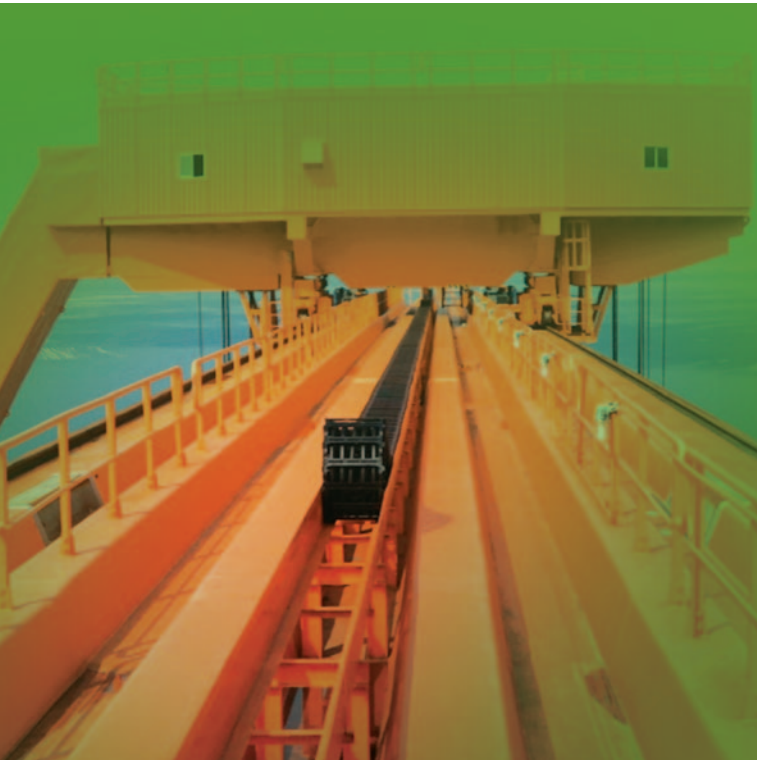


Skid Type



Shift Chain is a next generation after CPS mini Chain and it applies to overall industrial sectors where cable and hose' protection is required. It has a new concept as Bending Radius value is determined according to each different 'BR' unit.

BR unit helps Shift Chain to perform 30% improved Unsupported Length compared to CPS mini Chain with 6 supporting areas that endure the weight of Cable Chain.



ST044S

082

General Information

Material	: CPS-Amide (PA6+G.F)
Speed	: 6%
Acceleration	: 12%
Temperature	: -30℃ ~ +130℃
Special production	: ESD, UV
Certificate	: CE, ATEX(Ex), RoHs2

Value of Speed/Acceleration is subject to change according to cable's amount and travel length.

Calculation Table

Length of Cable Chain	: $L = \frac{1}{2} \times L_s + L_p$
Bending Radius	: Multiply 8~10 of the biggest cable
	: Multiply 15~20 of the biggest hose

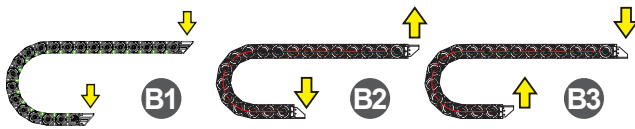
Skid Type



Shift Chain®

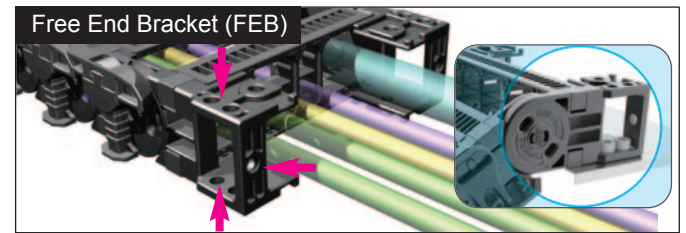
Dimension Table

Shift Chain S Type	Pitch	Bending Radius (R)	Weight kg/m	Speed m/s	Temperature ℃	Size	Frame Type	Section- Composition
						A B C D		
ST044S	44	70 90 120 150	1.03	6	-30 ~ +130	74	35	
			1.08			89	50	
			1.10			94	38	
			1.17			114	75	
			1.26			139	100	
			1.40			164	125	
			1.52			189	150	
			1.81			214	175	
			1.98			239	200	

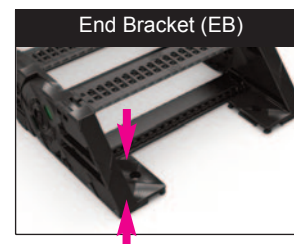


Bracket Type

ST044



ST044S



There are 2 different types of bracket that can be applied according to environment.

