



Igus® 2500 Cable / Hose Drag Chain

Cable / Hose Drag Chain 2500 Series



Overview

The igus 2500 series features a snap-open mechanism along the chain's outer radius to allow convenient access to the chain's channel after installation. The hinged crossbar can be swiveled by more than 180° on both sides. This feature allows for lightning-fast closure by hand and a secure fit without additional locking devices. This 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 2500 series is constructed of rugged igumid® G and will support and protect cables up to 23mm [0.91in] 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 2.25m [7.4ft] of unsupported spans and is capable of extending up to 100m [328ft] in a gliding configuration. The chain is packaged in chain lengths of 1m [3.2ft] (22 connected links) and may be shortened or extended by one or more links to fit the application.

Features

- igumid® G material
- Chain length 1.0m [3.2ft]
- Pitch per link: 46mm [1.81in]
- Links per meter [foot]: 22 [6.71]
- V max. unsupported: 20 m/s [66 ft/s]
- V max. gliding: 10 m/s [33 ft/s]
- Material flammability rating of UL 94 HB
- Operating temperature -40° to 120°C [-40° to 248°F]
- Each package contains 22 chain links (required brackets sold separately)
- One or more links may be added/removed to extend/shorten the chain length



2500-03-055



2500-05-075



Snap-open mechanism opens left or right more than 180°



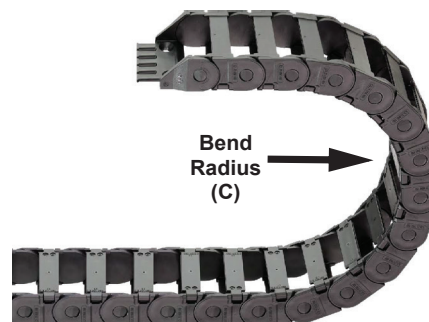
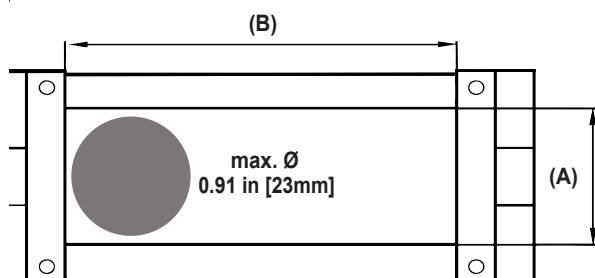
2500-07-100



2500-10-125



Igus® 2500 Cable / Hose Drag Chain



Opening side - OUT only

Cable / Hose Drag Chain Selection Chart 2500 Series

Part Number	Price	Drawing Link	Inside Height (A)		Inside Width (B)		Bend Radius (C)		Requires Mounting Bracket (sold separately)
			mm	in	mm	in	mm	in	
2500-03-055	\$59.00	PDF	25mm	0.98in	38mm	1.5in	55mm	2.16in	2030-34PZB or 2030-12PZB
2500-03-075	\$59.00	PDF	25mm	0.98in	38mm	1.5in	75mm	2.95in	2030-34PZB or 2030-12PZB
2500-03-100	\$59.00	PDF	25mm	0.98in	38mm	1.5in	100mm	3.94in	2030-34PZB or 2030-12PZB
2500-03-125	\$59.00	PDF	25mm	0.98in	38mm	1.5in	125mm	4.92in	2030-34PZB or 2030-12PZB
2500-05-055	\$64.00	PDF	25mm	0.98in	57mm	2.24in	55mm	2.16in	2050-34PZB or 2050-12PZB
2500-05-075	\$64.00	PDF	25mm	0.98in	57mm	2.24in	75mm	2.95in	2050-34PZB or 2050-12PZB
2500-05-100	\$64.00	PDF	25mm	0.98in	57mm	2.24in	100mm	3.94in	2050-34PZB or 2050-12PZB
2500-05-125	\$64.00	PDF	25mm	0.98in	57mm	2.24in	125mm	4.92in	2050-34PZB or 2050-12PZB
2500-07-055	\$69.00	PDF	25mm	0.98in	77mm	3.03in	55mm	2.16in	2070-34PZB or 2070-12PZB
2500-07-075	\$69.00	PDF	25mm	0.98in	77mm	3.03in	75mm	2.95in	2070-34PZB or 2070-12PZB
2500-07-100	\$69.00	PDF	25mm	0.98in	77mm	3.03in	100mm	3.94in	2070-34PZB or 2070-12PZB
2500-07-125	\$69.00	PDF	25mm	0.98in	77mm	3.03in	125mm	4.92in	2070-34PZB or 2070-12PZB
2500-10-055	\$74.00	PDF	25mm	0.98in	103mm	4.06in	55mm	2.16in	2100-34PZB or 2100-12PZB
2500-10-075	\$74.00	PDF	25mm	0.98in	103mm	4.06in	75mm	2.95in	2100-34PZB or 2100-12PZB
2500-10-100	\$74.00	PDF	25mm	0.98in	103mm	4.06in	100mm	3.94in	2100-34PZB or 2100-12PZB
2500-10-125	\$74.00	PDF	25mm	0.98in	103mm	4.06in	125mm	4.92in	2100-34PZB or 2100-12PZB

