

# Festoon Systems for Wire Ropes

Program 0210/0215



# Contents

---

## Ropes and Accessories Program 0210 and 0215

System Components for Wire Ropes with Diameter 6-12 mm	2
Wire Ropes	2
Straining Buckles	3
Strainer Brackets	3

---

## Cable Trolleys for Flat Cables Program 0210

Festoon Systems for Flat Cables on Rope with Diameter 6 mm	4
Plastic Cable Trolleys with Load Capacity up to 6 kg	4
Cable Support	5
End Clamp	5
Towing Trolley with Rope Guidance	5

---

## Cable Trolleys for Flat Cables Program 0215

Festoon Systems for Flat Cables on Ropes with Diameter 8-12 mm	6
Plastic Cable Trolley with Load Capacity up to 10 kg	6
Plastic Cable Trolley with Load Capacity up to 20 kg	6
End Clamp	7
Towing Trolley with Rope Guidance	7
Towing Arm	7

---

## Cable Trolleys for Round Cables and Hoses Program 0210

Festoon Systems for Round Cables on Rope with Diameter 6 mm	8
Plastic Cable Trolley with Hook or Eye with Load Capacity up to 3 kg	8
Plastic Cable Trolley with Hook or Eye with Load Capacity up to 6 kg	8
Plastic Cable Trolley with Ball Joint with Load Capacity up to 6 kg	9
End Clamp	9
Cable Clips for Trolleys with Hook or Ball Joint	9
Cable Support and Towing Arm	9
Towing Trolley with Rope Guidance	9

---

## Cable Trolleys for Round Cables and Hoses Program 0215

Festoon Systems for Round Cables on Ropes with Diameter 8-12 mm	10
Plastic Cable Trolley with Load Capacity up to 10 kg	10
Plastic Cable Trolley with Load Capacity up to 20 kg	10
End Clamp	11
Towing Trolley with Rope Guidance	11
Supplements to the Program on Inquiry	11

---

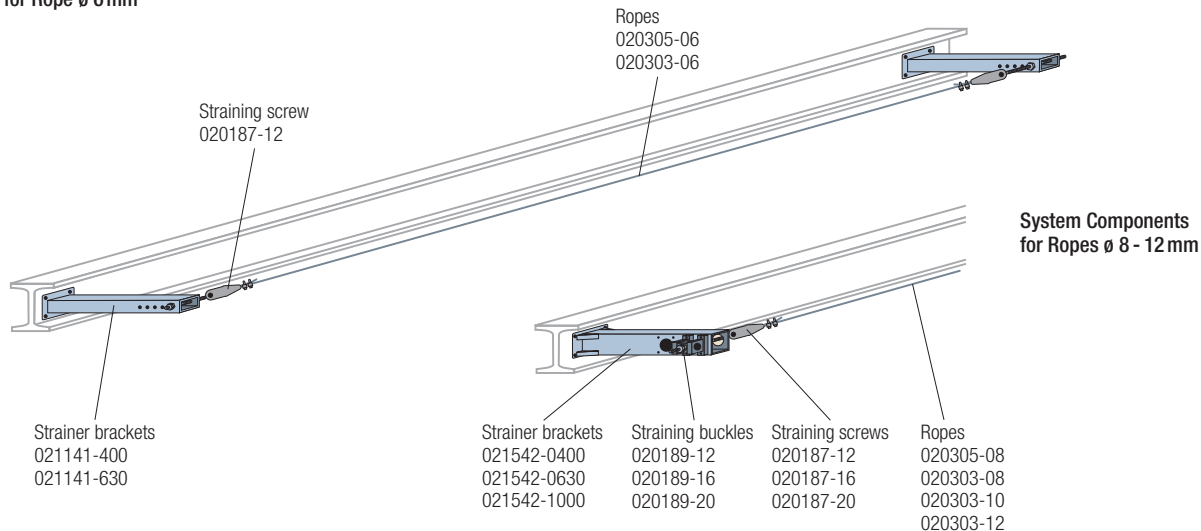
## Helpful Hints

Calculation of Tensile Force	12
Determination of Rope Load and Selection of Required Rope	12

# Ropes and Accessories Program 0210 and 0215

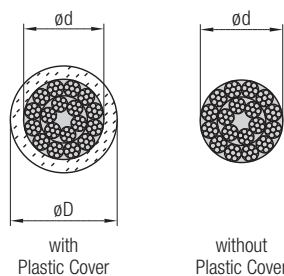
## System Components for Wire Ropes with Diameter 6-12 mm

System Components  
for Rope  $\varnothing$  6 mm



System Components  
for Ropes  $\varnothing$  8 - 12 mm

## Wire Ropes



### Material

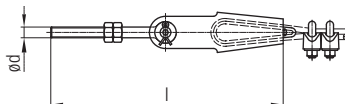
- Rope: galvanized steel
- Cover: plastic

### Note

Plastic covered ropes 020305 have the best performance.