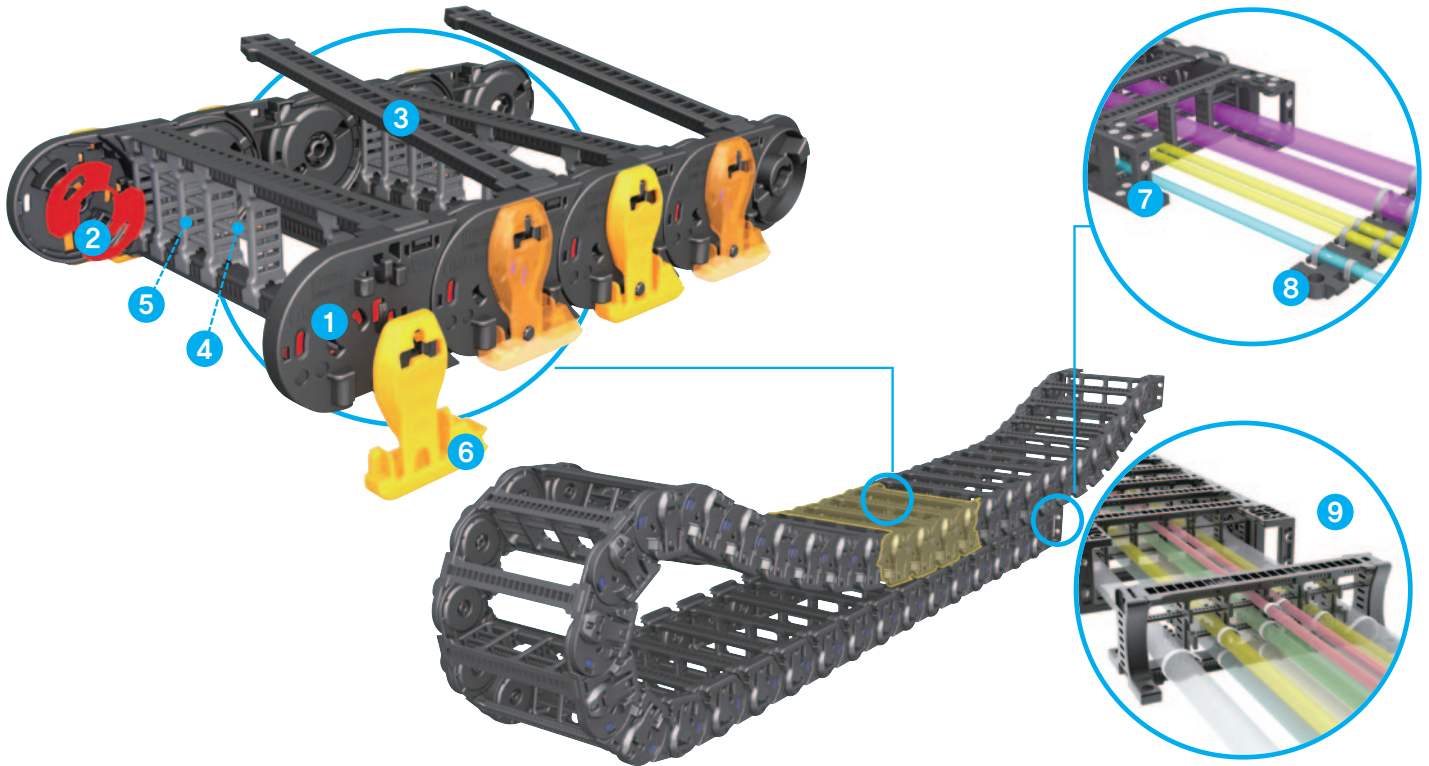
Ordering

ST 044S. 100. R120 / F 4400L : (DV:2)

Quantity of Divider(Link)
Length(mm)
Bracket Type : F Free End Bracket
Bending radius FT Tie Wrap
FST System Tie Wrap
Inside width B1,B2,B3
Skid Type (S)
Shift Chain