Note: Each chain is 1.0 m [3.2 ft]



Igus® 2500 Cable / Hose Drag Chain

Cable / Hose Drag Chain Brackets 2500 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 M6 screws (not included). Both pivoting and locking brackets are built for locking connections with tie-wrap plates. Pivoting brackets are great for unsupported and gliding applications. Non-pivoting (locking) brackets are excellent for vertical hanging/standing installations, restricted installation spaces, and extreme accelerations.

2500 Series Locking Brackets						
Part Number	Price	Inside Height		Inside Width		Drawing Link
		mm	in	mm	in	
2030-12PZB	\$20.00	25mm	0.98in	38mm	1.5in	PDF
2050-12PZB	\$22.00	25mm	0.98in	57mm	2.24in	PDF
2070-12PZB	\$23.00	25mm	0.98in	77mm	3.03in	PDF
2100-12PZB	\$25.00	25mm	0.98in	103mm	4.06in	PDF

Note: Mounting hardware not included.

2500 Series Pivoting Brackets						
Part Number	Price	Inside Height		Inside Width		Drawing Link
		mm	in	mm	in	
2030-34PZB	\$20.00	25mm	0.98in	38mm	1.5in	PDF
2050-34PZB	\$22.00	25mm	0.98in	57mm	2.24in	PDF
2070-34PZB	\$23.00	25mm	0.98in	77mm	3.03in	PDF
2100-34PZB	\$25.00	25mm	0.98in	103mm	4.06in	PDF

Note: Mounting hardware not included.



Locks at 0° or 90°

[2030-12PZB](#)



Pivots 48° to 90°

*See design guide for details

[2030-34PZB](#)

Cable / Hose Drag Chain Separators 2500 Series

Overview

Made from black polyamide (PA), these separators are commonly used with the Igus 2500 E-chain to keep cables and hoses organized, prevent wear, and extend their lifespan. They are particularly useful in dynamic and side-mounted applications. A general design guideline is to install a separator in every other E-chain link.

2500 Series Separators					
Part Number	Price	Inside Height		Quantity	Drawing Link
		mm	in		
25.1-12	\$7.00	25mm	0.98in	12	PDF

Note: For a standard configuration where cable segregation is needed, separators are assembled every other e-chain link.