Order No.	Type	$\varnothing d$ [mm]	$\varnothing D$ [mm]	Min. Brak. Strength $F_{Br}$ [kN]	Perm. Tensil Strength $F_{zul}$ [kN]	for Straining Screw
020305-06	with plastic cover	4	6	14.5	3.6	020187-12
020303-06	without plastic cover	6	-	20.3	5.1	020187-12
020305-08	with plastic cover	6	8	20.3	5.1	020187-12
020303-08	without plastic cover	8	-	37.2	9.3	020187-12
020303-10		10	-	58.1	14.5	020187-16
020303-12		12	-	81.2	20.3	020187-20

## Straining Screws

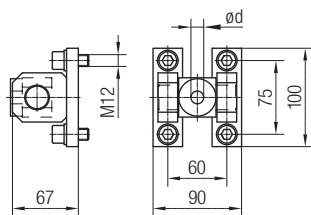


Order No.	$\varnothing d$	$l$ [mm]	for Rope $\varnothing$ [mm]
020187-12	M12	330	6 - 8
020187-16	M16	424	10
020187-20	M20	458	12

Material: galvanized steel

# Ropes and Accessories Program 0210 and 0215

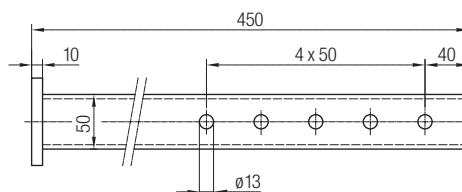
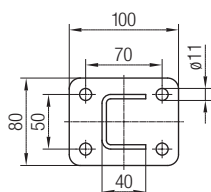
## Straining Buckles



Order No.	$\varnothing d$ [mm]	suitable Strainer Bracket
020189-12	13	021542
020189-16	17	
020189-20	21	

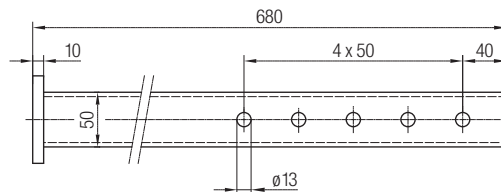
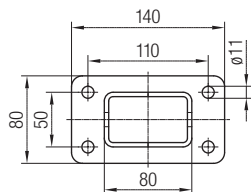
Material: galvanized steel  
Application: for flexible reception of the straining screw

## Strainer Brackets



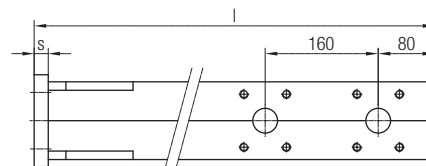
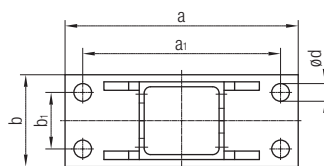
Order No.: 021141-400  
Material: galvanized steel

Suitable straining screw 020187-12



Order No.: 021141-630  
Material: galvanized steel

Suitable straining screw 020187-12



Order No.	l [mm]	a [mm]	b [mm]	a <sub>1</sub> [mm]	b <sub>1</sub> [mm]	$\varnothing d$ [mm]	s [mm]
021542-0400	495	290	120	250	80	21	15
021542-0630	730	330	130	280	80	25	20
021542-1000	1105	390	150	330	90	31	25