Part list of Shift Chain-Normal Type

Model	Classification	Part number	Description
ST044S	SIDE BAND	ST-SB044S(LH) ST-SB044S(RH)	Left side band of ST044S Right side band of ST044S
	BENDING RADIUS	ST-BRS044.R70,90,120,150	Bending radius unit for side band
	SKID	ST-SK044S(LH) ST-SK044S(RH)	Skid for long travel(Applied to side band)
	FRAME(DOWN) FRAME(UP)	sb-FR/M.35 sb-FR/M.50 sb-FR/M.55 sb-FR/M.75 sb-FR/M.100 sb-FR/M.125 sb-FR/M.150 sb-FR/M.175 sb-FR/M.200	Frame, 35mm Frame, 50mm Frame, 55mm Frame, 75mm Frame, 100mm Frame, 125mm Frame, 150mm Frame, 175mm Frame, 200mm
	FREE END BRACKET	ST-FEB044S	Free End bracket, End bracket(B1, B2, B3) of ST044S
	DIVIDER	sb-DV028/M sb-DV028/S	Normal divider To fix separators at the both side section
	SEPARATOR	S-SP/M.35 S-SP/M.50 S-SP/M.75 S-SP/M.100 S-SP/M.125 S-SP/M.150 S-SP/M.175 S-SP/M.200	Separator, 35mm Separator, 50mm Separator, 75mm Separator, 100mm Separator, 125mm Separator, 150mm Separator, 175mm Separator, 200mm
		S-TW036/025CR.35 S-TW036/025CR.50 S-TW036/025CR.55 S-TW036/025CR.75 S-TW036/025CR.100 S-TW036/025CR.125	Tie wrap for end bracket to fix cables, 35mm Tie wrap for end bracket to fix cables, 50mm Tie wrap for end bracket to fix cables, 55mm Tie wrap for end bracket to fix cables, 75mm Tie wrap for end bracket to fix cables, 100mm Tie wrap for end bracket to fix cables, 125mm
		sb-DV028/W S-TW.EB028	Divider for fixing cables at end bracket System tie wrap to arrange for cables right after moving bracket or fixing bracket
	SYSTEM TIE WRAP		



❶ Side Band (SB)

A part that connects upper and lower frame. There are LH and RH type.

❷ Bending Radius Unit (BR)

A part that is inserted into Side Band. It is one of units that helps Shift Chain's excellent 'Unsupported Length' performance.

❸ Frame (Hinged Type) (FR)

Hinged-type frame, open one side, supports connection of both side of side band and have tongue and groove system plate to secure the position of the divider on the frame.

❹ Separator (SP)

A unit that divides inserted cables vertically to prevent twisting and breaking problem.

❺ Divider (DV-S, M, R, T)

A unit that divides inserted cables horizontally.

❻ Skid

A unit that minimizes friction between upper and lower cable chain.

❼ Free End Bracket (FEB)

A unit that connects at last side band (left&right).
It can be fixed stronger using steel washers.

❽ Tie Wrap (TW)

A unit that ties cables to maintain straightness of them.
It can be assembled to bracket directly or installed separately from bracket.

❾ System Tie Wrap (STW)

System-Tie Wrap has to be assembled on fixing and moving point of bracket and can be assembled without any tie wrap plate. This tie wrap is used to stay the cables on several floors prevent the cables from being twisted and it can also be assemble without any tools or bolt. This tie wrap has two types, one is to assemble inside bracket the other one is outside.

Assemble procedure of Shift Chain Skid-Type

Assembly procedure of Shift chain S-type is as follows. Users must use rubber hammer with careful combination of Divider and Separator.(Disassembly process for repair and replacement are in reverse order)



1

Insert BR Unit into each Side Band.
(Side Band is divided into right and left side according to the direction.)



2

Continue to insert BR Unit into Side Band as you want to make it. Assemble Side Band which is inserted BR Unit as above.



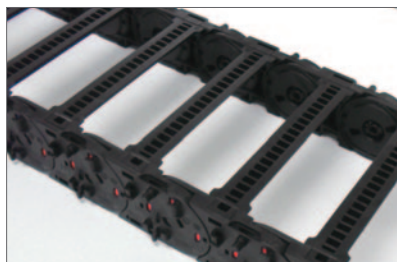
3

Continue to connect each Side Band as long as you want to make it.
Connect the Side Band as many as you need.



4

Connect right and left link with specified frame.
(Put Hinge Type frame in the hole of Side Band)



5

Insert frame pin onto connected each Frame and side of Side Band to be made tightly. (To divide inner room, insert divider which is connected with separator.



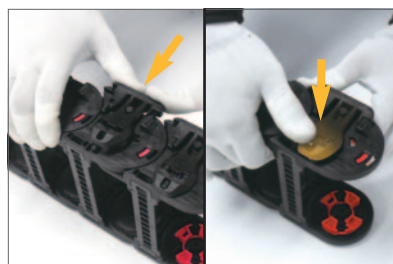
6

Assemble opposite frame as same procedure.



