

Cable / Hose Drag Chain MP18 Series

Cable / Hose Drag Chain MP18 Series

Overview

The MP18 series features hinge and latch crossbars to allow convenient access to the chain's channel after installation. This feature saves time by allowing cables and hoses to be added or replaced after chain installation and does not limit the installer to only pulling hose and cable through the chain.

The MP18 series is constructed of rugged polyamide (PA) and will support and protect cables up to 15mm (0.59 in) in diameter. End brackets provide a secure mounting point for chains and have cable tie strain relief tabs for securing cables and hoses.

This series may be designed into systems requiring 3.7 m [10.4 ft] of unsupported spans and is capable of extending up to 20m [65.6 ft] in a gliding configuration. The MP18 chain is packaged in chain lengths of 1 meter (30 connected links) and may be shortened or extended by one or more links to fit the application.

Separators may be added at any time to enable segregation of cables/hoses within the same chain.

Features

- Black PA (Polyamide)
- Chain length 1m [3.2 ft] or 30-links
- Link pitch 33mm [1.30 in]
- Gliding friction factor 0.3
- Static friction factor 0.45
- Material flammability rating of UL 94 HB
- Operating temperature -30 to 120°C [-22 to 248°F]
- Each package contains 30 chain links (brackets required sold separately)
- One or more links may be added/removed to extend/shorten the chain length



CDC-0.7X2.0R3.1N



CDC-0.7X0.7R1.1T

Cable / Hose Drag Chain MP18 Series

MP18 Design Guide

The following Design Guide section walks through 5 steps to select the correct part numbers and to optimize drag chain system design. Drag chain inside width requirement, bend radius, maximum unsupported length, and stroke length will be calculated. In step 4, generalized tables are provided for reference, the intention of this table is to provide conservative estimates of cable linear weight, the designer should consult manufacturer cable specification sheets to verify cable specifications.

Step 1 Part Number Selection: Inside Width

Verify cable outer diameter (OD) is less than 15mm [0.59 in]

Inside Width Calculation	
Cables with Equal Diameters	Cables with Different Diameters
Add all diameters	Add all diameters plus separator(s) width
Total Cable Width = OD1 + OD2 + OD3....	Total Cable Width = OD1 + OD2 + OD3.... Separator Width = Number of Separators x 0.18 in Total Width = Total Cable Width + Separators Width
Inside Width = Total Cable Width x 1.2	Inside Width = Total Width x 1.2



CDC-TR-14.18

Separators are installed by the user every 2-3 links to keep cables of different diameters from crossing and getting pinched. The separators are sold as an accessory in packages of 10.

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Part Number	Inside Width (B)		Bend Radius (C)		Opening Side
	mm	in	mm	in	
CDC-0.7X0.7R1.1T	18	0.709	28	1.102	OUT
CDC-0.7X1.0R1.1N	25	0.984	28	1.102	IN
CDC-0.7X1.5R1.1T	37	1.457	28	1.102	OUT
CDC-0.7X2.0R1.1N	50	1.969	28	1.102	IN
CDC-0.7X2.8R3.1T	70	2.756	78	3.071	OUT

Full part number selection chart available later in this section.

Step 2 Part Number Selection: Bend Radius

- Determine **minimum cable bend radius** located on the cable/hose supplier specification
- Select drag chain part number

Bend Radius (C) > minimum cable bend radius

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CDC-0.7X1.0R1.1N	25	0.984	28	1.102	IN
CDC-0.7X1.5R1.1T	37	1.457	28	1.102	OUT
CDC-0.7X2.0R1.1N	50	1.969	28	1.102	IN
CDC-0.7X2.8R3.1T	70	2.756	78	3.071	OUT

Full part number selection chart available later in this section.

