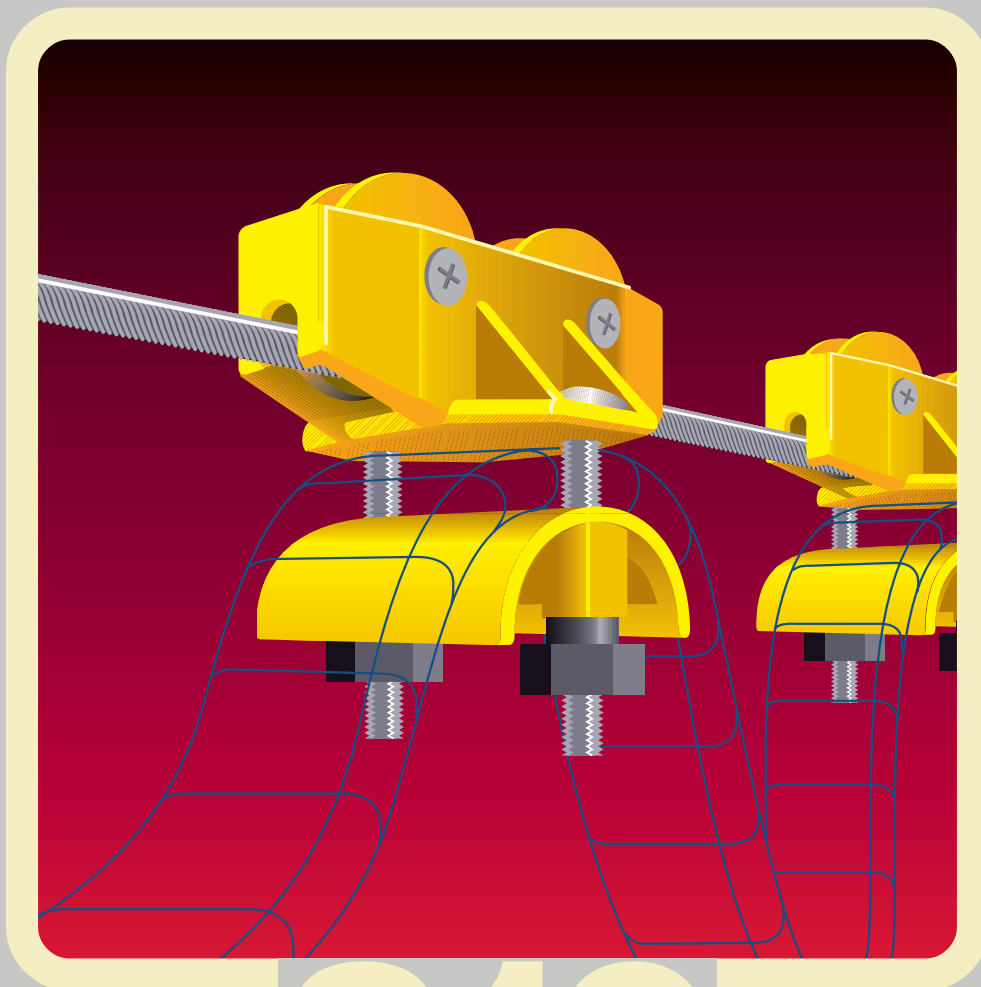


# Energy Supply Systems

## WIRE ROPE PROGRAMME

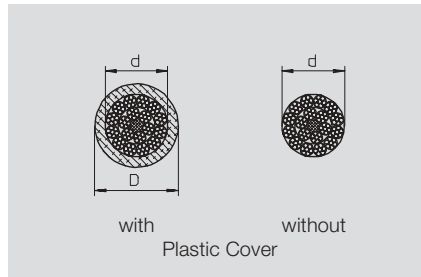


# 210

**wampfler**  
solutions for a moving world

# Ropes and Accessories

## Ropes $\varnothing$ 6 - 12 mm

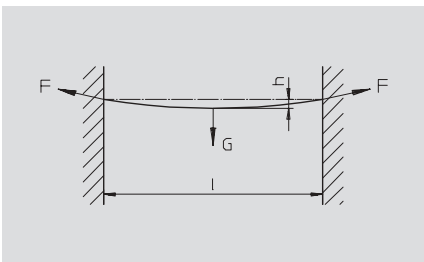


Material:  
- Rope: galvanized steel  
- Cover: plastic

Plastic covered ropes 020305 have the best performance.

Catalogue-No.	Type	d [mm]	D [mm]	Min. brak. strength $F_{br}$ [kN]	Perm. tensil strength $F_{perm.}$ [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

## Determination of the rope load to select the required rope



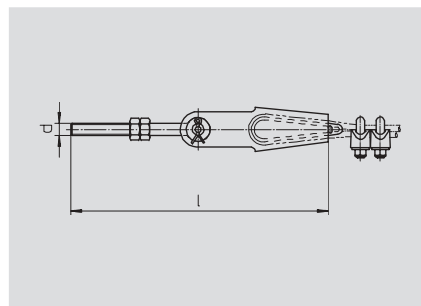
In planning a flexible cable system it is necessary to calculate the carrying capacity of the rope. Normally plastic covered steel ropes are used which are suitable for most applications.