7

Insert Skid to the protruding side of Side Band.



8

When inserting a Skid, push tightly to the home of Side Band until you hear "click"(Skid is divided each direction like right and left.)



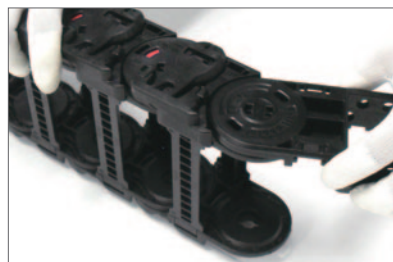
9

Assembly the Skid on the entire connected Side Band as same way.



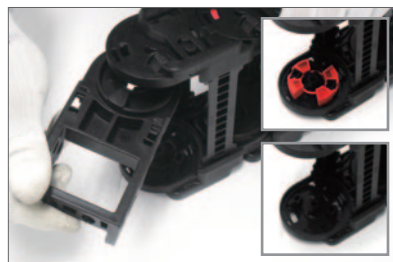
10

Assembly the Skid on the entire connected opposite side as well. Do not insert a BR Unit to M.FEB. (M.FEB will be making a turn to up and down)



11

Assembly M.FEB to be corrective each direction such as right and left.



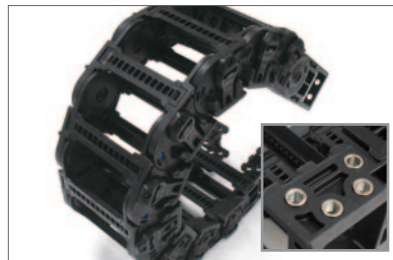
12

Assembly F.FEB to be suitable each direction such as right and left.
(Do not insert a BR Unit for the Side Band which is connected with F.FEB)



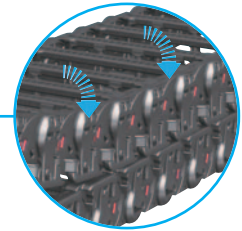
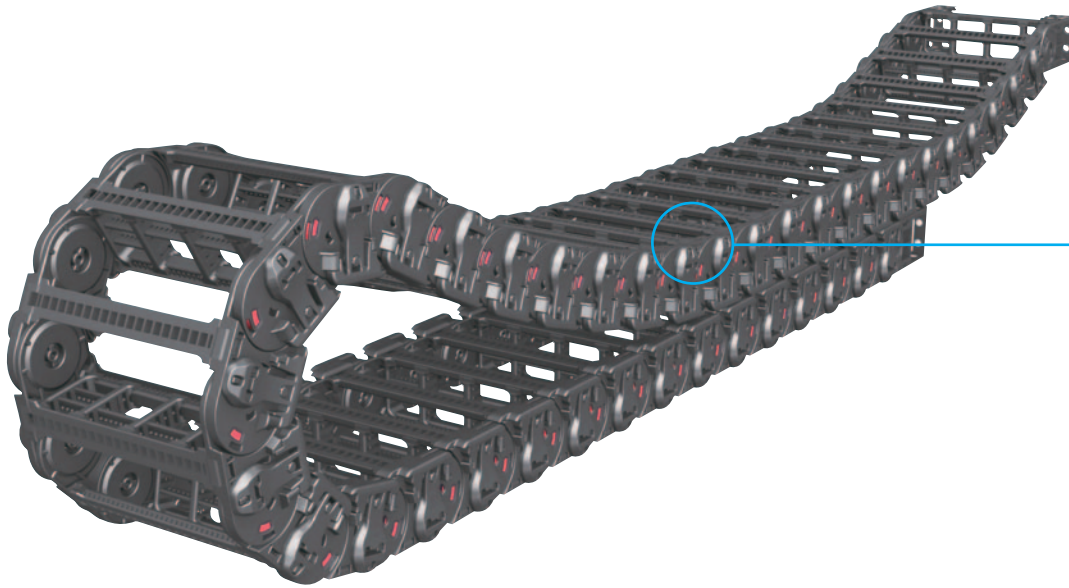
13

Assembly a specified frame in M.FEB and F.FEB. (Hinge is inserted into RH direction of FEB)
Insert Frame pin into connected frame and side of FEB.

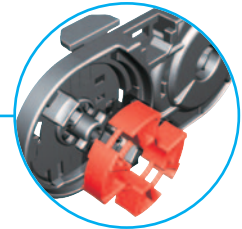


14

Insert steel washers into FEB according to fixing direction.