LUTZE
SYSTEMATIC TECHNOLOGY

LUTZE SUPERFLEX®
Control Cable

Unshielded High Flexing Control Cable Shielded High Flexing Control Cable

	Traveling Distance	Flex Cycles		Speed	Acceleration	Cycles
		Bending Radius	Flex Cycles			
A148 Series	< 105' / 32m	> 12 Ø	< 500k	< 5m/s²	< 10m/s²	10,000,000
	< 495' / 150m	> 10 Ø	< 500k	< 5m/s²	< 10m/s²	5,000,000
A149 Series	< 105' / 32m	> 15 Ø	< 500k	< 5m/s²	< 10m/s²	10,000,000
	< 495' / 150m	> 12 Ø	< 500k	< 5m/s²	< 10m/s²	5,000,000

conductor control cable has the versatility to meet a wide range of industrial applications. These flexible multi-conductor cables provide an economical way to organize and simplify control wiring in machines and facilities. Suitable for continuous flexing applications, these cables are ideal for both stationary and flexing applications with limited mechanical stress and free movement without any tensile stress, loads or forced movements.

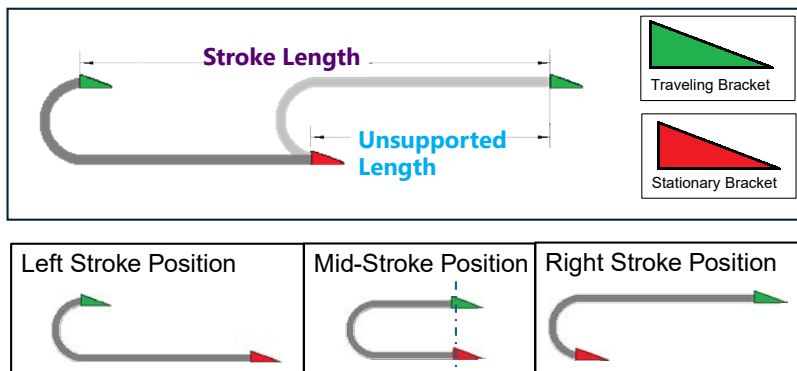
Available cut to length in 1 foot increments with a 20 foot minimum length.

- Cut to length in 1 foot or
- Low 20 foot minimum length
- Made in the USA

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Step 3 Stroke Length: Unsupported

- Determine **Stroke Length**
- Stroke Length** = 2 x **Unsupported Length**



Steps 3, 4, and 5 apply to Installation Options 1, 7, and 8 - see the Installation Options page.



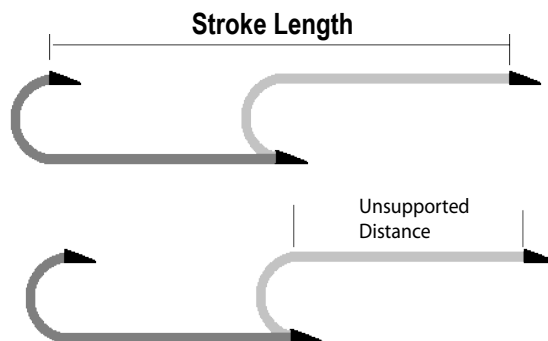
TIP Vertically aligning the **Traveling Bracket** and **Stationary Bracket** at the mid stroke position will reduce the length of chain needed and may reduce system wear due to extra mass.

Step 4 Max Stroke Length: Unsupported

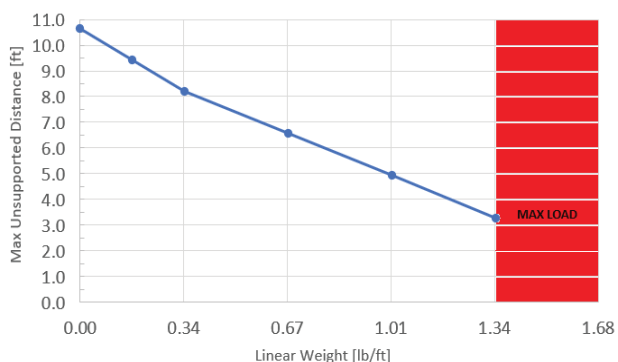
- Determine cable fill linear weight
 - Use cable spec sheets to add linear weights
 - Use table below for estimating linear weights
- Verify the application stroke length does not exceed the MAX stroke length corresponding to the application weight/load conditions

