



# General Industry & Automation





# An introduction

## Who we are

Cavotec is a multi-national group of companies serving the following industries: mining and tunnelling, ports and maritime, steel and aluminium, energy and offshore, airports, general industry and automation. In the early 1960's our main focus was the design and production of motorised cable reels primarily for manufacturers of tower cranes, harbour cranes and mining equipment. Today, Cavotec is connecting mobile equipment around the world in many diverse applications.

## Where we are

The Cavotec Group consists of 7 manufacturing "Centres of Excellence" located in Canada, France, Germany, Italy, Norway and Sweden and by 5 local manufacturing units located in Australia, China, Germany and the USA. For the distribution of products and providing support to customers Cavotec has 27 sales companies which, together with a network of distributors, serve more than 30 countries in five continents. The ultimate objective is to be perceived as "local everywhere".

## How we work

Our aim is to work closely with our customers in order to build long-term partnerships. To achieve this aim we have created a working environment that attracts the best people, encourages them to stay and brings out their best qualities. By producing totally reliable systems and backing them with efficient service, we strive to create true customer satisfaction.



## Our experience in general industry and automation

The Cavotec Group offers a wide range of products for use in general industry and automation, focused mainly on mobile power supply machinery and their components. The areas of application for our systems range from machine tools to robots and from mobile conveyors to specialized offshore units.

By adapting innovative technology derived from our wide experience gained in other market segments, the Cavotec Group has always been in the position to meet any specific request from its customers with tried and tested solutions. Coupled with the worldwide Cavotec sales and service network, our customers in this market segment can rely on fast delivery times and short service interventions.

### Our major customers in this market segment are:

- ABB
- Accalon
- BMW
- Comau
- Grove
- Motoman
- Palfinger
- Putzmeister
- RS Components
- Terex



## Local throughout the world

As shown here the Cavotec Group is organized to support its customers around the world through its manufacturing units and sales companies. Each Cavotec manufacturing company, no matter where it is located, aims at being a market leader in its field by providing innovative and reliable products to Group customers. Each Cavotec sales company, in the 27 countries where they operate, aims at better serving its local market following the Group philosophy "to be local everywhere".

### MANUFACTURING NETWORK

#### Centres of Excellence

##### France

**Cavotec RMS**  
Spring Driven Reels

##### Germany

**Cavotec Alfo**  
Spring Driven Reels  
Slipring Columns

**Cavotec Fladung GmbH**  
Aircraft Support Systems  
Security Systems

##### Italy

**Cavotec Specimas**  
Motorized Cable Reels  
Panzerbelt Cable Protection  
Slipring Columns

##### Norway

**Cavotec Micro-control**  
Radio Remote Controls

##### Sweden

**Cavotec Connectors**  
Electrical Plugs & Sockets

#### Local Manufacturing

##### Australia

**Cavotec Australia**  
Motorized Cable Reels

##### China

**Cavotec China**  
Product Assembly

##### Germany

**Cavotec MoorMaster**  
Automated Mooring Systems

##### Sweden

**Cavotec Sweden**  
Product Assembly

##### USA

**Cavotec USA**  
Product Assembly

#### Group Partners

##### Belgium

**Gantry**  
Crane Rail Systems

##### Italy

**Brevetti Stendalto**  
Cable Chains  
**Prismian (Pirelli)**  
Flexible Cables  
**Tratos Cavi**  
Flexible Cables

##### New Zealand

**Mooring Systems Ltd**  
Automated Mooring Systems

### SALES NETWORK

#### Cavotec Sales Companies

Cavotec Australia  
Cavotec Belgium\*  
Cavotec BeNeLux  
Cavotec Brazil\*  
cavotec Canada  
Cavotec Chile  
Cavotec China  
Cavotec Denmark  
Cavotec Finland

Cavotec France  
Cavotec Germany  
Cavotec Hong Kong  
Cavotec India  
Cavotec Italy  
Cavotec Korea  
Cavotec Latin America  
Cavotec Mexico  
Cavotec Middle East