- $F$  [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  
 $\varphi$  = 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:

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

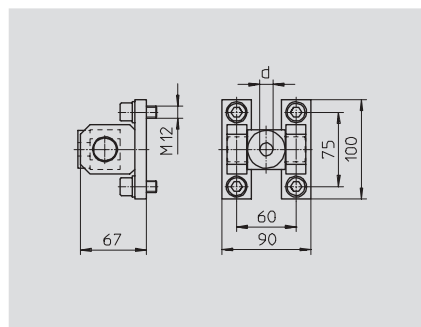
## Straining Screws



Cat.-No.	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

## Straining Buckles



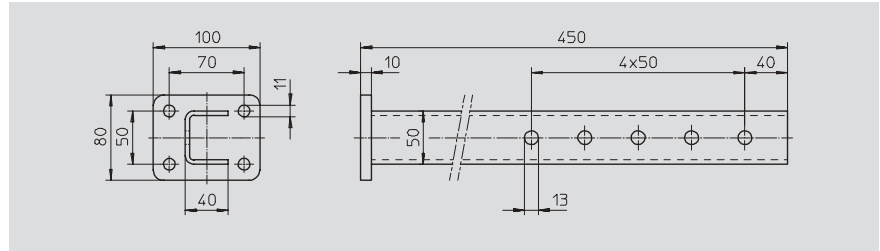
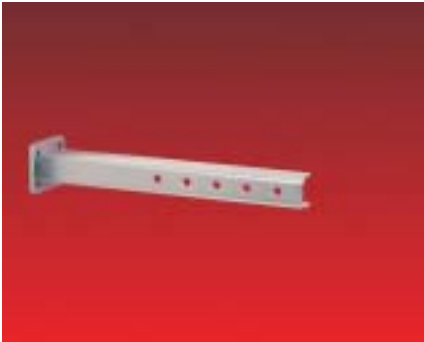
Cat.-No.	d [mm]	Suitable Strainer bracket
020189-12	13	021542
020189-16	17	
020189-20	21	

Material: galvanized steel

Application: For flexible reception of the straining screw.

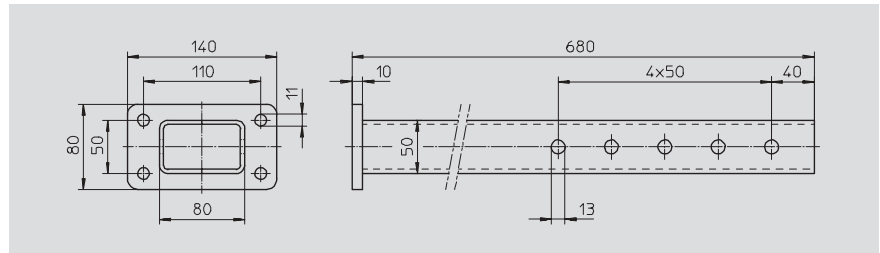
# Ropes and Accessories

## Strainer Brackets



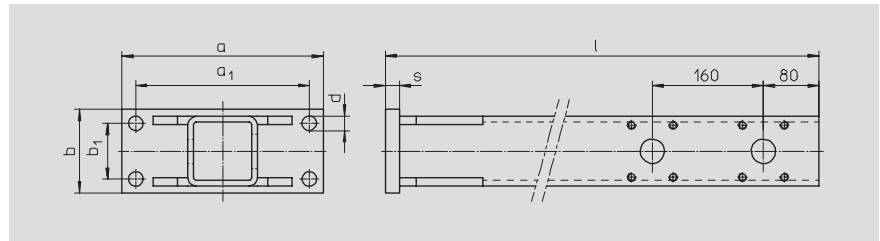
**Catalogue-No.: 021141-400**  
Material: galvanized steel