Cable Drag Chain Max Stroke Length						
Cable Type	Outer Diameter (inch)	Linear Weight (lbs/ft)	MAX Stroke Length (ft)			
			Single Fill	Double Fill	Triple Fill	Quad Fill
Ethernet	< 0.25	< 0.034	10.4	10.2	9.9	9.7
	0.25 - 0.32	< 0.053	10.3	9.9	9.5	9.1
Control/VFD Cable	< 0.25	< 0.044	10.3	10.0	9.7	9.4
	0.25 - 0.32	< 0.074	10.1	9.6	9.0	8.5
	0.32 - 0.40	< 0.132	9.7	8.7	7.8	6.8
	0.40 - 0.45	< 0.180	9.3	8.0	6.7	6.3
	0.45 - 0.50	< 0.211	9.1	7.6	6.0	5.7
	0.50 - 0.55	< 0.271	8.7	6.7	5.9	4.6
	0.55 - 0.60	< 0.328	8.3	5.9	5.0	3.4

Note: For managing hoses, consult the hose manufacturer for diameter and weights.



Linear Weight vs Max Unsupported Distance



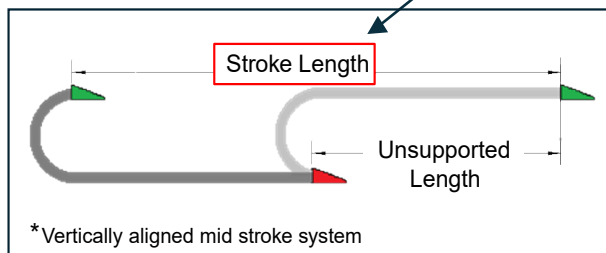
Verify the application stroke length does not exceed the cable chain max stroke length.

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Step 5 Chain Length: Unsupported

- Each drag chain part number is 3.2 ft [1m] in length (30 links) and additional links may be added to extend the chain.

$$\text{Chain length} = \frac{1}{2} \text{ Stroke Length} + (3.14 \times \text{Bend Radius})$$

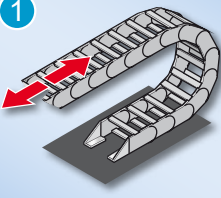
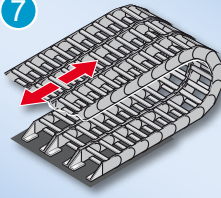
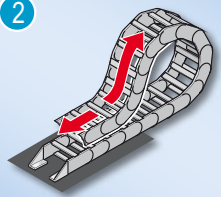

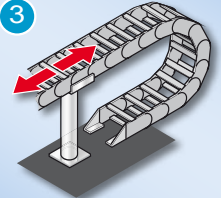

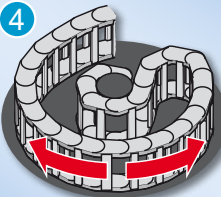

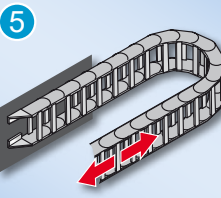

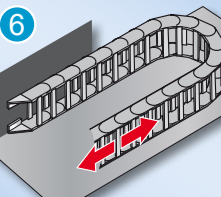
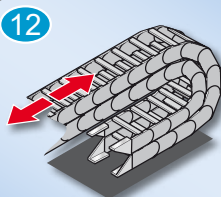


Cable / Hose Drag Chain MP18 Series					
Part Number	Inside Width (B)		Bend Radius (C)		Opening Side
	mm	in	mm	in	
<u>CDC-0.7X0.7R1.1T</u>	18	0.709	28	1.102	OUT
<u>CDC-0.7X1.0R1.1N</u>	25	0.984	28	1.102	IN
<u>CDC-0.7X1.5R1.1T</u>	37	1.457	28	1.102	OUT
<u>CDC-0.7X2.0R1.1N</u>	50	1.969	28	1.102	IN
<u>CDC-0.7X2.8R3.1T</u>	70	2.756	78	3.071	OUT

