Festoon Systems for Wire Ropes
Series 0210 | 0215

ENDLESS®
CONDUCTIX
wampfler
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Ropes and Accessories
Series 0210 and 0215

System Components for Wire Ropes with Diameter 6-12 mm

<table>
<thead>
<tr>
<th>Type</th>
<th>ø d [mm]</th>
<th>ø D [mm]</th>
<th>Min. Brak. Strength $F_{br}$ [kN]</th>
<th>Perm. Tensil Strength $F_{zul}$ [kN]</th>
<th>for Straining Screw</th>
</tr>
</thead>
<tbody>
<tr>
<td>020305-06</td>
<td>with plastic cover</td>
<td>4</td>
<td>6</td>
<td>14.5</td>
<td>3.6</td>
</tr>
<tr>
<td>020303-06</td>
<td>without plastic cover</td>
<td>6</td>
<td>-</td>
<td>20.3</td>
<td>5.1</td>
</tr>
<tr>
<td>020305-08</td>
<td>with plastic cover</td>
<td>6</td>
<td>8</td>
<td>20.3</td>
<td>5.1</td>
</tr>
<tr>
<td>020303-08</td>
<td>without plastic cover</td>
<td>8</td>
<td>-</td>
<td>37.2</td>
<td>9.3</td>
</tr>
<tr>
<td>020303-10</td>
<td>with plastic cover</td>
<td>10</td>
<td>-</td>
<td>58.1</td>
<td>14.5</td>
</tr>
<tr>
<td>020303-12</td>
<td>without plastic cover</td>
<td>12</td>
<td>-</td>
<td>81.2</td>
<td>20.3</td>
</tr>
</tbody>
</table>

Material:
- Rope: galvanized steel
- Cover: plastic

Note:
Plastic covered ropes 020305 have the best performance.

Straining Screws

<table>
<thead>
<tr>
<th>Order No.</th>
<th>ø d [mm]</th>
<th>l [mm]</th>
<th>for Rope ø [mm]</th>
</tr>
</thead>
<tbody>
<tr>
<td>020187-12</td>
<td>M12</td>
<td>330</td>
<td>6 - 8</td>
</tr>
<tr>
<td>020187-16</td>
<td>M16</td>
<td>424</td>
<td>10</td>
</tr>
<tr>
<td>020187-20</td>
<td>M20</td>
<td>458</td>
<td>12</td>
</tr>
</tbody>
</table>

Material: galvanized steel
Ropes and Accessories  
Series 0210 and 0215

Straining Buckles

<table>
<thead>
<tr>
<th>Order No.</th>
<th>ø d [mm]</th>
<th>Suitable Strainer Bracket</th>
</tr>
</thead>
<tbody>
<tr>
<td>020189-12</td>
<td>13</td>
<td>021542</td>
</tr>
<tr>
<td>020189-16</td>
<td>17</td>
<td></td>
</tr>
<tr>
<td>020189-20</td>
<td>21</td>
<td></td>
</tr>
</tbody>
</table>

Material: galvanized steel  
Application: for flexible reception of the straining screw

Strainer Brackets

Order No.: 021141-400  
Material: galvanized steel  
Suitable straining screw 020187-12

Order No.: 021141-630  
Material: galvanized steel  
Suitable straining screw 020187-12

Order No. l

<table>
<thead>
<tr>
<th>Order No.</th>
<th>l [mm]</th>
<th>a [mm]</th>
<th>b [mm]</th>
<th>a₁ [mm]</th>
<th>b₁ [mm]</th>
<th>ø d [mm]</th>
<th>s [mm]</th>
</tr>
</thead>
<tbody>
<tr>
<td>021542-0400</td>
<td>495</td>
<td>290</td>
<td>120</td>
<td>250</td>
<td>80</td>
<td>21</td>
<td>15</td>
</tr>
<tr>
<td>021542-0630</td>
<td>730</td>
<td>330</td>
<td>130</td>
<td>280</td>
<td>80</td>
<td>25</td>
<td>20</td>
</tr>
<tr>
<td>021542-1000</td>
<td>1105</td>
<td>390</td>
<td>150</td>
<td>330</td>
<td>90</td>
<td>31</td>
<td>25</td>
</tr>
</tbody>
</table>

Material: galvanized steel

Notes
- To be ordered only in connection with straining buckle 020189
- This strainer bracket is also used with two ropes running in parallel  
  Distance between ropes = 160 mm
Cable Trolleys for Flat Cables
Series 0210

Festoon Systems for Flat Cables on Rope with Diameter 6 mm

Cable support 021127
Towing arm 021136
Towing trolley 021123
Towing arms 020195-400 020195-630