Suitable straining screw 020187-12



**Catalogue-No.: 021141-630**  
Material: galvanized steel

Suitable straining screw 020187-12

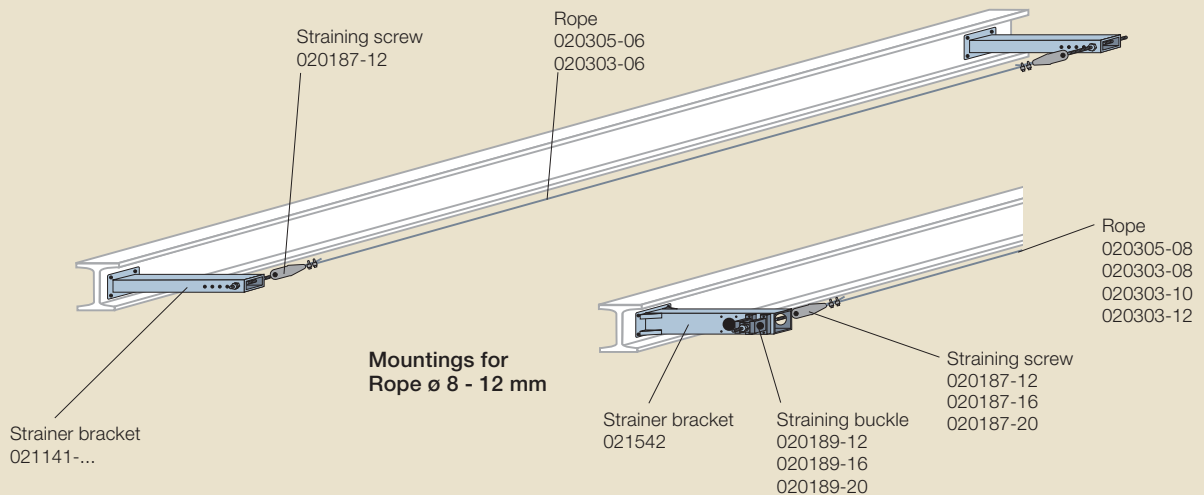


Catalogue-No.	l [mm]	a [mm]	b [mm]	a <sub>1</sub> [mm]	b <sub>1</sub> [mm]	d [mm]	s [mm]
021542-0400	495	290	120	250	80	21	15
021542-0630	730	330	130	280	80	25	20
021542-1000	1105	390	150	330	90	31	25

Material: galvanized steel

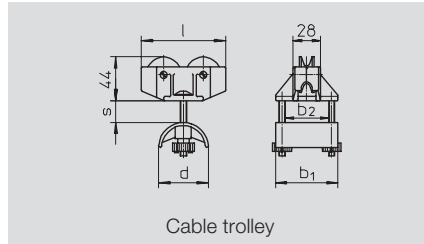
To be ordered only in connection with straining buckle 020189. This strainer bracket is also used with two ropes running in parallel. Distance between ropes 160 mm.

### Mountings for Rope $\varnothing$ 6 mm

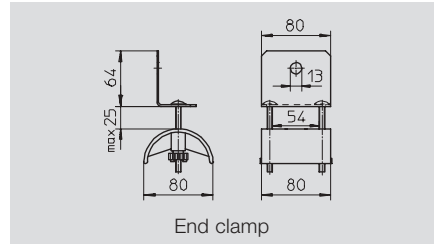


# Flat Cable Trolleys

Plastic Cable Trolleys for Rope  $\varnothing$  6 mm / Load Capacity up to 6 kg



Cable trolley

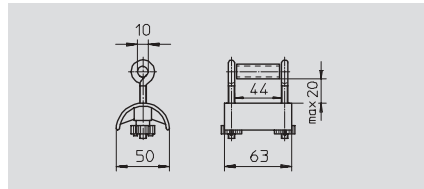


End clamp

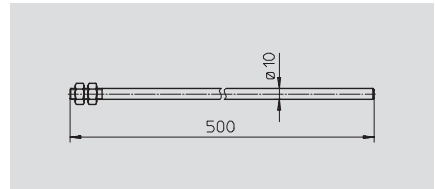
Cable trolley Catalogue-No.	End clamp Catalogue-No.	d [mm]	l [mm]	b <sub>1</sub> [mm]	b <sub>2</sub> [mm]	s [mm]
021113	021163	50	85	63	44	17
021114		80	125	80	54	22