[25.1-12](#)



Igus® 2500 Cable / Hose Drag Chain

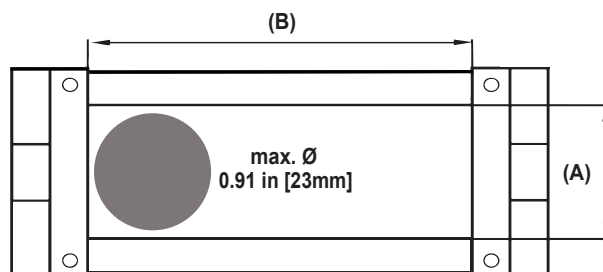
2500 Series Design Guide

The following Design Guide section walks through 7 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 these tables 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 0.91in [23mm]

Cable / Hose Drag Chain Selection Chart 2500 Series						
Part Number	Inside Height (A)		Inside Width (B)		Bend Radius (C)	
	mm	in	mm	in	mm	in
2500-03-055	25mm	0.98in	38mm	1.5in	55mm	2.16in
2500-03-075	25mm	0.98in	38mm	1.5in	75mm	2.95in
2500-03-100	25mm	0.98in	38mm	1.5in	100mm	3.94in
2500-03-125	25mm	0.98in	38mm	1.5in	125mm	4.92in
2500-05-055	25mm	0.98in	57mm	2.24in	55mm	2.16in
2500-05-075	25mm	0.98in	57mm	2.24in	75mm	2.95in
2500-05-100	25mm	0.98in	57mm	2.24in	100mm	3.94in
2500-05-125	25mm	0.98in	57mm	2.24in	125mm	4.92in



A: Inside Height
B: Inside Width

Step 2: Part Number Selection – Bend Radius

- Determine the **minimum cable bend radius**
 - Located on the cable/hose supplier specification
- Determine the **drag chain bend radius**
 - Located in the [technical specification](#)
- Select drag chain part number
 - Drag Chain bend radius (C) > Minimum cable bend radius

Conductor & Stranding	0.5 mm ² (20AWG) 16/32 bare copper
Voltage Ratings	600V per UL Tested to 2000V
Min. Bend Radius	e-Chain®, 6.8 x diameter Flexible*, 5.0 x diameter Fixed, 4.0 x diameter
Temperature Ratings	e-Chain, +41°F to +158°F (5°C to +70°C) Flexible*, +23°F to +158°F (-5°C to +70°C) Fixed, +5°F to +158°F (-15°C to +70°C)

1-800-633-0405



0.5 mm² (20AWG) Flexible Cable CF5 Series Uns

0.5 mm ² (20AWG) Multi-Conductor Flexing Control Cable Specifications			
Conductors Gauge & Stranding	0.5 mm ² (20AWG) 16/32 bare copper	Conductor Insulation	
Voltage Ratings	600V per UL Tested to 2000V	Conductor Markings	
Min. Bend Radius	e-Chain®, 6.8 x diameter Flexible*, 5.0 x diameter Fixed, 4.0 x diameter	Outer Jacket	
Temperature Ratings	e-Chain, +41°F to +158°F (5°C to +70°C) Flexible*, +23°F to +158°F (-5°C to +70°C) Fixed, +5°F to +158°F (-15°C to +70°C)	UV Resistance	
Max. Velocity	Sliding, 33 fts (10 m) Gliding, 16 fts (5 m)	Oil Resistance	
Max. Acceleration	262.5 ft/s ² (80 m/s ²)	Flame Retardant	
Length of Travel	Unsupported travel distances and for sliding applications up to 328 ft (100m)	Approvals	
Version	10' relation with 3.281 ft (1m) of cable length	Sample Print Legend	

* Per EN 60911-504 standard

e-Chain® is a trademarked flexible cable carrier by igus®. igus® cable can be used in any suitable cable carrier.

0.5 mm ² (20AWG) Multi-Conductor Flexing Control Cable				
Part Number	Number of Conductors (includes ground)	AWG	Strand	Maximum O.D. (Inches ±10%) Minimum Cat Length (ft)
2500-07-055	5	20	Stranded	2.16
2500-07-075	5	20	Stranded	2.95
2500-07-100	5	20	Stranded	3.94
2500-07-125	5	20	Stranded	4.92
2500-10-055	5	20	Stranded	2.16
2500-10-075	5	20	Stranded	2.95
2500-10-100	5	20	Stranded	3.94
2500-10-125	5	20	Stranded	4.92