Cavotec Norway  
Cavotec Russia\*  
Cavotec Singapore  
Cavotec South Africa  
Cavotec Sweden  
Cavotec Turkey\*  
Cavotec UK & Ireland  
Cavotec USA

\* Branch Office

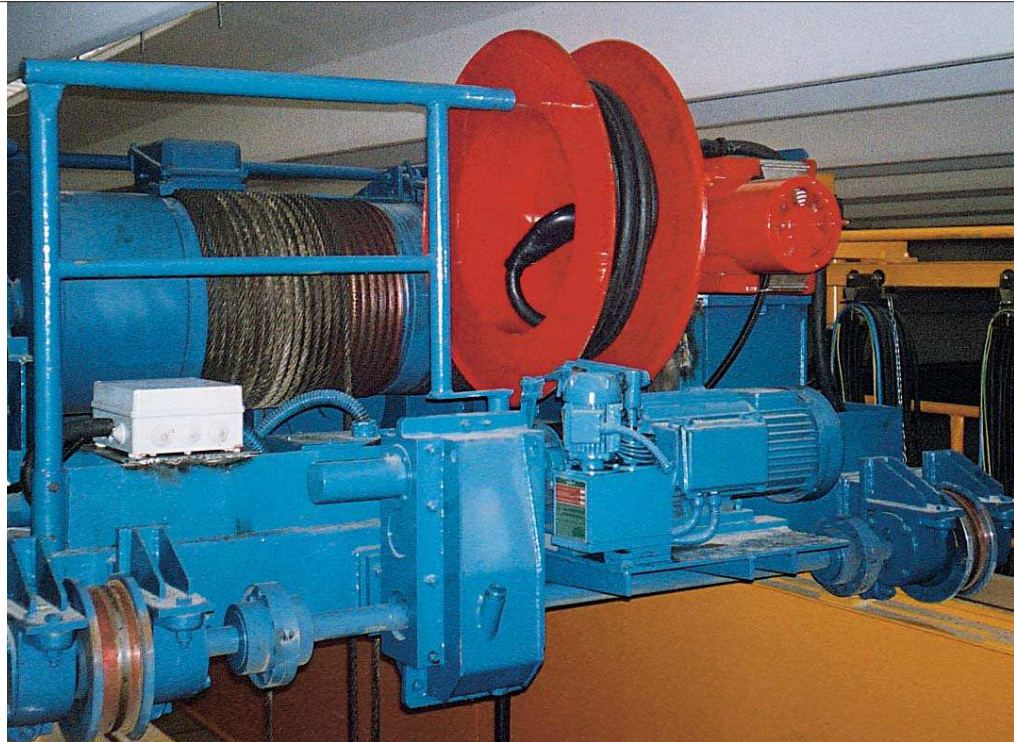




## Cable Reels

Since many years Cavotec Specimas cable reels have been used in a variety of operations supplying power, air and water to equipment in the general industry and automation sector.

The Cavotec Specimas reputation in this market segment has been established by supplying innovative, robust systems together with specialised engineering staff to provide support where needed.



The Hydrodynamic System is a unique patented system which provides a simple and rational solution for many cable and hose reel applications. The system is based on a torque unit in which reduction gear, clutch and brake are built into one closed unit. Furthermore, thanks to the clutch acting directly on the main drum shaft, an even torque output is guaranteed.

Cavotec Specimas also provides another type of system called the Cavotec Torque Control system. This provides a constant pull on the cable following a torque reference signal based on cable weight and

length, speed, and acceleration. The main benefit of this system is a significantly improved cable lifetime. The system can be used for single-phase and three-phase AC and also for DC feed. The standard protection class is IP55 and is suitable for environment temperatures up to +40 C°. Special ventilation and motor insulation are supplied for higher temperature ranges.



