Balancers

Available for hoses and cables, as classical reels or high-precision positioning aids for tools, we offer a complete range of reels and spring balancers.



Jib Booms

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



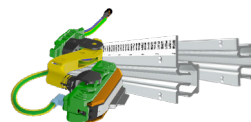
Slip Ring Assemblies

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!



Mobile Control Systems

Mobile control solutions for your plant – whether straight-forward or intricate. Control and communication systems from LJU have been tried and tested in the automotive industry for decades.



ProfiDAT

This data transfer system is a compact slotted waveguide and furthermore can be used as Grounding rail (PE) as well as positioning rail at the same time.

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.

To contact your nearest sales office, please refer to:

www.conductix.contact