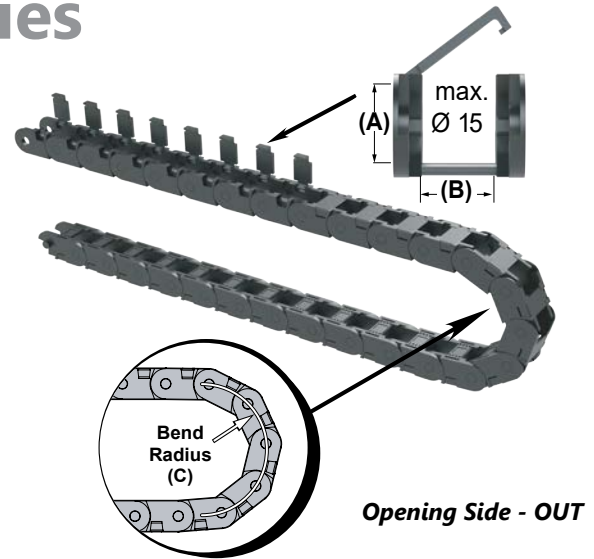
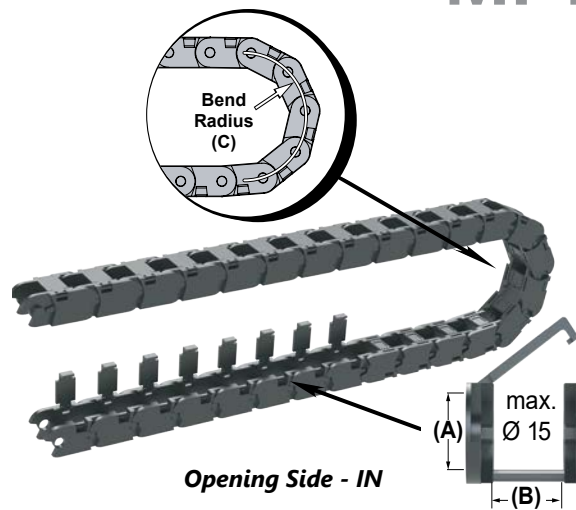
Full part number selection chart available later in this section.

Cable / Hose Drag Chain MP18 Series

Installation Options For Cable / Hose Drag Chains

	<p>Installation option: Horizontal, self-supporting</p>		<p>Installation option: Horizontal, parallel</p>
	<p>Installation option: Horizontal, gliding</p>		<p>Installation option: Horizontal, opposed</p>
	<p>Installation option: Horizontal, self-supporting, overlap with support</p>		<p>Installation option: Vertical, standing</p>
	<p>Installation option: Horizontal, circular movement Design using rearward bending radius</p>		<p>Installation option: Vertical, hanging</p>
	<p>Installation option: Horizontal, side-mounted (rotated 90°)</p>		<p>Installation option: Horizontal/vertical, combined</p>
	<p>Installation option: Horizontal, side-mounted (rotated 90°), with support</p>		<p>Installation option: Horizontal, interlocked</p>