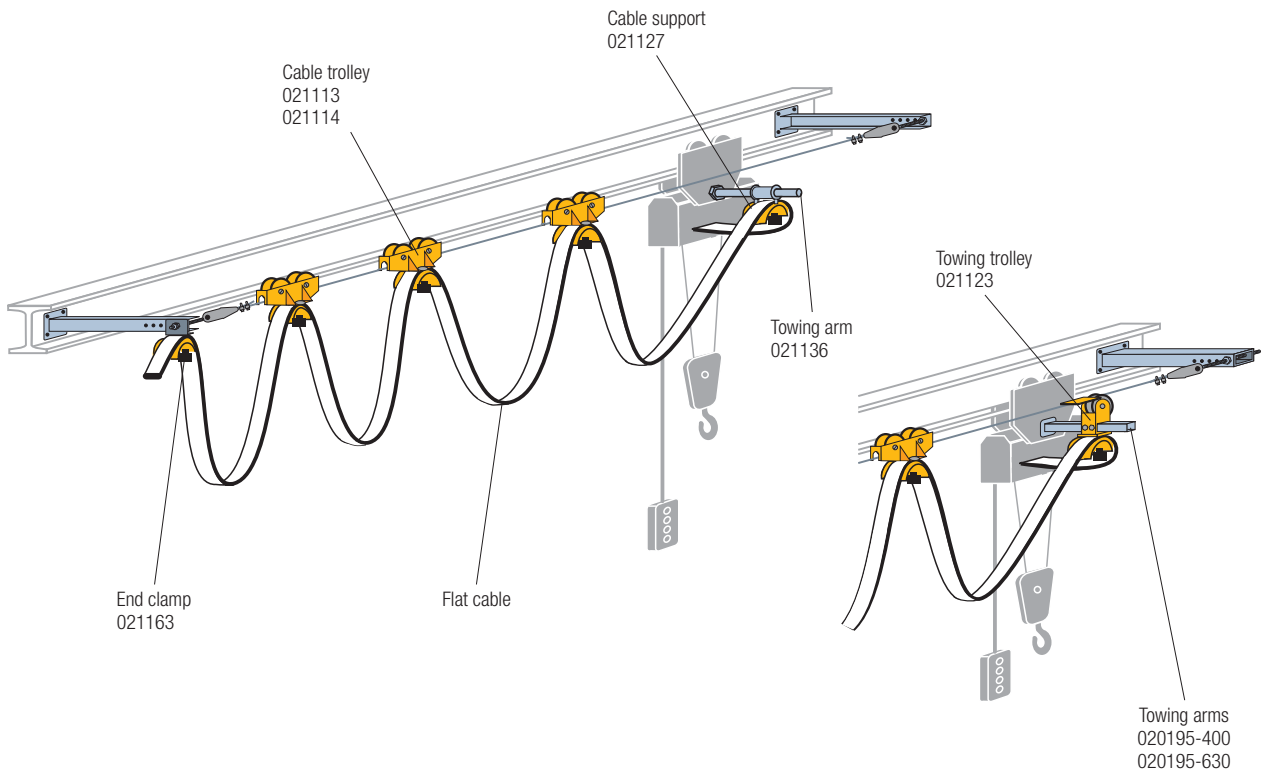
Material: galvanized steel

### Notes

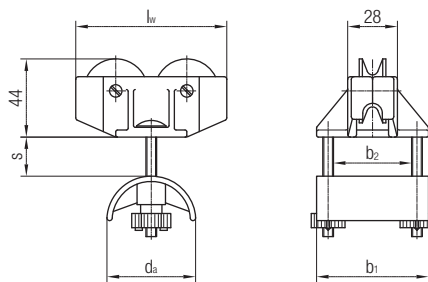
- To be ordered only in connection with straining buckle 020189
- This strainer bracket is also used with two ropes running in parallel  
Distance between ropes = 160 mm

# Cable Trolleys for Flat Cables Program 0210

## Festoon Systems for Flat Cables on Rope with Diameter 6 mm



## Plastic Cable Trolleys with Load Capacity up to 6 kg

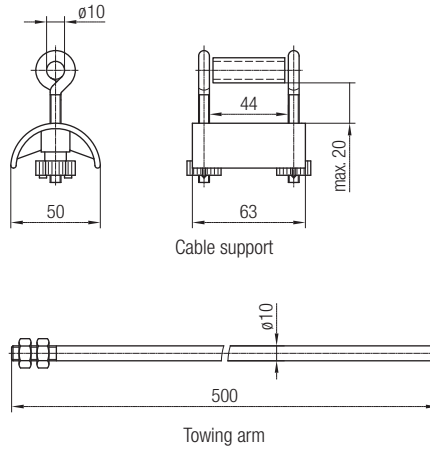


Cable Trolley Order No.	$d_a$ [mm]	$l_w$ [mm]	$b_1$ [mm]	$b_2$ [mm]	$s$ [mm]
021113	50	085	63	44	17
021114	80	125	80	54	22

- Type of roller:  
- roller: plastic  
- axle: stainless steel
- Load capacity: 6 kg