Cable / Hose Drag Chain Selection Chart 2500 Series						
Part Number	Inside Height (A)		Inside Width (B)		Bend Radius (C)	
	mm	in	mm	in	mm	in
2500-07-055	25mm	0.98in	77mm	3.03in	55mm	2.16in
2500-07-075	25mm	0.98in	77mm	3.03in	75mm	2.95in
2500-07-100	25mm	0.98in	77mm	3.03in	100mm	3.94in
2500-07-125	25mm	0.98in	77mm	3.03in	125mm	4.92in
2500-10-055	25mm	0.98in	103mm	4.06in	55mm	2.16in
2500-10-075	25mm	0.98in	103mm	4.06in	75mm	2.95in
2500-10-100	25mm	0.98in	103mm	4.06in	100mm	3.94in
2500-10-125	25mm	0.98in	103mm	4.06in	125mm	4.92in

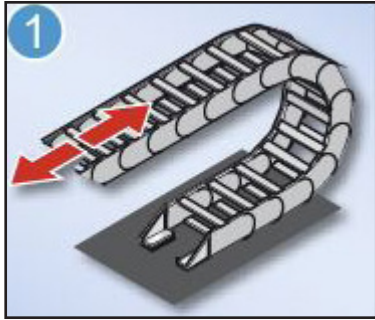


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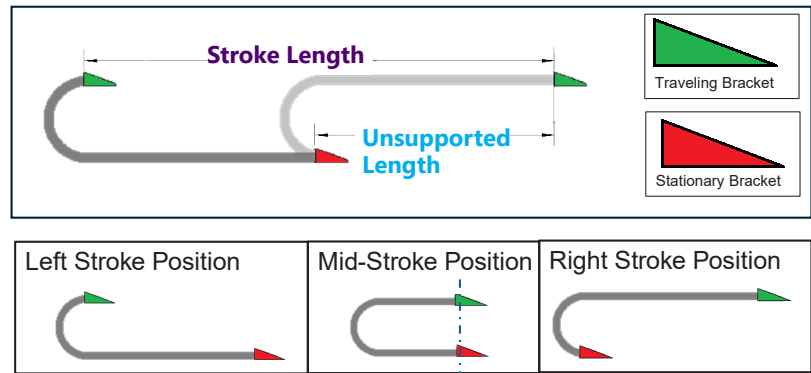
Step 3: Stroke Length – Unsupported

Determine **Stroke Length (L_s)**

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



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



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.

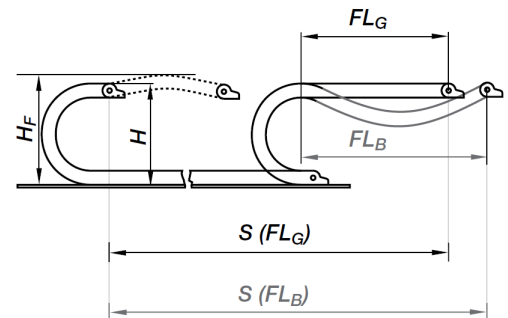
Step 4: Max Stroke Length – Unsupported

4a: Determine cable fill linear weight

- Use cable spec sheets to add linear weights
- Use table below for estimating linear weights

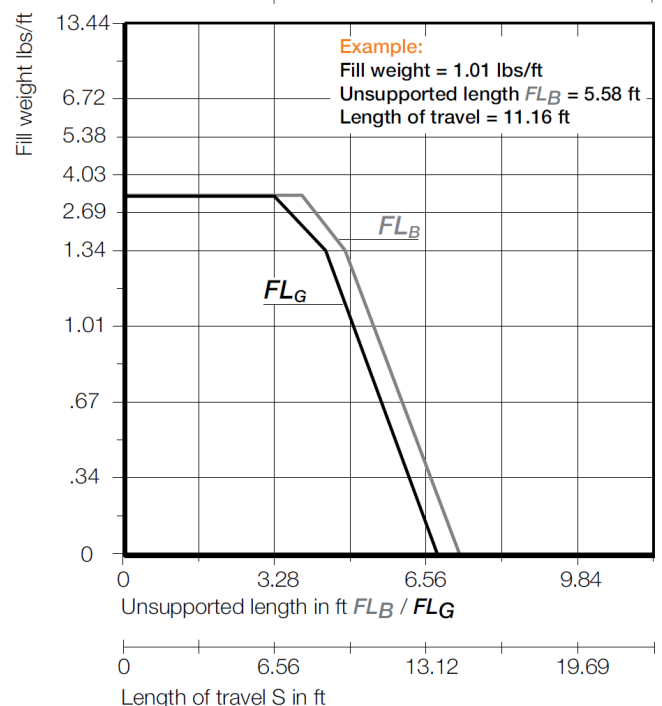
4b: Determine linear weight vs max unsupported distance