*To guarantee maximum support to its customers Cavotec Specimas has a team of specialised engineers for 24/7 service demands anywhere in the world.*



## Radio Remote Controls

Cavotec Micro-control has been involved since 1984 with the development and production of advanced radio remote control systems. These remote control systems are renowned for the high quality and ergonomic design. All systems have a high level of flexibility and are made from standard modules allowing for full customization to meet specific requirements.



The MC-1000 has been designed with the aim to provide an extremely cost efficient solution to many radio remote control needs. Thanks to its robust and easy to use design, the MC-1000 has become the preferred choice for many industry operators.

### Programming

The receiver of the MC-1000 comes standard with built-in logic capability. This feature allows several functions, such as interlocking, sequences and timing functions, to be pre-programmed directly in the unit without a PLC or relay connection.

### Menu system

The receiver has a built-in menu system with a text display of 2 x 16 characters and simple menu navigation system. During normal operation the display shows the operational state. By using the menu system it is possible to view all the configuration parameters and log file. Operating parameters can be changed by using the menu system.

The MC-1000 is prepared for configuration on site. It consists of a terminal unit, two rechargeable batteries, a battery charger and a base unit with relay outputs.

*Cavotec Micro-control offers a complete range of radio remote controls. For further information please consult our product specific brochure.*

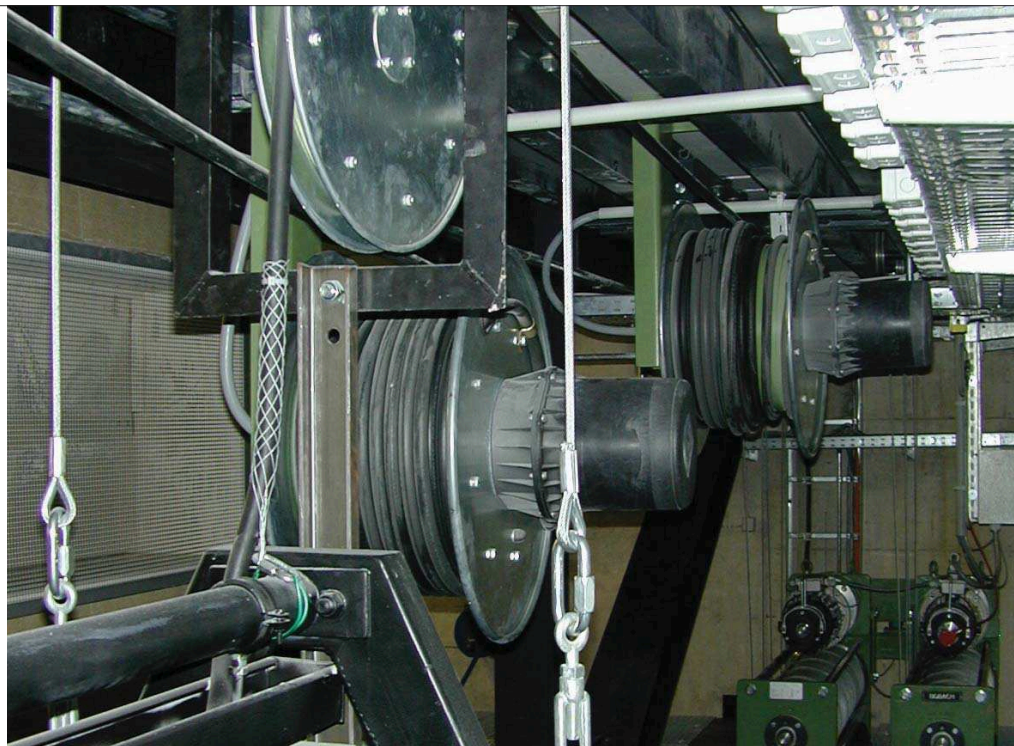




## Spring Driven Cable Reels

Established in 1991 to manufacture spring driven reels and slipping columns, Cavotec Alfo became a leading manufacturer in its sector worldwide and market-leader in Germany.