# Flat Cable Trolleys Program 0210

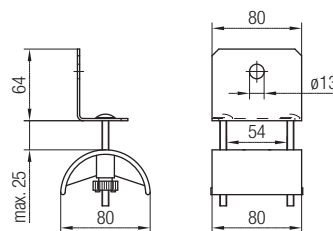
## Cable Support



Order No.: 021127

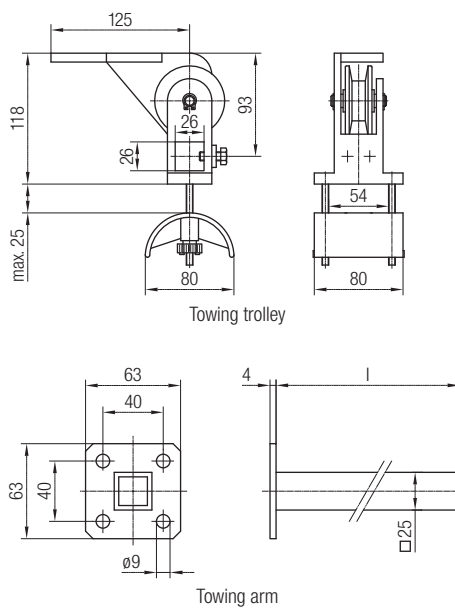
Towing Arm  
Order No.: 021136  
Material: galvanized steel

## End Clamp



Order No. 021163

## Towing Trolley with Rope Guidance

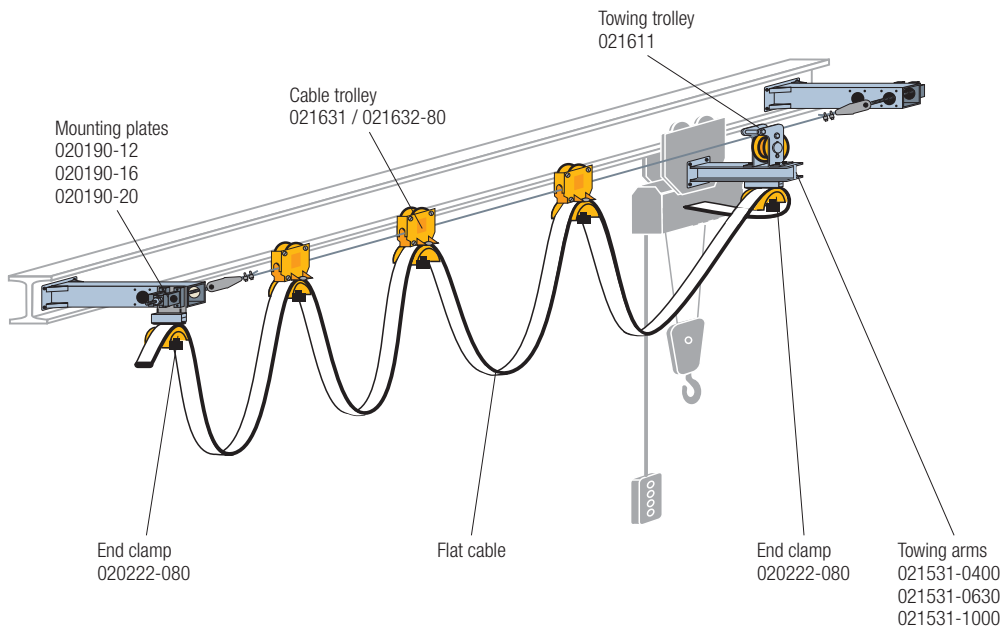


Order No.: 021123

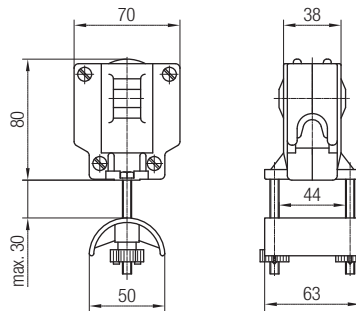
Towing Arm Order No.	l [mm]	Material
020195-400	400	galvanized steel
020195-630	630	

# Cable Trolleys for Flat Cables Program 0215

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



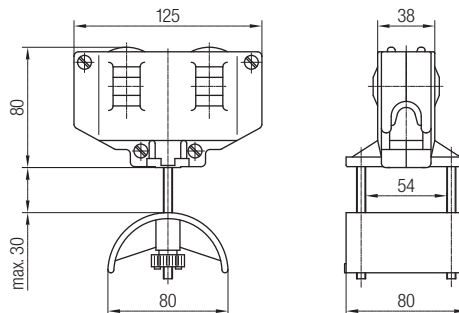
## Plastic Cable Trolley with Load Capacity up to 10 kg