Type of roller: plastic; Axle: stainless steel  
Load capacity: 6 kg

## Cable Support not running on Rope

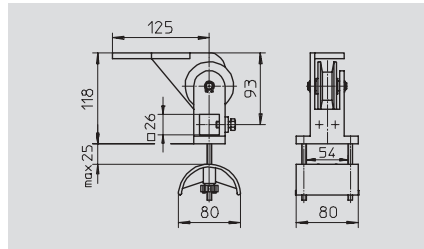


Cable support  
Catalogue-No.: 021127

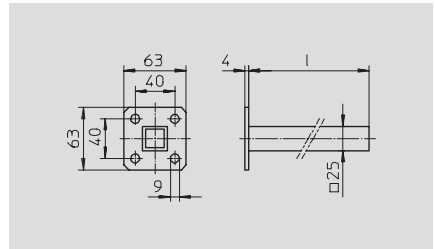


Towing arm  
Catalogue-No.: 021136  
Material: galvanized steel

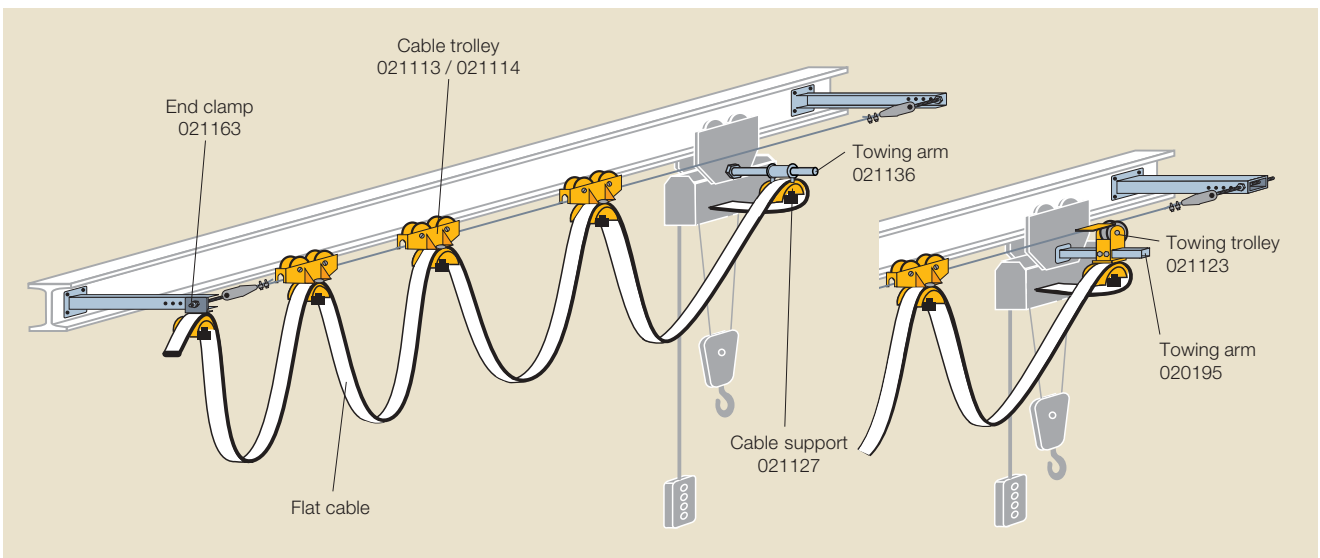
## Towing Trolleys running on Rope



Towing trolley  
Catalogue-No.: 021123

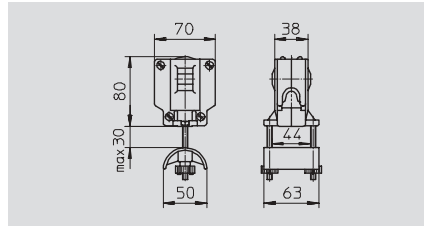


Towing arm Catalogue-No.	l [mm]	Material
020195-400	400	galvanized steel
020195-630	630	



# Flat Cable Trolleys

Plastic Cable Trolleys for Ropes  $\varnothing$  8-12 mm / Load Capacity up to 20 kg



**Cable trolley Catalogue-No.: 021631**

Type of roller: plastic  
Axle: stainless steel  
Load capacity: 10 kg

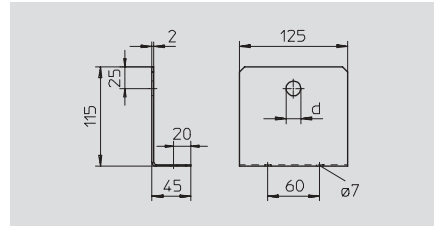
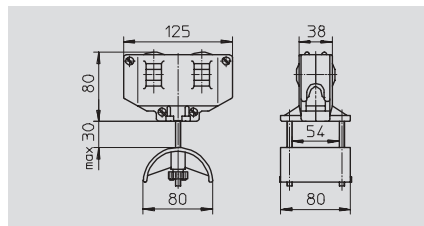
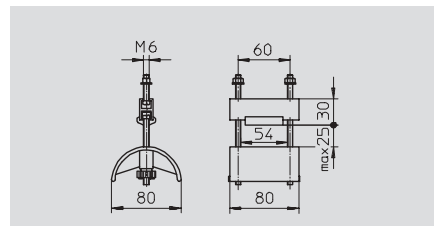


Plate Cat.-No.	d [mm]	Suitable Straining screw
020190-12	13	020187-12
020190-16	17	020187-16
020190-20	21	020187-20



**Cable trolley Catalogue-No.: 021632-80**

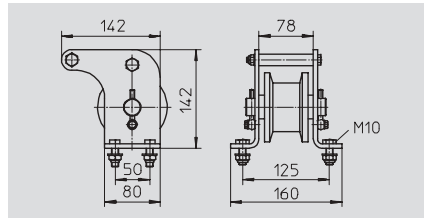
Type of roller: plastic  
Axle: stainless steel  
Load capacity: 20 kg



**End clamp Catalogue-No.: 020222-080**

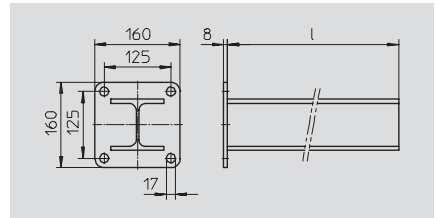
To fit below plate 020190 and towing arm 021531.