Such a fast growth is the result of combining high quality components, cost-effective management and the use of standard materials produced in large numbers. This effective combination enables Cavotec Alfo to serve the market and meet both standard and special requirements at competitive prices and with short delivery times.



The Cavotec Alfo standard spring reels are built from modular components which allow a great number of combinations covering most common requirements. The clever design of the Cavotec Alfo spring driven cable reels guarantees the highest reliability even in the most difficult and demanding applications.

Every unit meets all applicable IEC norms and standards and follows the latest EU requirements (CE-marking). All reels and slipping columns have a protection grade of IP65/66.



*The Cavotec Group also supplies high quality hose reels manufactured by Cavotec RMS in France. For more information please consult our product specific brochure.*



## Slipring Columns

The Cavotec Group has always been a main supplier of slipring columns to the general industry and automation sector. Cavotec Alfo in Germany and Cavotec Specimas in Italy, both specialized Centres of Excellence, manufacture a wide range of slipring columns for the transfer of power and signals in many diverse applications.

By using stringent quality control measures together with the latest in power transfer technology, the sliprings manufactured by the Cavotec Group are of the highest quality and meet all applicable IEC norms and standards.



### SK/GSK Slipring Columns

These units are manufactured by Cavotec Alfo in Germany and are the result of more than 30 years of research and operational experience. By producing standard components in large series, Cavotec Alfo is able to meet both standard and special requirements at competitive prices and with short delivery times. The slipring column itself is mounted in a solid glass-fibre reinforced plastic housing which withstands corrosion and mechanical wear.

### KK Slipring Columns

Cavotec Specimas slipring columns are at work in thousands of applications around the world. During the last 35 years these units have built up a reputation for their excellent reliability, flexibility, compactness and extreme resistance to corrosion. Standstill slipring applications often require a high degree of amperage derating which often leads to an increased size of the brushgear. By using the specially designed KP brushes there is no size increase, allowing the KK slipring columns to remain the leading option for applications where space is at a premium.

*On request the Cavotec Group can also supply explosion proof slipring columns.*





## Power Connectors

The Cavotec Power Connectors have been present in the field of industrial power supply for more than 20 years starting in the harsh environment of the Scandinavian mines and hydro-electric tunnels.

Today the high quality, strength and integral safety of the Cavotec connectors have set the standard concerning high and low voltage power supply to many different types of equipment. Not only in mining and tunnelling but also in hundreds of general industry and automation applications around the world.



Cavotec Connectors for low and high voltage applications are robustly designed, with a standard IP 66 protection and a standard maximum temperature of 80°C. The range of low voltage power connectors, available in a variety of sizes, are made in two different operating systems:

1. The "Push & Pull" system is preferred when the connectors have to be disconnected manually or automatically several times a day.

2. The "Screw Ring" system has special connectors fitted with screw rings for applications with manual disconnections on a day-to-day or weekly basis.

The high quality, strength and integral safety of the Cavotec Connectors have set the standard concerning high and low voltage power supply to many different types of equipment used in applications around the world.