### 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

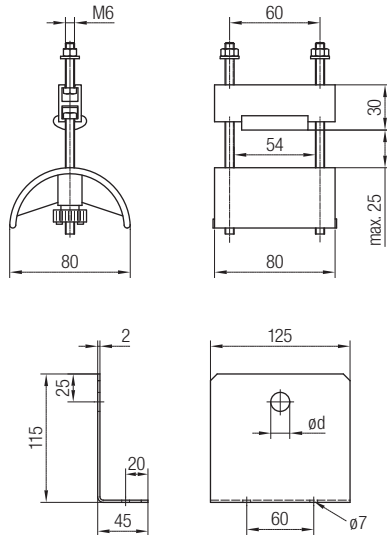


### Order No. 021632-80

- Type of roller:
  - roller: plastic
  - axle: stainless steel
- Load capacity: 20 kg

# Cable Trolleys for Flat Cables Program 0215

## End Clamp



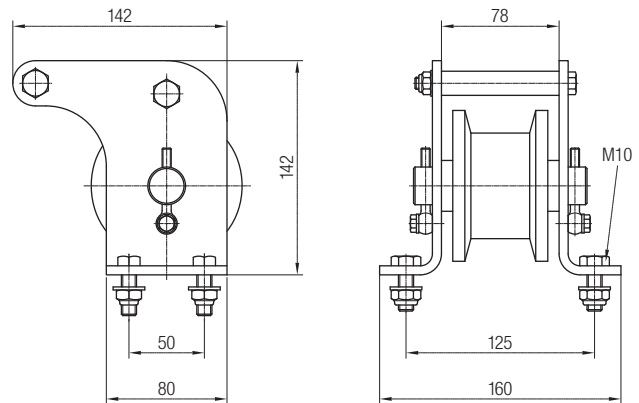
Order No. 020222-080

### Note

Mounting under plate 020190  
and towing arm 021531

Mounting Plate Order No.	ø d [mm]	Suitable Straining Screw
020190-12	13	020187-12
020190-16	17	020187-16
020190-20	21	020187-20

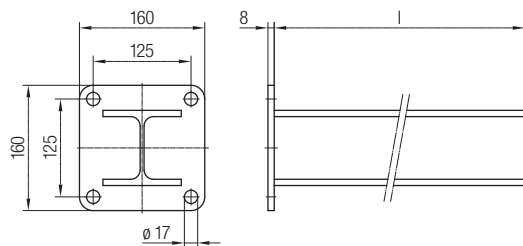
## Towing Trolley with Rope Guidance



Order No. 021611

- Casing:: galvanized steel
- Type of roller:
  - roller: plastic, with steel ball bearing
  - axle: galvanized steel

