

lgus® 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° to120°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



<u>2500-03-055</u>



2500-05-075



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



2500-07-100



<u>2500-10-125</u>



lgus[®] 2500 Cable / Hose Drag Chain





Opening side - OUT only

Cable / Hose Drag Chain Selection Chart 2500 Series										
Port Number	Prico	Drawing	Inside H	eight (A)	Inside Width (B)		Bend Ra	dius (C)	Requires Mounting Procket	
	FIICE	Link	mm	in	mm	in	mm	in	(sold separately)	
2500-03-055	\$6gsu:	PDF	25mm	0.98in	38mm	1.5in	55mm	2.16in	2030-34PZB or 2030-12PZB	
2500-03-075	\$6gsv:	PDF	25mm	0.98in	38mm	1.5in	75mm	2.95in	2030-34PZB or 2030-12PZB	
2500-03-100	\$6gsx:	PDF	25mm	0.98in	38mm	1.5in	100mm	3.94in	2030-34PZB or 2030-12PZB	
<u>2500-03-125</u>	\$6gsy:	PDF	25mm	0.98in	38mm	1.5in	125mm	4.92in	2030-34PZB or 2030-12PZB	
<u>2500-05-055</u>	\$6gsz:	PDF	25mm	0.98in	57mm	2.24in	55mm	2.16in	2050-34PZB or 2050-12PZB	
2500-05-075	\$;6gs]:	PDF	25mm	0.98in	57mm	2.24in	75mm	2.95in	2050-34PZB or 2050-12PZB	
2500-05-100	\$;6gs[:	PDF	25mm	0.98in	57mm	2.24in	100mm	3.94in	2050-34PZB or 2050-12PZB	
<u>2500-05-125</u>	\$6gs_:	PDF	25mm	0.98in	57mm	2.24in	125mm	4.92in	2050-34PZB or 2050-12PZB	
2500-07-055	\$6gs#:	PDF	25mm	0.98in	77mm	3.03in	55mm	2.16in	2070-34PZB or 2070-12PZB	
2500-07-075	\$;6gs!:	PDF	25mm	0.98in	77mm	3.03in	75mm	2.95in	2070-34PZB or 2070-12PZB	
2500-07-100	\$6gs?:	PDF	25mm	0.98in	77mm	3.03in	100mm	3.94in	2070-34PZB or 2070-12PZB	
2500-07-125	\$;6gs,:	PDF	25mm	0.98in	77mm	3.03in	125mm	4.92in	2070-34PZB or 2070-12PZB	
<u>2500-10-055</u>	\$;6gt0:	PDF	25mm	0.98in	103mm	4.06in	55mm	2.16in	2100-34PZB or 2100-12PZB	
<u>2500-10-075</u>	\$;6gt1:	PDF	25mm	0.98in	103mm	4.06in	75mm	2.95in	2100-34PZB or 2100-12PZB	
2500-10-100	\$;6gt2:	PDF	25mm	0.98in	103mm	4.06in	100mm	3.94in	2100-34PZB or 2100-12PZB	
2500-10-125	\$;6gt3:	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]



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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 tiewrap 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										
Port Number	Drico	Inside	Height	Inside	Drawing					
	FIICE	mm	in	mm	in	Link				
<u>2030-12PZB</u>	\$;6gt8:	25mm	0.98in	38mm	1.5in	PDF				
<u>2050-12PZB</u>	\$;6gt9:	25mm	0.98in	57mm	2.24in	PDF				
<u>2070-12PZB</u>	\$;6gta:	25mm	0.98in	77mm	3.03in	PDF				
<u>2100-12PZB</u>	\$;6gtb:	25mm	0.98in	103mm	4.06in	PDF				

Note: Mounting hardware not included.

2500 Series Pivoting Brackets										
Dest Number	Drice	Inside	Height	Inside	Drawing					
Part Number	Price	mm	in	тт	in	Link				
<u>2030-34PZB</u>	\$;6gt4:	25mm	0.98in	38mm	1.5in	PDF				
<u>2050-34PZB</u>	\$;6gt5:	25mm	0.98in	57mm	2.24in	PDF				
<u>2070-34PZB</u>	\$;6gt6:	25mm	0.98in	77mm	3.03in	PDF				
<u>2100-34PZB</u>	\$;6gt7:	25mm	0.98in	103mm	4.06in	PDF				

Note: Mounting hardware not included.