## Towing Trolleys running on Rope

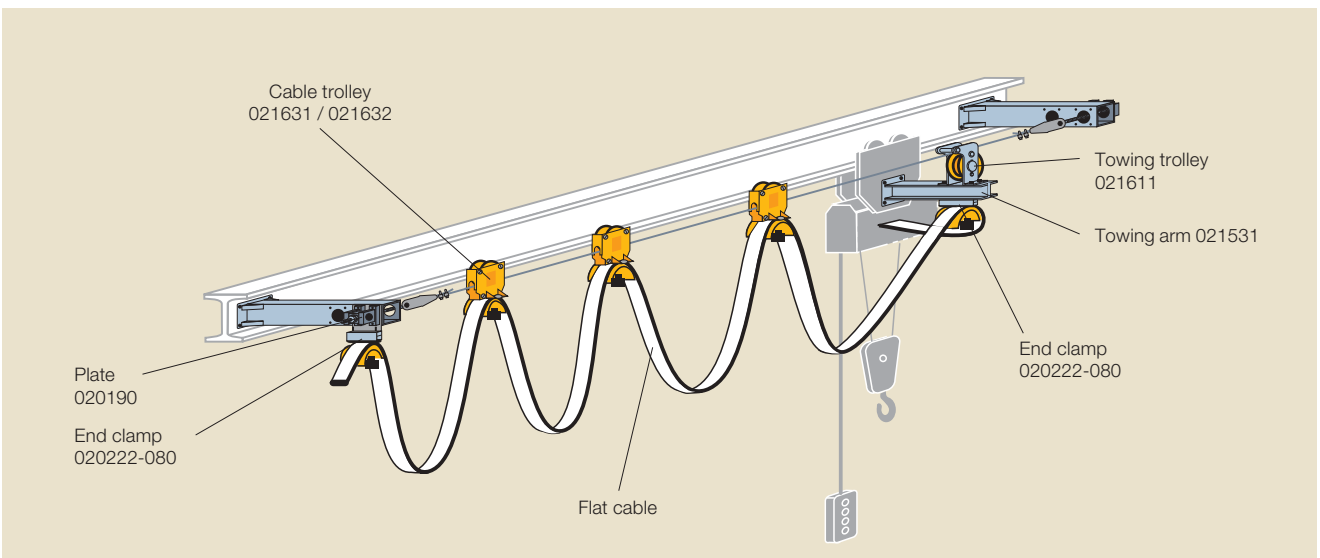


**Towing trolley Catalogue-No.: 021611**

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

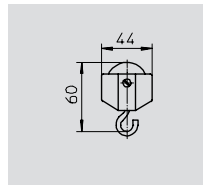


Towing arm Catalogue-No.	l [mm]	Material
021531-0400	400	galvanized steel
021531-0630	630	
021531-1000	1000	

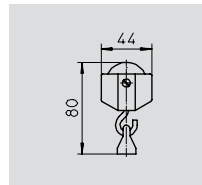


# Round Cable Trolleys

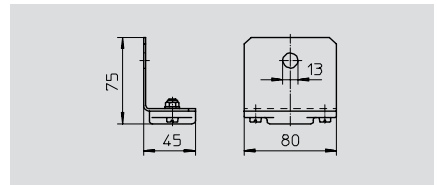
Plastic Trolleys for Rope  $\varnothing$  6 mm / Load Capacity up to 6 kg



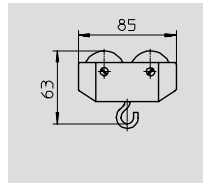
**Trolley with hook**  
Cat.-No.: 021111  
Load capacity: 3 kg



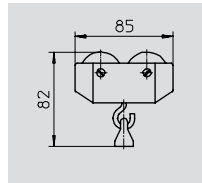
**Trolley with eye**  
Cat.-No.: 021115  
Load capacity: 3 kg



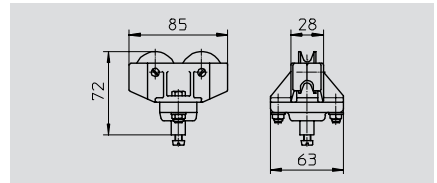
**End clamp**  
Cat.-No.: 021164  
Suitable cable clip 020131



**Trolley with hook**  
Cat.-No.: 021112  
Load capacity: 6 kg



**Trolley with eye**  
Cat.-No.: 021116  
Load capacity: 6 kg



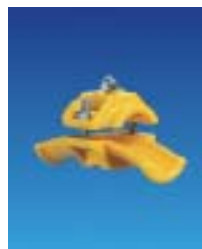
**Trolley with ball joint**  
Cat.-No.: 021117  
Load capacity: 6 kg