## Towing Arm

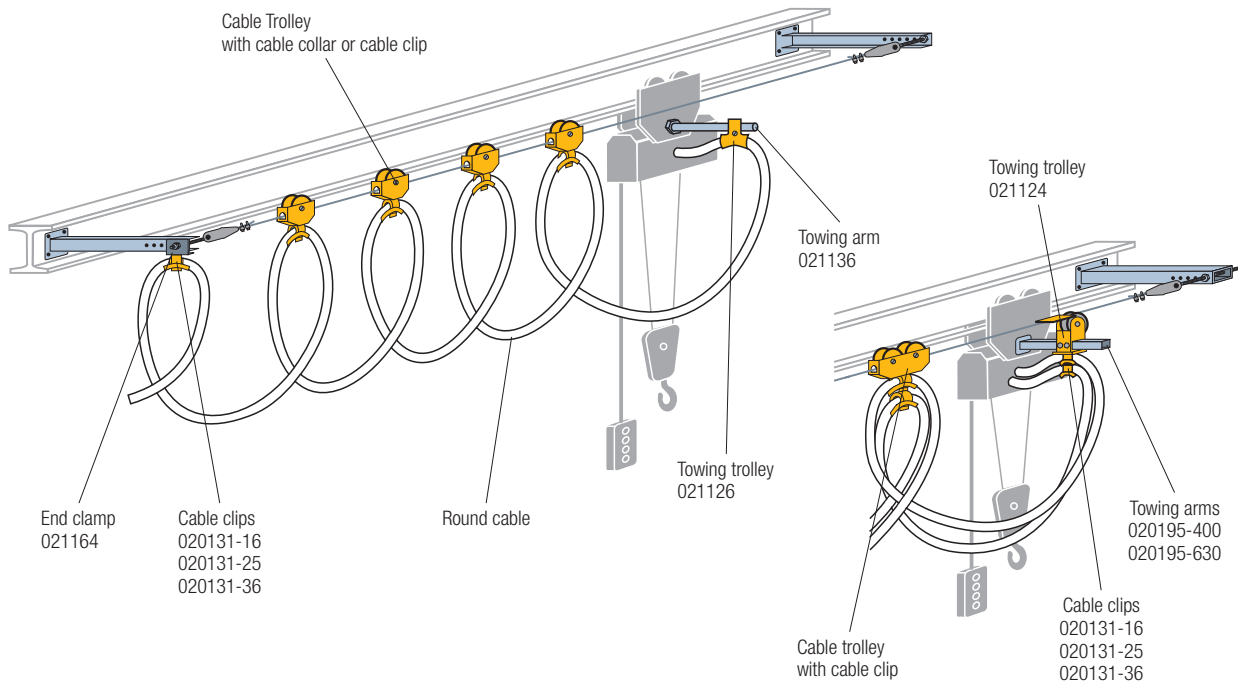


Order No.	l [mm]	Material
021531-0400	400	galvanized steel
021531-0630	630	
021531-1000	1000	

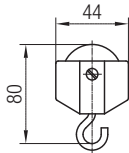


# Cable Trolleys for Round Cables and Hoses Program 0210

## Festoon Systems for Round Cables on Rope with Diameter 6 mm

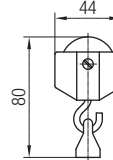


## Plastic Cable Trolley with Hook or Eye with Load Capacity up to 3 kg



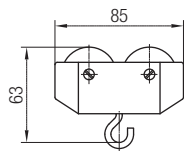
**Trolley with Hook**  
Order No. 021111  
Load capacity: 3 kg

**Note**  
Corresponding cable clip  
020131 see page 9



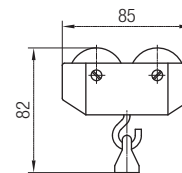
**Trolley with Eye**  
Order No. 021115  
Load capacity: 3 kg

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



**Trolley with Hook**  
Order No. 021112  
Load capacity: 6 kg

**Note**  
Corresponding cable clip  
020131 see page 9



**Trolley with Eye**  
Order No. 021116  
Load capacity: 6 kg

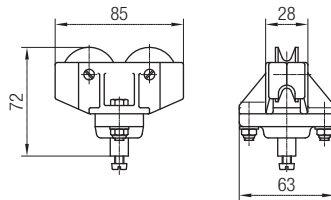
## Cable Collars for Trolleys with Hook



Order No.	Cable Diameter [mm]
020111-10	10
020111-12,5	12.5
020111-14	14
020111-16	16
020111-18	18
020111-20	20

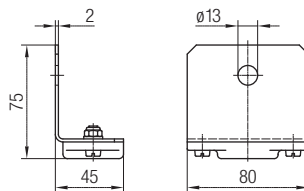
# Round Cable Trolleys and Hoses Program 0210

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



**Order No. 021117**  
Load capacity: 6 kg

## End Clamp



**Order No. 021164**

**Note**  
Suitable cable clip 020131

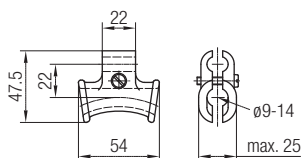
## Cable Clips for Trolleys with Hook or Ball Joint



Order No.	Cable Diameter [mm]
020131-16	10 - 16
020131-25	17 - 25
020131-36	26 - 36

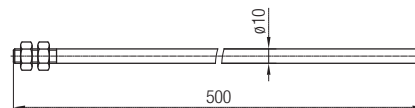
**Note**  
The cable clips can be combined in multiple variations.