Hinge hook type



Bending Radius Unit

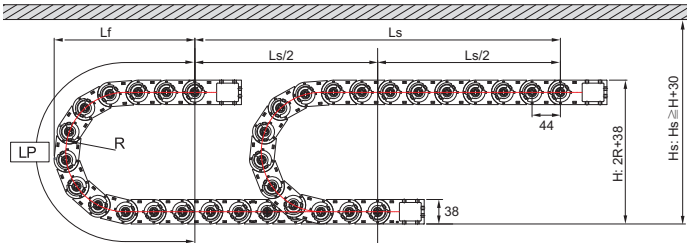
Ordering

ST044S. 100. R120/F- 4400L : (DV:2)

Shift Chain	Skid Type(S)	Bending Radius	Length (mm)	Quantity of Divider (Link)
	Inside Width	Bracket Type		

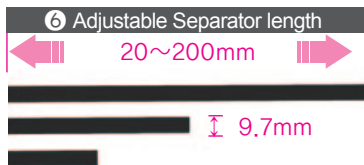
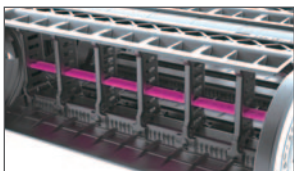
Layout of the Chain

Ls: Stroke Hs: Safe Space



Bending Radius(R)	Lp(Loop Length)	LF(Loop Projection)	H(Moving Height)
70	544	249	110
90	662	289	
120	926	393	
150	1,190	497	

Separators (SP)



Chain Type	Ordering No.	Frame
ST044S	S-SP/M.35	35
	S-SP/M.50	50
	S-SP/M.55	55
	S-SP/M.75	75
	S-SP/M.100	100
	S-SP/M.125	125
	S-SP/M.150	150
	S-SP/M.175	175
	S-SP/M.200	200

Calculation of the Chain Length

$$[L = \frac{L_s}{2} + L_p]$$

Dividers (DV)

Assemble divider every second frame

DV/M Normal Divider

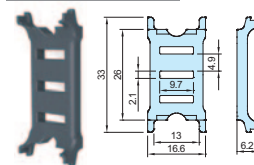
DV/W

Tie wrap divider for free end bracket(FEB)