- Unsupported chains will experience less wear if chain sag is less than 17.5mm [0.69in]
- Sag will increase as unsupported length and/or weight are increased
- Refer to the chart to determine maximum conditions



Cable Drag Chain Max Stroke Length						
Cable Type	Outer Diameter (inch)	Linear Weight (lbs/ft)	MAX Stroke Length [ft] (2x max unsupported distance)			
			Single Fill	Double Fill	Triple Fill	Quad Fill
Ethernet	< 0.25	< 0.034	13.3	13.2	13.1	13.0
	0.25 - 0.315	< 0.053	13.3	13.1	12.9	12.7
Control/VFD Cable	< 0.25	< 0.044	13.3	13.2	13.0	12.8
	0.25 - 0.32	< 0.074	13.2	12.9	12.7	12.4
	0.32 - 0.40	< 0.132	13.0	12.5	12.1	11.6
	0.40 - 0.45	< 0.180	12.8	12.2	11.6	10.9
	0.45 - 0.50	< 0.211	12.7	12.0	11.2	10.5
	0.50 - 0.55	< 0.271	12.5	11.6	10.6	9.6
	0.55 - 0.59	< 0.328	12.3	11.2	10.0	8.8
	0.60 - 0.69	< 0.392	12.1	10.7	9.3	7.9
	.70 - .79	< 0.42	12.0	10.5	9.0	7.5

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



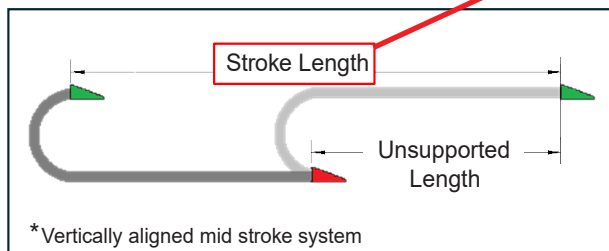


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Step 5: Chain Length – Unsupported

Each drag chain part number is 3.2 ft [1m] in length (22 links) and additional links may be added to extend the chain.

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

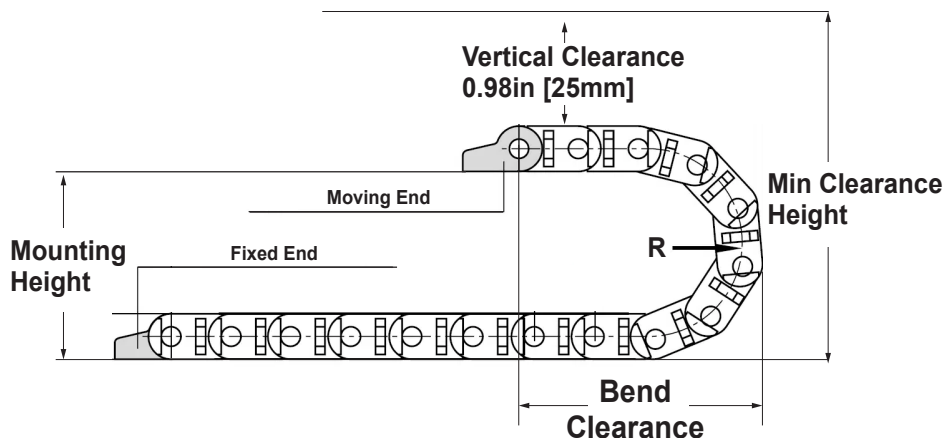
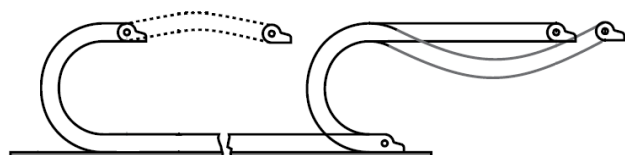