## Cable Support and Towing Arm



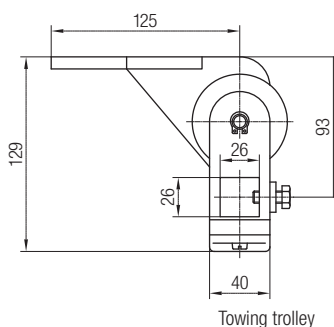
**Order No. 021126**

**Note**  
Only for one cable.  
Mounting of additional clips not possible.

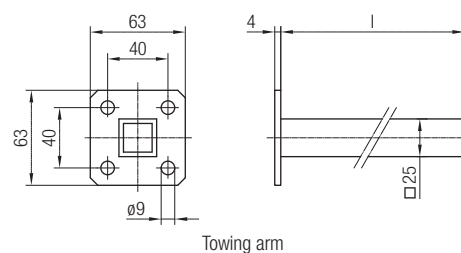
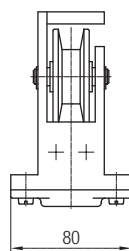


**Towing Arm**  
**Order No. 021136**  
Material: galvanized steel

## Towing Trolley with Rope Guidance



Towing trolley



Towing arm

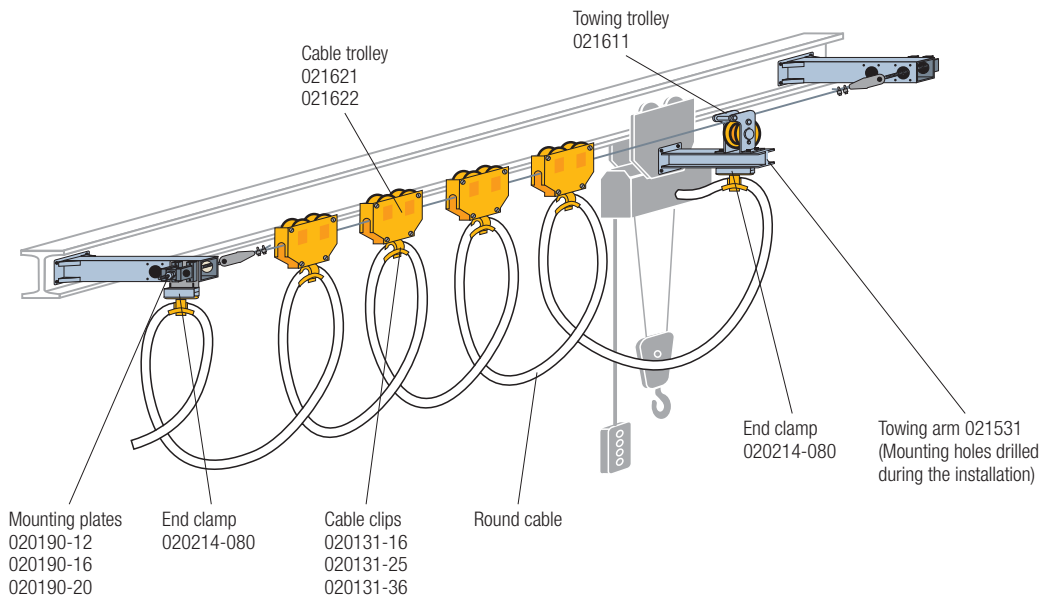
**Order No.: 021124**

**Note**  
Suitable cable clip 020131

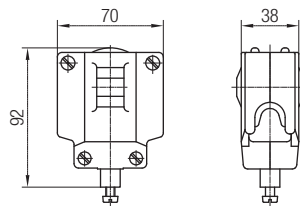
Towing Arm Order No.	l [mm]
020195-400	400
020195-630	630

# Cable Trolleys for Round Cables and Hoses Program 0215

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



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

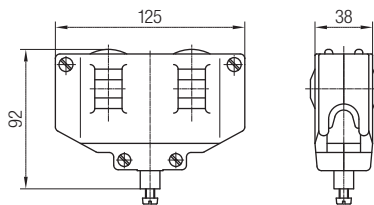


### Order No. 021621

- Type of roller:
  - roller: plastic
  - axle: stainless steel
- Load capacity: 10 kg

Suitable cable clips 020131  
see page 9

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



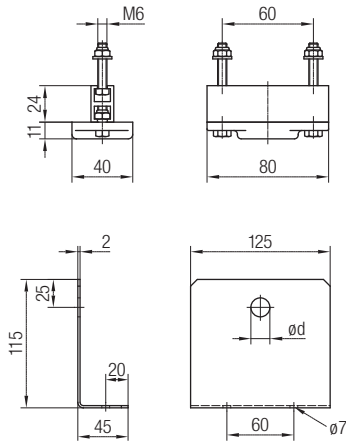
### Order No. 021622

- Type of roller:
  - roller: plastic
  - axle: stainless steel
- Load capacity: 20 kg