Cable / Hose Drag Chain MP18 Series


Cable / Hose Drag Chain Selection Chart MP18 Series

Part Number	Price	Drawing Link	Inside Height (A)		Inside Width (B)		Bend Radius (C)		Opening Side	Requires Mounting Bracket (sold separately)
			mm	in	mm	in	mm	in		
CDC-0.7X0.7R1.1T	\$66p3:	PDF	18	0.709	18	0.709	28	1.102	OUT	CDC-KAZ-0.7X0.7
CDC-0.7X0.7R1.1N	\$66p4:	PDF	18	0.709	18	0.709	28	1.102	IN	CDC-KAZ-0.7X0.7
CDC-0.7X0.7R1.5N	\$66p5:	PDF	18	0.709	18	0.709	38	1.496	IN	CDC-KAZ-0.7X0.7
CDC-0.7X0.7R1.5T	\$66p6:	PDF	18	0.709	18	0.709	38	1.496	OUT	CDC-KAZ-0.7X0.7
CDC-0.7X0.7R1.9T	\$66p7:	PDF	18	0.709	18	0.709	48	1.890	OUT	CDC-KAZ-0.7X0.7
CDC-0.7X0.7R1.9N	\$66o?:	PDF	18	0.709	18	0.709	48	1.890	IN	CDC-KAZ-0.7X0.7
CDC-0.7X0.7R3.1N	\$66o,:	PDF	18	0.709	18	0.709	78	3.071	IN	CDC-KAZ-0.7X0.7
CDC-0.7X0.7R3.1T	\$66p0:	PDF	18	0.709	18	0.709	78	3.071	OUT	CDC-KAZ-0.7X0.7
CDC-0.7X1.0R1.1N	\$66p1:	PDF	18	0.709	25	0.984	28	1.102	IN	CDC-KAZ-0.7X1.0
CDC-0.7X1.0R1.1T	\$66p2:	PDF	18	0.709	25	0.984	28	1.102	OUT	CDC-KAZ-0.7X1.0
CDC-0.7X1.0R1.5N	\$66p8:	PDF	18	0.709	25	0.984	38	1.496	IN	CDC-KAZ-0.7X1.0
CDC-0.7X1.0R1.5T	\$66p9:	PDF	18	0.709	25	0.984	38	1.496	OUT	CDC-KAZ-0.7X1.0
CDC-0.7X1.0R1.9T	\$66pa:	PDF	18	0.709	25	0.984	48	1.890	OUT	CDC-KAZ-0.7X1.0
CDC-0.7X1.0R1.9N	\$66pb:	PDF	18	0.709	25	0.984	48	1.890	IN	CDC-KAZ-0.7X1.0
CDC-0.7X1.0R3.1N	\$66pc:	PDF	18	0.709	25	0.984	78	3.071	IN	CDC-KAZ-0.7X1.0
CDC-0.7X1.0R3.1T	\$66pd:	PDF	18	0.709	25	0.984	78	3.071	OUT	CDC-KAZ-0.7X1.0
CDC-0.7X1.5R1.1T	\$66pe:	PDF	18	0.709	37	1.457	28	1.102	OUT	CDC-KAZ-0.7X1.5
CDC-0.7X1.5R1.1N	\$66pf:	PDF	18	0.709	37	1.457	28	1.102	IN	CDC-KAZ-0.7X1.5
CDC-0.7X1.5R1.5T	\$66pg:	PDF	18	0.709	37	1.457	38	1.496	OUT	CDC-KAZ-0.7X1.5
CDC-0.7X1.5R1.5N	\$66ph:	PDF	18	0.709	37	1.457	38	1.496	IN	CDC-KAZ-0.7X1.5
CDC-0.7X1.5R1.9T	\$66pi:	PDF	18	0.709	37	1.457	48	1.890	OUT	CDC-KAZ-0.7X1.5
CDC-0.7X1.5R1.9N	\$66pj:	PDF	18	0.709	37	1.457	48	1.890	IN	CDC-KAZ-0.7X1.5
CDC-0.7X1.5R3.1T	\$66pk:	PDF	18	0.709	37	1.457	78	3.071	OUT	CDC-KAZ-0.7X1.5
CDC-0.7X1.5R3.1N	\$66pl:	PDF	18	0.709	37	1.457	78	3.071	IN	CDC-KAZ-0.7X1.5
CDC-0.7X2.0R1.1N	\$66pn:	PDF	18	0.709	50	1.969	28	1.102	IN	CDC-KAZ-0.7X2.0
CDC-0.7X2.0R1.1T	\$66po:	PDF	18	0.709	50	1.969	28	1.102	OUT	CDC-KAZ-0.7X2.0
CDC-0.7X2.0R1.5T	\$66pp:	PDF	18	0.709	50	1.969	38	1.496	OUT	CDC-KAZ-0.7X2.0
CDC-0.7X2.0R1.5N	\$66pq:	PDF	18	0.709	50	1.969	38	1.496	IN	CDC-KAZ-0.7X2.0
CDC-0.7X2.0R1.9N	\$66ps:	PDF	18	0.709	50	1.969	48	1.890	IN	CDC-KAZ-0.7X2.0
CDC-0.7X2.0R1.9T	\$66pt:	PDF	18	0.709	50	1.969	48	1.890	OUT	CDC-KAZ-0.7X2.0
CDC-0.7X2.0R3.1T	\$66px:	PDF	18	0.709	50	1.969	78	3.071	OUT	CDC-KAZ-0.7X2.0
CDC-0.7X2.0R3.1N	\$66py:	PDF	18	0.709	50	1.969	78	3.071	IN	CDC-KAZ-0.7X2.0
CDC-0.7X2.8R3.1T	\$66pz:	PDF	18	0.709	70	2.756	78	3.071	OUT	CDC-KAZ-0.7X2.8
CDC-0.7X2.8R3.1N	\$66pu:	PDF	18	0.709	70	2.756	78	3.071	IN	CDC-KAZ-0.7X2.8

Each chain is 1m [3.2 ft]

Cable / Hose Drag Chain Accessories MP18 Series

Cable / Hose Drag Chain Brackets MP18 Series

Overview

The chain end brackets are made of black polyamide (PA). The end brackets are precisely adjusted to the respective chain width and only need to be snapped into each end of the chain. Please order one bracket kit that includes (1) male and (1) female end bracket for each chain system. The brackets should be fastened with M5 screws (not included). The cables or conduits may be fastened with cable ties on the integrated strain relief of the chain bracket.