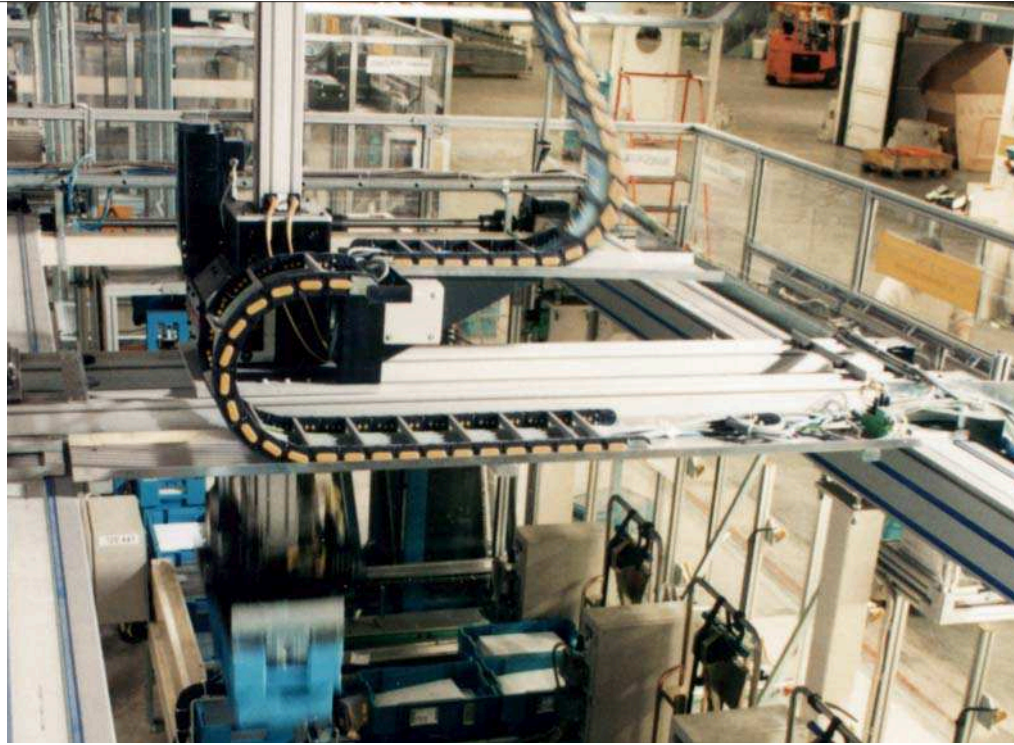
*The easy to use Push & Pull system guarantees a safe and reliable connection, even in the most extreme working conditions.*



## Cable Chains

Founded in 1976 in Italy, Brevetti Stendalto was the first company ever to produce cable chains made from nylon. The production of this revolutionary concept marked the beginning of the global introduction of this new system to protect cables and hoses. Today, the company is an acknowledged leader and one of the most important manufacturers of nylon and steel cable chains in Europe.

Thanks to their innovative design the Brevetti cable chains provide considerable efficiency and cost gains by allowing the application to move faster while fully protecting the cables and hoses inside. The chains allow for any type of combination of cables and are easy to maintain. Extensive endurance tests carried out by leading crane manufacturers and certification institutes have proven the reliability of the system even in the most extreme working conditions.



The Brevetti cable chains are the proven alternative for protecting power supply cables in many different applications. With this system power and control cables are carried safely and fully protected by heavy-duty nylon or steel chains over long or short distances at high speeds. The main advantages of this system are that the cable length and weight are halved, it allows high speeds, it allows separation of power and control cables and has a very low and easy maintenance need.

Endurance tests carried out by leading crane manufacturers and the many applications at work have proven the reliability of the system and its clear economic advantages.

*Cable chains are uniquely suited to high speed operations where cable protection is vital to the application.*