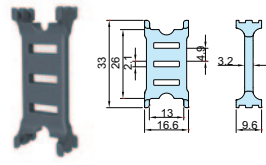


System tie wrap

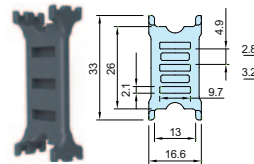
① sb-DV028/S



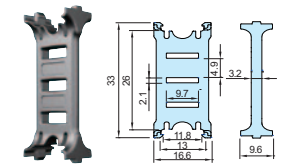
② sb-DV028/M1



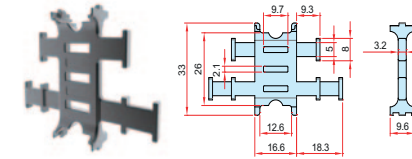
③ sb-DV028/M2



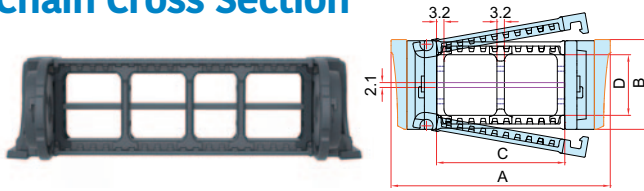
④ sb-DV028/T



⑤ sb-DV028/W

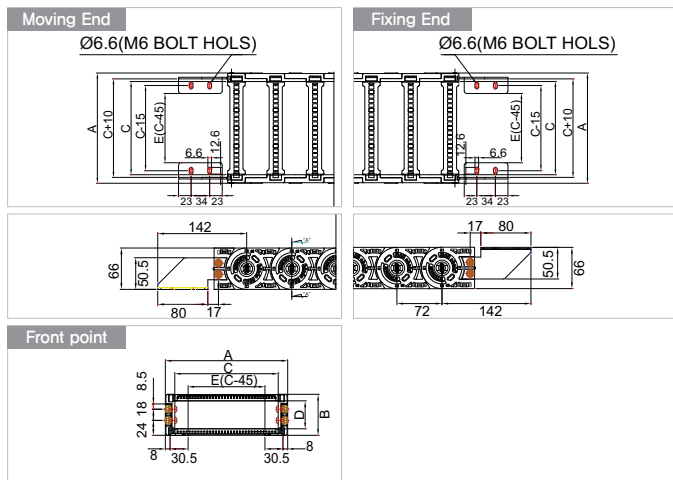


Chain Cross Section

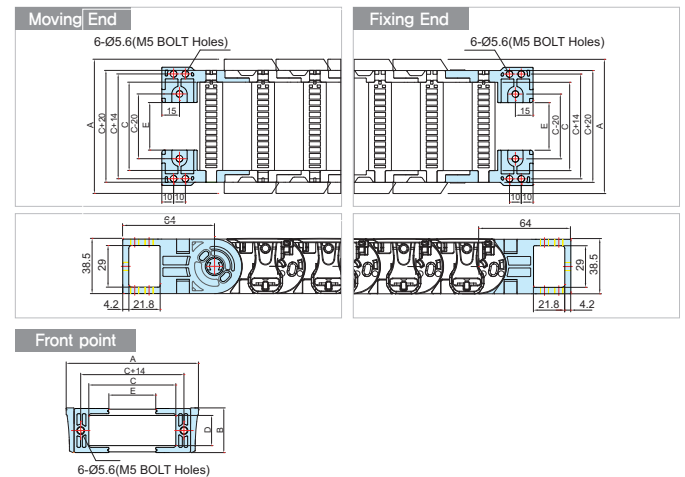


Chain Type	A Width(Outer)	B Height(Outer)	C Frame Width(Inner)	D Height(Inner)	Weight kg/m
ST044S	74	38.5	35	26	1.03
	89		50		1.08
	94		55		1.10
	114		75		1.17
	139		100		1.26
	164		125		1.40
	189		150		1.52
	214		175		1.81
239	200	1.98			

Steel End Bracket (SEB)

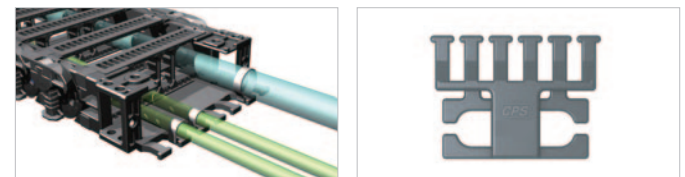


Free End Bracket (FEB)

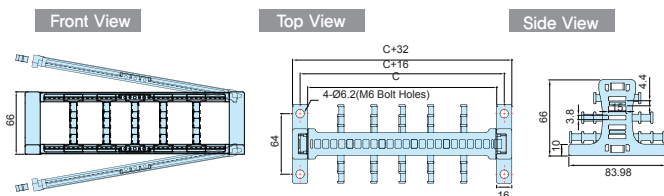


Chain Type	A Width (Outer)	B Height (Outer)	C Frame Width	D Height (Inner)	E EB internal width	Hole Type
ST044S	74	38.5	35	26	0.4	M5 Bolt Holes
	89		50		15.4	
	94		55		20.4	
	114		75		40.4	
	139		100		65.4	
	164		125		90.4	
	189		150		115.4	
	214		175		140.4	
239	200	165.4				

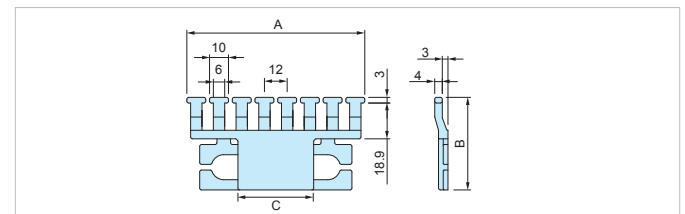
Tie Wrap (TW)



System Tie Wrap (STW)



Chain Type	Ordering No.	C Frame	Hole Type
ST044S	S-TW.EB028.35	35	M6 Bolt Holes
	S-TW.EB028.50	50	
	S-TW.EB028.55	55	
	S-TW.EB028.75	75	
	S-TW.EB028.100	100	
	S-TW.EB028.125	125	
	S-TW.EB028.150	150	
	S-TW.EB028.175	175	
	S-TW.EB028.200	200	



Chain Type	Ordering No.	A	B	C
ST044S	S-TW036/025CR.35	46	35.4	-
	S-TW036/025CR.50	69	48.9	15
	S-TW036/025CR.55	70	48.9	20
	S-TW036/025CR.75	94	48.9	40
	S-TW036/025CR.100	118	48.9	65
	S-TW036/025CR.125	142	48.9	90

Guide Channel