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	Drico	Inside	Height	Quantitu	Drawing Link				
	FIICE	mm	in	quantity					
25.1-12 \$;6gtc: 25mm 0.98in 12 PDF									

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



Locks at 0° or 90° 2030-12PZB







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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 <u>Selection Chart</u> 2500 Series								
Part Number	Inside H	eight (A)	Inside V	/idth (B)	Bend Radius (C)			
	mm	in	mm	in	mm	in		
<u>2500-03-055</u>	25mm	0.98in	38mm	1.5in	55mm	2.16in		
2500-03-075	25mm	0.98in	38mm	1.5in	75mm	2.95in		
<u>2500-03-100</u>	25mm	0.98in	38mm	1.5in	100mm	3.94in		
<u>2500-03-125</u>	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		
<u>2500-05-100</u>	25mm	0.98in	57mm	2.24in	100mm	3.94in		
<u>2500-05-125</u>	25mm	0.98in	57mm	2.24in	125mm	4.92in		



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 vadius







	Incide Usight (1)	Incide Width (P)	Bond Bodius (C)
Cable / Hos	e Drag Chain S	Selection Char	2500 Series

Part Number	Inside Height (A)		Inside V	lidth (B)	Bend Radius (C)	
Tart Number	mm	in	mm	in	mm	in
<u>2500-07-055</u>	25mm	0.98in	77mm	3.03in	55mm	2.16in
<u>2500-07-075</u>	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
<u>2500-10-055</u>	25mm	0.98in	103mm	4.06in	55mm	2.16in
<u>2500-10-075</u>	25mm	0.98in	103mm	4.06in	75mm	2.95in
2500-10-100	25mm	0.98in	103mm	4.06in	100mm	3.94in
<u>2500-10-125</u>	25mm	0.98in	103mm	4.06in	125mm	4.92in



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Step 3: Stroke Length – Unsupported

Determine Stroke Length (Ls)

• 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.



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

TIP

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									
	0.4-1		MAX Stroke Length [ft] (2x max unsupported distance)						
Cable Type	Uuter Diameter (inch)	Linear Weight (lhs/ft)	Single Fill	Double Fill	Triple Fill	Quad Fill			
	()	(•	••	•••	••••			
Ethornot	< 0.25	< 0.034	13.3	13.2	13.1	13.0			
Elliernet	0.25 - 0.315	< 0.053	13.3	13.1	12.9	12.7			
	< 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			
Control/VFD	0.45 - 0.50	< 0.211	12.7	12.0	11.2	10.5			
Cubic	0.50 - 0.55	< 0.271	12.5	11.6	10.6	9.6			
	0.55 - 059	< 0.328	12.3	11.2	10.0	8.8			
	0.60 - 0.69	< 0.392	12.1	10.7	9.3	7.9			
	.7079	< 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.

Chain length = 1/2 Stroke Length + (3.14 x Bend Radius)



Cable / Hos	e Drag	Chain S	Selectio	n Chari	2500 \$	Series
Part Number	Inside H	eight (A)	Inside V	lidth (B)	Bend Radius (C)	
r art Number	mm	in	mm	in	mm	in
<u>2500-03-055</u>	25mm	0.98in	38mm	1.5in	55mm	2.16in
<u>2500-03-075</u>	25mm	0.98in	38mm	1.5in	75mm	2.95in
<u>2500-03-100</u>	25mm	0.98in	38mm	1.5in	100mm	3.94in
<u>2500-03-125</u>	25mm	0.98in	38mm	1.5in	125mm	4.92in
<u>2500-05-055</u>	25mm	0.98in	57mm	2.24in	55mm	2.16in
<u>2500-05-075</u>	25mm	0.98in	57mm	2.24in	75mm	2.95in
<u>2500-05-100</u>	25mm	0.98in	57mm	2.24in	100mm	3.94in
<u>2500-05-125</u>	25mm	0.98in	57mm	2.24in	125mm	4.92in
<u>2500-07-055</u>	25mm	0.98in	77mm	3.03in	55mm	2.16in
<u>2500-07-075</u>	25mm	0.98in	77mm	3.03in	75mm	2.95in
<u>2500-07-100</u>	25mm	0.98in	77mm	3.03in	100mm	3.94in
<u>2500-07-125</u>	25mm	0.98in	77mm	3.03in	125mm	4.92in
<u>2500-10-055</u>	25mm	0.98in	103mm	4.06in	55mm	2.16in
<u>2500-10-075</u>	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										
Radi	ius R	Mountin	g Height	Min. Cle Hei	earance ight	Bend Cl	earance				
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				



1-800-633-0405

For the latest prices, please check AutomationDirect.com.

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- 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								
		Pivoting Bracket	Locking Bracket					
		Moving end 21PZB	Moving end 23PZB					
Applications and Features		PODO PODO Fixed end 22PZB	€ € € 48° 90° 90° 48° 48° 48° 90° 48° 90° 48° 90° 50° 48° 90° 18° 48° 90°					
Horizontal Unsupported		+	+					
Horizontal Gliding		+	+					
Detachable Strain Relief Cable Tie Plate		Included	Included					
Speed and Acceleration		+	++					
Low Profile Height		+	**					
Vertical Installation		+	++					

Key: + = Good; ++ = Better

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Installation Options For Cable / Hose Drag Chains