Plastic Cable Trolleys with Load Capacity up to 6 kg

<table>
<thead>
<tr>
<th>Cable Trolley Order No.</th>
<th>d₁ [mm]</th>
<th>lₘ [mm]</th>
<th>b₁ [mm]</th>
<th>b₂ [mm]</th>
<th>s [mm]</th>
</tr>
</thead>
<tbody>
<tr>
<td>021113</td>
<td>50</td>
<td>085</td>
<td>63</td>
<td>44</td>
<td>17</td>
</tr>
<tr>
<td>021114</td>
<td>80</td>
<td>125</td>
<td>80</td>
<td>54</td>
<td>22</td>
</tr>
</tbody>
</table>

- Type of roller:
  - roller: plastic
  - axle: stainless steel
- Load capacity: 6 kg
Flat Cable Trolleys
Series 0210

Cable Support

Order No.: 021127

Towing Arm
Order No.: 021136
Material: galvanized steel

End Clamp

Order No. 021163

Towing Trolley with Rope Guidance

Order No.: 021123

<table>
<thead>
<tr>
<th>Towing Arm Order No.</th>
<th>l [mm]</th>
<th>Material</th>
</tr>
</thead>
<tbody>
<tr>
<td>020195-400</td>
<td>400</td>
<td>galvanized steel</td>
</tr>
<tr>
<td>020195-630</td>
<td>630</td>
<td>galvanized steel</td>
</tr>
</tbody>
</table>
Cable Trolleys for Flat Cables
Series 0215

Festoon Systems for Flat Cables on Ropes with Diameter 8-12 mm

Plastic Cable Trolley with Load Capacity up to 10 kg

Order No. 021631
- Type of roller:
  - roller: plastic
  - axle: stainless steel
- Load capacity: 10 kg

Plastic Cable Trolley with Load Capacity up to 20 kg

Order No. 021632-80
- Type of roller:
  - roller: plastic
  - axle: stainless steel
- Load capacity: 20 kg
Cable Trolleys for Flat Cables
Series 0215

End Clamp

Order No. 020222-080

Note
Mounting under plate 020190
and towing arm 021531

Towing Trolley with Rope Guidance

Order No. 021611
- Casing: galvanized steel
- Type of roller:
  - roller: plastic, with steel ball bearing
  - axle: galvanized steel

Towing Arm

Order No.
| 021531-0400 | 021531-0630 | 021531-1000 |
| 400         | 630         | 1000        |

Material: galvanized steel
Cable Trolleys for Round Cables and Hoses
Series 0210

Festoon Systems for Round Cables on Rope with Diameter 6 mm

Plastic Cable Trolley with Hook or Eye with Load Capacity up to 3 kg

Plastic Cable Trolley with Hook or Eye with Load Capacity up to 6 kg

Cable Collars for Trolleys with Hook
Round Cable Trolleys and Hoses
Series 0210

Plastic Cable Trolley with Ball Joint with Load Capacity up to 6 kg

![Diagram of Plastic Cable Trolley with Ball Joint]

Order No.: 021117
Load capacity: 6 kg

End Clamp

![Diagram of End Clamp]

Order No.: 021164
Note:
Suitable cable clip 020131

Cable Clips for Trolleys with Hook or Ball Joint

<table>
<thead>
<tr>
<th>Order No.</th>
<th>Cable Diameter [mm]</th>
</tr>
</thead>
<tbody>
<tr>
<td>020131-16</td>
<td>10 - 16</td>
</tr>
<tr>
<td>020131-25</td>
<td>17 - 25</td>
</tr>
<tr>
<td>020131-36</td>
<td>26 - 36</td>
</tr>
</tbody>
</table>

Note:
The cable clips can be combined in multiple variations.

Cable Support and Towing Arm

![Diagram of Cable Support and Towing Arm]

Order No.: 021126
Note:
Only for one cable. Mounting of additional clips not possible.

Towing Arm
Order No.: 021136
Material: galvanized steel

Towing Trolley with Rope Guidance

![Diagram of Towing Trolley with Rope Guidance]

Order No.: 021124
Note:
Suitable cable clip 020131

Towing Arm
Order No.
| 020195-400 | 400 |
| 020195-630 | 630 |
**Cable Trolleys for Round Cables and Hoses**

**Series 0215**

**Festoon Systems for Round Cables on Ropes with Diameter 8-12 mm**

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**Plastic Cable Trolley with Load Capacity up to 10 kg**

Order No. 021621
- **Type of roller:**
  - roller: plastic
  - axle: stainless steel
- **Load capacity:** 10 kg

Suitable cable clips 020131 see page 11

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**Plastic Cable Trolley with Load Capacity up to 20 kg**

Order No. 021622
- **Type of roller:**
  - roller: plastic
  - axle: stainless steel
- **Load capacity:** 20 kg

Suitable cable clips 020131 see page 11
Round Cable Trolleys and Hoses
Series 0215