Cable / Hose Drag Chain Brackets MP18 Series						
Part Number	Price	Inside Height		Inside Width		Drawing Link
		mm	in	mm	in	
CDC-KAZ-0.7X0.7	\$,66p]:	18	0.709	18	0.709	PDF
CDC-KAZ-0.7X1.0	\$,66p]:	18	0.709	25	0.984	PDF
CDC-KAZ-0.7X1.5	\$66p_:	18	0.709	37	1.457	PDF
CDC-KAZ-0.7X2.0	\$66p#:	18	0.709	50	1.969	PDF
CDC-KAZ-0.7X2.8	\$,66p!:	18	0.709	70	2.756	PDF

Mounting hardware not included.



[CDC-KAZ-0.7X0.7](#)

Cable / Hose Drag Chain Separator MP18 Series

Overview

The chain separators are black polyamide (PA). We recommend that separators be used if multiple round cables or hoses with differing diameters are to be installed. Separators are recommended to be used every 2 to 3 links depending on the loading, but may be placed on every link if necessary to prevent cable pinching.

Cable / Hose Drag Chain Separator MP18 Series					
Part Number	Price	Qty	Inside Height		Drawing Link
			mm	in	
CDC-TR-14.18	\$66pv:	10	18	0.709	PDF

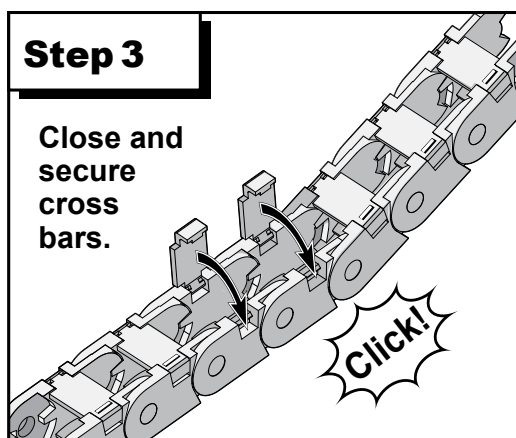
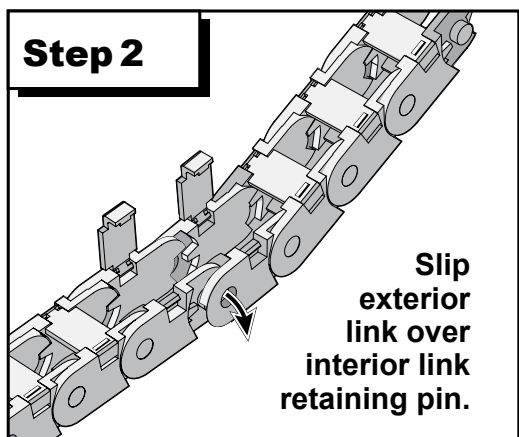
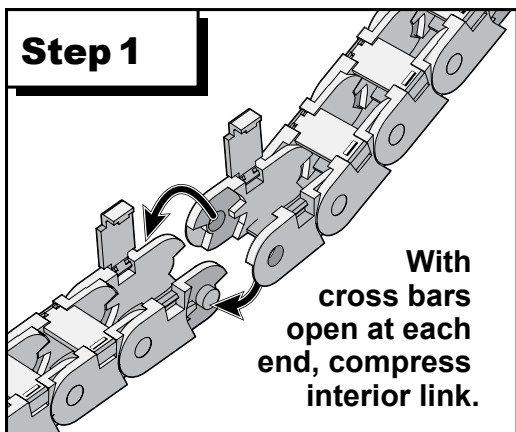


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Cable / Hose Drag Chain Separator Usage MP18 Series	
Separator Usage	Separator per 1m Chain
Every Link	30
Every 2 Links	15
Every 3 Links	10

Cable / Hose Drag Chain MP18 Series

Assembly



Disassembly