Cable / Hose Drag Chain Selection Chart 2500 Series						
Part Number	Inside Height (A)		Inside Width (B)		Bend Radius (C)	
	mm	in	mm	in	mm	in
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2500-03-075	25mm	0.98in	38mm	1.5in	75mm	2.95in
2500-03-100	25mm	0.98in	38mm	1.5in	100mm	3.94in
2500-03-125	25mm	0.98in	38mm	1.5in	125mm	4.92in
2500-05-055	25mm	0.98in	57mm	2.24in	55mm	2.16in
2500-05-075	25mm	0.98in	57mm	2.24in	75mm	2.95in
2500-05-100	25mm	0.98in	57mm	2.24in	100mm	3.94in
2500-05-125	25mm	0.98in	57mm	2.24in	125mm	4.92in
2500-07-055	25mm	0.98in	77mm	3.03in	55mm	2.16in
2500-07-075	25mm	0.98in	77mm	3.03in	75mm	2.95in
2500-07-100	25mm	0.98in	77mm	3.03in	100mm	3.94in
2500-07-125	25mm	0.98in	77mm	3.03in	125mm	4.92in
2500-10-055	25mm	0.98in	103mm	4.06in	55mm	2.16in
2500-10-075	25mm	0.98in	103mm	4.06in	75mm	2.95in
2500-10-100	25mm	0.98in	103mm	4.06in	100mm	3.94in
2500-10-125	25mm	0.98in	103mm	4.06in	125mm	4.92in

Step 6: Drag Chain Mounting

- Mounting height of traveling bracket is specified for each chain bend radius
- Vertical clearance must be maintained to account for chains bowing height of unloaded chains
- See the following page for installation options

Drag Chain Mounting Selection Chart							
Radius R		Mounting Height		Min. Clearance Height		Bend Clearance	
mm	in	mm	in	mm	in	mm	in
55	2.16	36	1.42	60	2.36	40	1.57
75	1.10	56	2.20	80	3.15	50	1.97
38	1.50	76	2.99	100	3.94	60	2.36
48	1.89	96	3.78	120	4.72	70	2.76
58	2.28	116	4.57	140	5.51	80	3.15

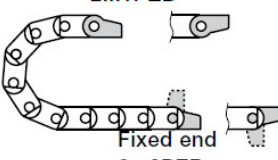
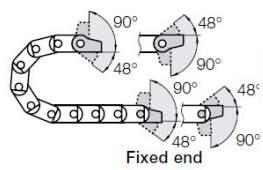


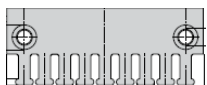

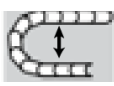
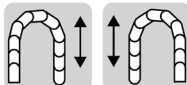




Igus® 2500 Cable / Hose Drag Chain

Step 7: Brackets

- Mounting height of traveling bracket is specified for each chain bend radius
- Vertical clearance must be maintained to account for chains bowing height of unloaded chains

Bracket Design Guide			
Applications and Features		Pivoting Bracket	Locking Bracket
		<p>Moving end 2...1PZB</p>  <p>Fixed end 2...2PZB</p>	<p>Moving end 2...3PZB</p>  <p>Fixed end 2...4PZB</p>
Horizontal Unsupported		+	+
Horizontal Gliding		+	+
Detachable Strain Relief Cable Tie Plate		Included	Included
Speed and Acceleration		+	++
Low Profile Height		+	++
Vertical Installation		+	++

Key: + = Good; ++ = Better



Igus® 2500 Cable / Hose Drag Chain

Installation Options For Cable / Hose Drag Chains