End Clamp

End Clamp
Order No. 020214-080

Notes
• Mounting under plate 020190 and towing arm 021531
• Suitable cable clip 020131

<table>
<thead>
<tr>
<th>Mounting Plate Order No.</th>
<th>d [mm]</th>
<th>Suitable Straining Screw</th>
</tr>
</thead>
<tbody>
<tr>
<td>020190-12</td>
<td>13</td>
<td>020187-12</td>
</tr>
<tr>
<td>020190-16</td>
<td>17</td>
<td>020187-16</td>
</tr>
<tr>
<td>020190-20</td>
<td>21</td>
<td>020187-20</td>
</tr>
</tbody>
</table>

Towing Trolley with Rope Guidance

Towing Trolley Order No. 021611
Towing Arm Order No. 021531

For more details see page 9

Supplements to the Series by Inquiry

Trolley running on two ropes
Double load capacity
Ideal Control Unit Trolley
for Flat and Round Cables
Helpful Hints

Calculation of Tensile Force

In planning a flexible cable system it is necessary to calculate the carrying capacity of the rope. Normally plastic covered steel ropes are used which are suitable for most applications.

- \( F \) [kN] = Tensile force in the rope
- \( G \) [kg] = Total load of netweight of rope plus weight of cable trolleys and cables
- \( l \) [m] = Span width of rope
- \( h \) [m] = Sag of rope
- \( g \) [m/s²] = Gravitational acceleration = 9.81
- \( \varphi \) = Net load factor = 1.1-1.2 to DIN 15018, section 4.1.4.1

Consideration is recommended.

The tensile force can be calculated approx. using the following formula:

\[
F = \frac{\varphi \cdot G \cdot l \cdot g}{8000 \cdot h} \leq F_{\text{perm.}}[\text{kN}]
\]

Determination of Rope Load and Selection of Required Rope

The required rope can be determined with the help of the following diagrams. The diagrams were issued with \( \varphi = 1.2 \) and \( \varphi = 4 \).

Program 0210

Program 0215

Calculation Example

Given:
- Total load \( G = 145 \) kg
- Span width \( l = 100 \) m
- Rope sag \( h_{\text{perm.}} = 2 \) m = 2%

Calculated values:
- Diagram program 0210: not suitable
- Diagram program 0215: suitable

From diagram program 0215:
- existing rope load: \( F \approx 10.5 \) kN
- required rope: 020303-10
Other Products from Conductix-Wampfler

The products described in this catalog represent a few of the products from the broad spectrum of Conductix-Wampfler components and systems for the transfer of energy, data, gases, and fluids. The solutions we deliver for your applications are based on your specific requirements. In many cases, a combination of several different Conductix-Wampfler products are needed to fill the application. 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.

Motor driven cable reels
Motor driven reels by Conductix-Wampfler are the perfect solution for managing long lengths of heavy cable and hoses in very demanding industrial applications. Monospiral, level wind, and random wind spools.

Spring balancers and retractors
ENDO spring balancers by Conductix-Wampfler are rugged, reliable high-precision positioning devices that reduce operator fatigue and assist with accurate tool placement.

Air hoists and balancers
ENDO Air hoists accurately place delicate loads and continuously vary the speed for precise positioning. They run cool in continuous operations.

Conductor bar
Whether they are enclosed conductor rails, expandable single-pole bar systems, or high amperage bar for demanding steel mill use up to 6000 amps. Conductix-Wampfler’s conductor bar is the proven solution to reliably move people and material.

Spring driven cable reels
We have 60 years experience and trusted brands such as Insul-8, Wampfler, and IER. We offer small cord reels all the way to large multi-motor units, a wide range of accessories, and hazardous location reels.

Slip ring assemblies
Whenever powered machinery needs to rotate 360°, field proven slip ring assemblies by Conductix-Wampfler can flawlessly transfer energy and data. Here, everything revolves around flexibility and reliability.

Bumpers
Conductix-Wampfler offers a complete range of bumpers for the auto industry, cranes, and heavy machinery. These include rubber, rubber/metal, and cellular types.

Cable Festoon systems
It’s hard to imagine Conductix-Wampfler cable trolleys not being used in virtually every industrial application. They are reliable and robust and available in an enormous variety of sizes and models.

Push Button Pendants
Our ergonomic pendants are ideally suited for industrial control applications. They are available in a wide range of configurations for overhead cranes and other machinery.

Radio remote controls
Safe, secure, and reliable radios use the latest in microprocessor technology. Available in several models for overhead crane control and other types of machinery.

Inductive Power Transfer IPT®
The contact-less system for transferring energy and data. For all tasks that depend on high speeds and absolute resistance to wear.

Energy guiding chains
The "Jack of all Trades" when it comes to managing energy and data cables and air and fluid hoses. A wide range of energy guiding chains are available for many industrial applications.