## Cable Collars for Trolleys with Hook



Cable collar Catalogue-No.	Cable $\varnothing$ [mm]
020111-10	10
020111-12.5	12.5
020111-14	14
020111-16	16
020111-18	18
020111-20	20

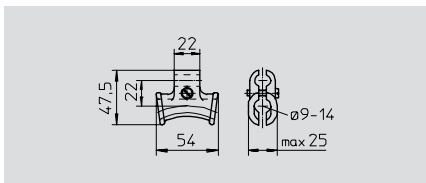
## Cable Clips for Trolleys with Hook or Ball Joint



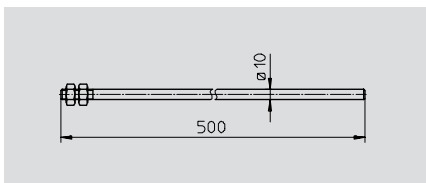
Cable clip Catalogue-No.	Cable $\varnothing$ [mm]
020131-16	10 - 16
020131-25	17 - 25
020131-36	26 - 36

The cable clips can be combined in multiple variations.

## Cable Support not running on Rope

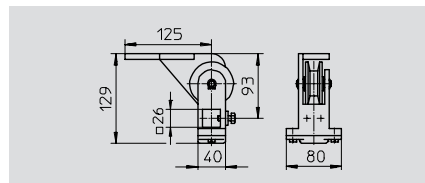


**Cable support**  
Cat.-No.: 021126  
Only for one cable.  
Not possible to fit additional clips.

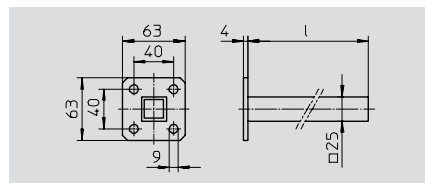


**Towing arm**  
Cat.-No.: 021136

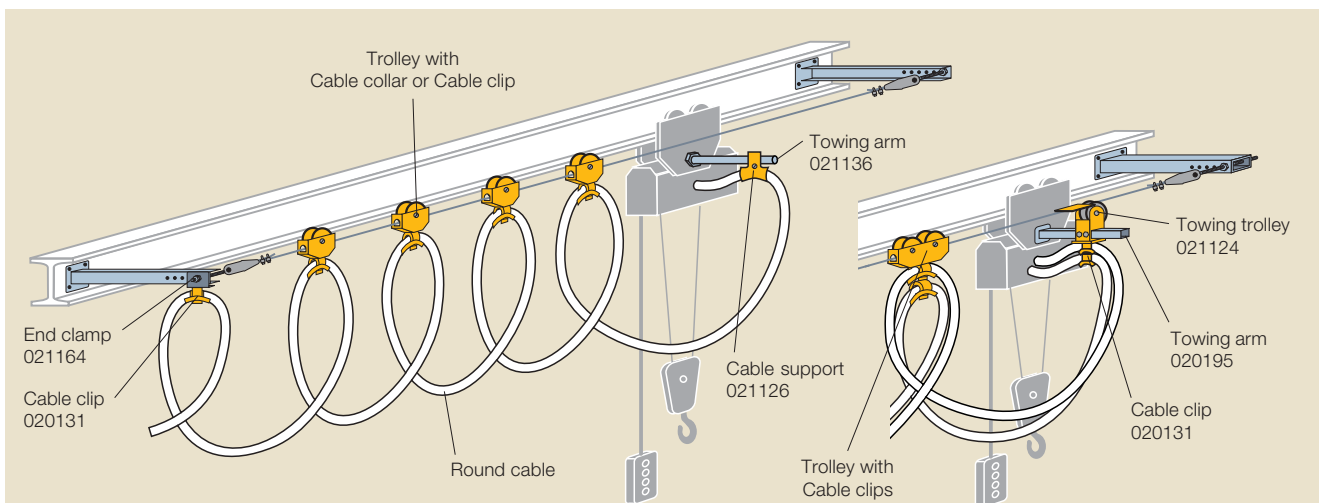
## Towing Trolley running on Rope



**Towing trolley**  
Cat.-No.: 021124  
Suitable cable clip 020131.

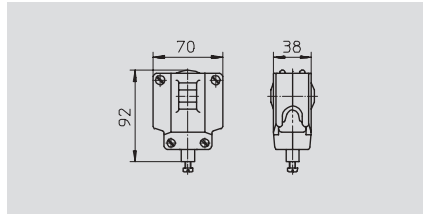


**Towing arm**  
Cat.-No.: 020195-400  
(l = 400 mm)  
Cat.-No.: 020195-630  
(l = 630 mm)



# Round Cable Trolleys

Plastic Trolleys for Ropes  $\varnothing$  8-12 mm / Load Capacity up to 20 kg



**Trolley Catalogue-No.: 021621**  
 Type of roller: plastic  
 Axle: stainless steel  
 Load capacity: 10 kg  
**Suitable cable clips 020131 see page 6.**