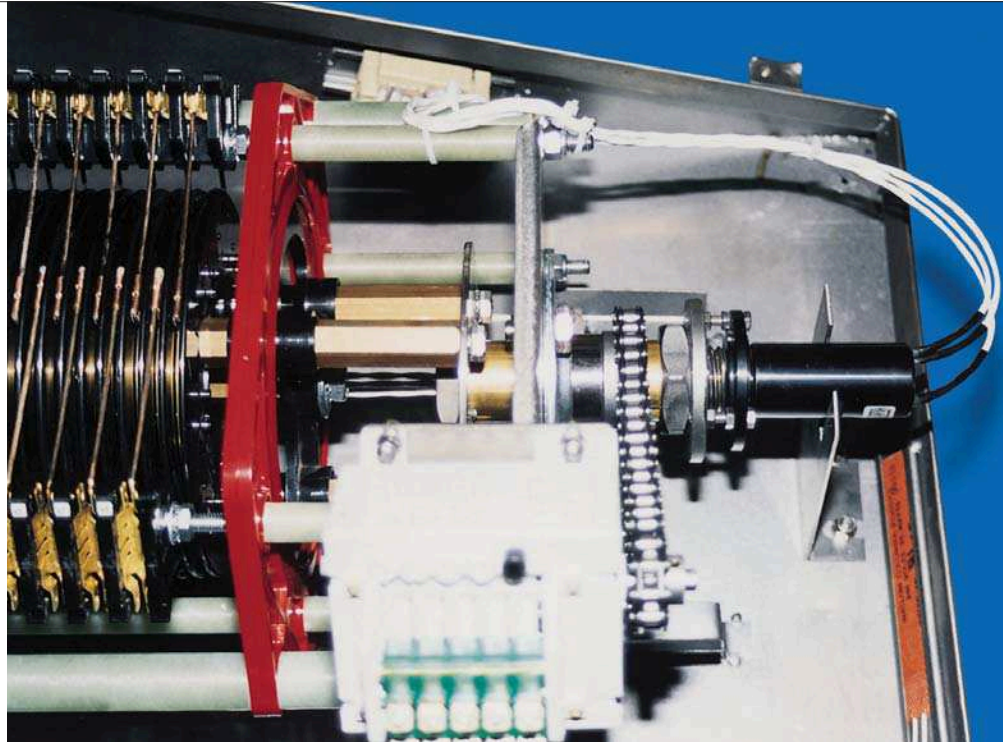




## Rotating electrical connectors

To meet the ever increasing use of electronics and computer controls and the necessity for always improving slipping technology, the Cavotec Group decided to select specialised manufacturing companies, Mercotac Inc. based in the USA and Elet.Ca SpA based in Italy as Group suppliers.

By utilizing the latest technology available, together with time-tested quality control measures, the Cavotec Group, together with its selected partners, guarantees the highest quality and reliable connectors.



### **Mercotac**

Designed and manufactured by Mercotac Inc, USA, these unique rotating electrical connectors are ideal for transmitting signal and control circuits in applications where high revolutions per minute, low (electrical) noise and low resistance prohibit the use of conventional sliprings. Mercotac connectors have a durable, compact and maintenance free ball bearing construction and can withstand operating temperatures of up to 60 degrees Celcius.

### **Aurotac**

These highly sophisticated rotating connectors are designed and manufactured by Elet.Ca SpA, based in Italy. By using special surface treatments and gold plated contacts combined with the small size and the excellent and reliable performance of the Aurotac connectors, these units are ideal for transmitting signal and control circuits in applications where conventional sliprings cannot be used. The long-life sliding contacts are suitable for use with electronics circuits that use analogue or digital signals as well as in power circuits up to 25 Amp.



*Mercotac rotating connectors from a reliable electrical connection in applications where space is at an absolute premium.*



# Cables

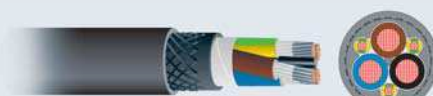
In order to supply a comprehensive selection of high quality cables specially adapted for use in general industry and automation applications, the Cavotec Group decided to select specialised manufacturing partners enabling Cavotec to guarantee the very highest level of productivity and safety.

Among the specialised cable manufacturing partners represented by the Group, and who share the Group philosophy concerning the quality level and the service to the customer, we can mention such companies as Baude, Gore, Prysmian, Nexans and Tratos.



All the cables offered by the Cavotec Group are divided in low and medium voltage. Low voltage cables are further divided into power or control cables as each single cable is designed to deal with specific applications. Medium voltage cables, on the other hand, are all power cables but the majority can be supplied with integrated fibre-optics as an option.

The selection of cables is such that Cavotec can supply any type of cable for any specific application. In addition, the Cavotec Group also supplies different types of hoses for water and air.



Heavy duty low voltage power cables



Light-weight low voltage control cables




Medium voltage power cables



Medium voltage power cables with FO

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Indonesia  
Ireland  
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