Suitable cable clips 020131  
see page 9

# Round Cable Trolleys and Hoses Program 0215

## End Clamp



**End Clamp**  
Order No. 020214-080

**Notes**

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

Mounting Plate Order No.	ø d [mm]	Suitable Straining Screw
020190-12	13	020187-12
020190-16	17	020187-16
020190-20	21	020187-20

## Towing Trolley with Rope Guidance



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

For more details see page 7

## Supplements to the Program on Inquiry



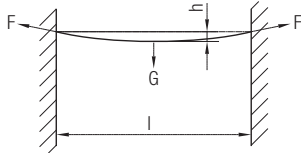
**Trolley running on two ropes**  
Double load capacity



**Ideal Control Unit Trolley**  
for Flat and Round Cables

# Helpful Hints

## Calculation of Tensile Force



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

$$F = \frac{\Phi \cdot G \cdot l \cdot g}{8000 \cdot h} \leq F_{perm.} \quad [kN]$$

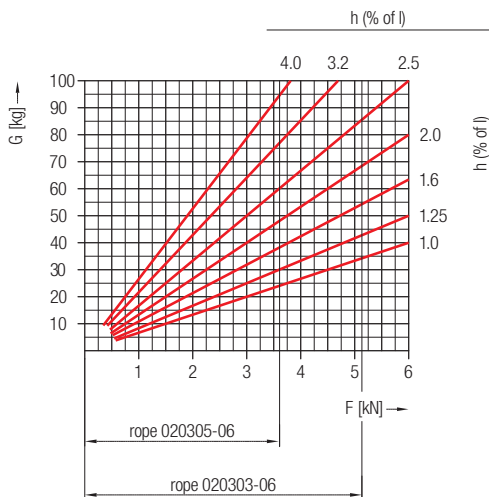
In planning a flexible cable system it is necessary to calculate the carrying capacity of the rope. Normally plastic covered steel ropes are used which are suitable for most applications.

- 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/s<sup>2</sup>] = Gravitational acceleration = 9.81
- Φ = Net load factor = 1.1-1.2 to DIN 15018, section 4.1.4.1  
Consideration is recommended.

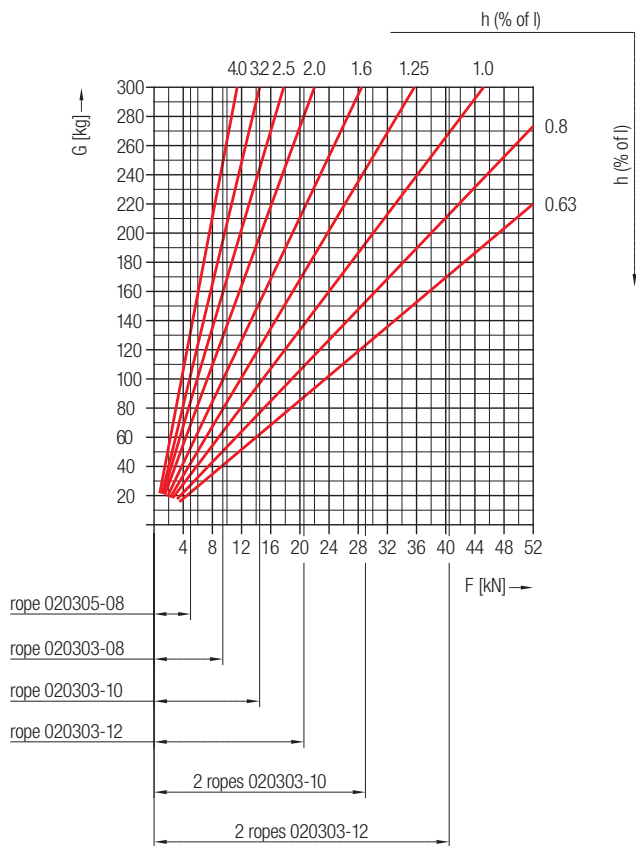
## Determination of Rope Load and Selection of Required Rope

The required rope can be determined with the help of the following diagrams. The diagrams were issued with  $\Phi = 1,2$  and  $\vartheta = 4$ .

Program 0210



Program 0215



### Calculation Example

#### Given:

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

#### Calculated values:

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

- From diagram program 0215
- existing rope load:  $F \approx 10,5 \text{ kN}$
- required rope : 020303-10

DISTRIBUTED BY:



Toll Free: 1.888.822.2024  
 International: 1.519.822.2020  
 Fax: 1.519.822.2140  
 Email: info@ipandc.com  
 Web: www.ipandc.com