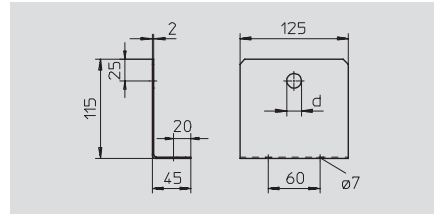
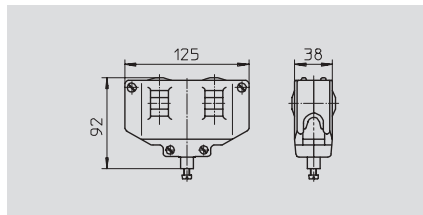
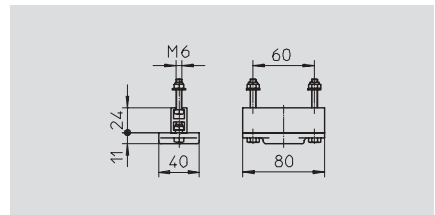


Plate Cat.-No.	d [mm]	Suitable Straining screw
020190-12	13	020187-12
020190-16	17	020187-16
020190-20	21	020187-20



**Trolley Catalogue-No.: 021622**  
 Type of roller: plastic  
 Axle: stainless steel  
 Load capacity: 20 kg  
**Suitable cable clips 020131 see page 6.**



**End clamp Catalogue-No.: 020214-080**  
 To fit below plate 020190 and towing arm 021531.

## Towing Trolley on Rope



Towing trolley 021611 and Towing arm 021531 see page 5.

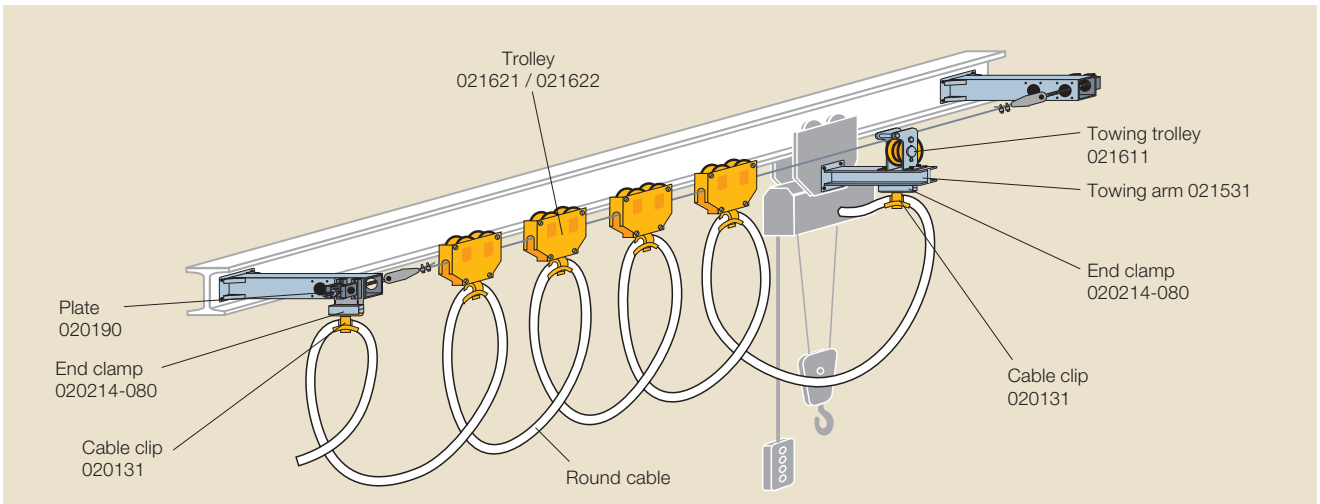
## Supplements to the Programme on Inquiry



Trolley running on two ropes. Double load capacity.



Ideal Control Unit Trolley for Flat and Round Cables.



# Cables and Accessories

## Rubber Flat Cables, Flat Cable Glands and Lock Nuts

Type	Number of cores and cross section [mm <sup>2</sup> ]	Cat.-No.	Max. dimension s x b [mm]	Approx. weight [kg/100 m]	Size	Flat cable gland Cat.-No.	Lock nut Cat.-No.
NGFLGÖU-J	4x1.5	0401- 4X1.5	6.4 x 18.5	20	Pg 21	020626-21	020657-21
NGFLGÖU-J	5x1.5	0401- 5X1.5	6.4 x 21.5	24	Pg 29	020626-29	020657-29
NGFLGÖU-J	8x1.5	0401- 8X1.5	6.4 x 32.0	35	Pg 36	020626-36	020657-36
NGFLGÖU-J	10x1.5	0401-10X1.5	7.0 x 41.5	50	Pg 42	020626-42S	020657-42
NGFLGÖU-J	12x1.5	0401-12X1.5	7.0 x 48.5	59	Pg 48	020626-48S	020657-48
NGFLGÖU-J	4x2.5	0401- 4X2.5	8.2 x 23.0	29	Pg 29	020626-29	020657-29
NGFLGÖU-J	5x2.5	0401- 5X2.5	8.2 x 28.5	42	Pg 29	020626-29S	020657-29
NGFLGÖU-J	8x2.5	0401- 8X2.5	8.2 x 42.0	55	Pg 42	020626-42S	020657-42
NGFLGÖU-J	4x4	0401- 4X4	9.6 x 28.0	41	Pg 29	020626-29S	020657-29
NGFLGÖU-J	4x6	0401- 4X6	10.4 x 30.0	52	Pg 36	020626-36	020657-36
Rubber flat cables with individually screened cores							
GCFLGÖU-O	4x1.5	0404- 4X1.5	7.4 x 19.5	25	Pg 21	020626-21	020657-21
GCFLGÖU-O	8x1.5	0404- 8X1.5	7.4 x 37.3	51	Pg 36	020626-36S	020657-36

## PVC Flat Cables, Flat Cable Glands and Lock Nuts

Type	Number of cores and cross section [mm <sup>2</sup> ]	Cat.-No.	Max. dimension s x b [mm]	Approx. weight [kg/100 m]	Size	Flat cable gland Cat.-No.	Lock nut Cat.-No.
H07VVH6-F	4G1.5	0325- 4G1.5	5.2 x 15.5	15.3	Pg 21	020626-21	020657-21
H07VVH6-F	5G1.5	0325- 5G1.5	5.2 x 18.5	18.5	Pg 21	020626-21	020657-21
H07VVH6-F	8G1.5	0325- 8G1.5	5.2 x 31.0	29.7	Pg 36	020626-36	020657-36
H07VVH6-F	10G1.5	0325-10G1.5	5.2 x 37.0	36.2	Pg 36	020626-36S	020657-36
H07VVH6-F	12G1.5	0325-12G1.5	5.2 x 41.5	42.8	Pg 42	020626-42S	020657-42
H07VVH6-F	4G2.5	0325- 4G2.5	5.9 x 19.0	22.4	Pg 21	020626-21	020657-21
H07VVH6-F	5G2.5	0325- 5G2.5	5.9 x 22.5	26.9	Pg 29	020626-29	020657-29
H07VVH6-F	8G2.5	0325- 8G2.5	5.9 x 38.0	43.7	Pg 36	020626-36S	020657-36
H07VVH6-F	4G4	0325- 4G4	7.1 x 22.0	31.0	Pg 29	020626-29	020657-29
H07VVH6-F	4G6	0325- 4G6	7.8 x 25.0	41.5	Pg 29	020626-29	020657-29
H07VVH6-F	4G10	0325- 4G10	9.9 x 31.5	68.0	Pg 36	020626-36	020657-36

## Rubber Round Cables, Round Cable Glands and Lock Nuts

Type	Cores-No. cross sect. [mm <sup>2</sup> ]	Cat.-No.	Outer ø min.-max. [mm]	Approx. weight [kg/100m]	Size	Round cable gland Cat.-No.	Lock nut Cat.-No.
H07RN-F	4G1.5	0601- 4G1.5	10.5-13.5	21	Pg 16	020646-16	020657-16
H07RN-F	4G2.5	0601- 4G2.5	12.5-15.5	30	Pg 21	020646-21	020657-21
H07RN-F	4G4	0601- 4G4	14.5-18.0	40	Pg 21	020646-21	020657-21
H07RN-F	4G6	0601- 4G6	16.5-22.0	54	Pg 29	020646-29	020657-29
H07RN-F	5G1.5	0601- 5G1.5	11.5-15.0	23	Pg 21	020646-21	020657-21
H07RN-F	5G2.5	0601- 5G2.5	13.5-17.0	36	Pg 21	020646-21	020657-21
A07RN-F	12G1.5	0602-12G1.5	18.0-23.0	57	Pg 29	020646-29	020657-29
A07RN-F	12G2.5	0602-12G2.5	18.5-26.5	80	Pg 29	020646-29	020657-29

## Compressed-air Hoses

Cat.-No.	Hose ø interior [mm]	Hose ø exterior [mm]	Pressure at 20°C [bar]
040421-1	6	12	23
040421-2	9	15	19
040421-3	12	21	16

Material:  
Clear PVC with textile braid;  
oil and gasoline resistant.

For further applications we offer a supplementary standard programme.  
Also acid resistant constructions.

