nsb Chain - Clean Room type

General information

Item	Value
Material	CPS-Amid(PA6+GF), RoHs
Noise level	30dB(DIN EN 61672-1)
Speed	5㎧
Acceleration	15㎧
Temperature	-30℃ ~+130℃
Special production	ESD, UV, Customized color
Certificate	CE, IPA, ATEX(Ex), TUV

Calculation table

Item	Value
Length of Cable Chain	L = ½ X LS + LP
Bending Radius	
The biggest Cable inserted	Multiply 8~10 and the biggest cable
The biggest Hydraulic Hose inserted	Multiply 15~20 and the biggest hose

Dimension table

nsb Chain **CR Type**	Pitch	Bending Radius (R)	Weight kg/m	Speed m/s	Temperature ℃	Size A	B	C	D	Frame style	Section - composition
nsb 020CR	20	28,38,48	0.32 0.35	5	-30 ~ +130	34 54	22	20 40	15		
nsb 022CR	22	35, 45, 75, 100, 120	0.43 0.47 0.51 0.55 0.67 0.69	5	-30 ~ +130	30 41 51 61 81 91	29	16 27 37 47 67 77	22		
nsb 028CR	28	50, 70, 90, 120, 150	0.90 0.98 1.02 1.12 1.27 1.41 1.59 1.74 1.84	5	-30 ~ +130	55 70 75 95 120 145 170 195 220	38	35 50 55 75 100 125 150 175 200	26		
nsb 035CR	35	75, 100, 125, 150, 200	1.00 1.06 1.09 1.17 1.29 1.39 1.53 1.65 1.73	5	-30 ~ +130	55 70 75 95 120 145 170 195 220	52	35 50 55 75 100 125 150 175 200	40		
nsb 045CR	45	75, 100, 120, 140, 200, 250, 300	2.59 2.74 2.90 3.11 3.23 3.31 3.41 3.48 3.90 4.18 4.64 4.76 5.32	5	-30 ~ +130	80 105 130 155 170 180 195 205 220 230 270 280 330	70	50 75 100 125 140 150 165 175 190 200 240 250 300	49		
nsb 060CR	60	125, 140, 190, 220, 270, 390	3.56 3.66 3.97 4.16 4.33 4.52 4.64 4.98 5.06 5.48 6.09 6.66	5	-30 ~ +130	115 140 165 190 215 230 240 280 290 340 390 440	82	75 100 125 150 175 190 200 240 250 300 350 400	56		
nsb 075CR	75	180, 200, 250, 300, 350, 400, 500	5.37 5.57 5.72 5.82 6.01 6.26 6.68 7.11 7.22 7.80 7.94 8.67 9.43 10.01 10.41 11.88 12.17	5	-30 ~ +130	115 140 155 165 190 215 240 280 290 330 340 390 440 490 540 590 640	108	75 100 115 125 150 175 200 240 250 290 300 350 400 450 500 550 600	78		

(Dimensions in mm)

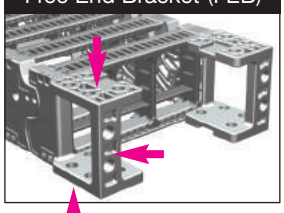
Ordering

nsb 020CR. 20. R48 / F - 600L : 10ST

- nsb : Sabin Chain
- 020CR : Normal (CR)
- 20 : Inside width
- R48 : Bending radius
- F : Bracket Type
  - F : Free End Bracket
  - FT : Tie Wrap
  - FST : System Tie Wrap
- 600L : Length(mm)
- 10ST : Q'ty(set)

Bracket type

Free End Bracket (FEB)

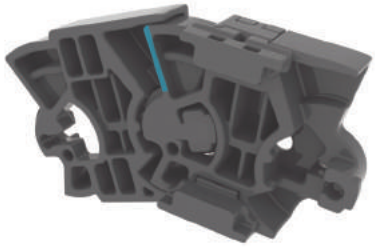


▶ IPA Test result
- nsb 020CR.20.R48 : ISO Class1
- nsb 045CR.75.R75 : ISO Class1
- nsb 035CR.55.R75 : ISO Class2

≫ Characteristics of nsb Chain Cleanroom

- Low Noise due to innovative design of side band.

nsb CR type

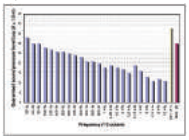


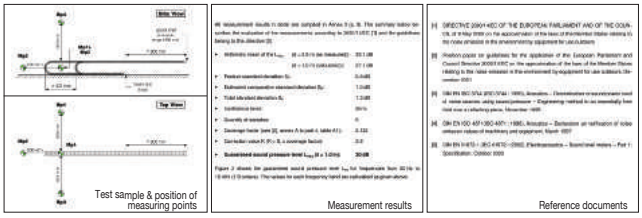
nsb N type

As it's designed differently compared to Normal type that has more friction space when assembled. It means that CR type has less friction space each other when assembled, thus, it makes low noise during operation.

- The Quietest Cable Chain in the world.

Unsatisfied with only our own internal testing, we sent our cable chain to the experts at the TUV testing facility in Germany and let them decide. The result was 30db noise level. The quietest ever recorded. It is the patented techniques CPS spends so much time perfecting this astounding accomplishment possible.

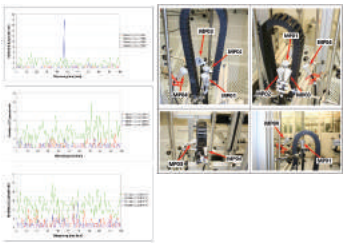




- Low Dust Cable Chain.

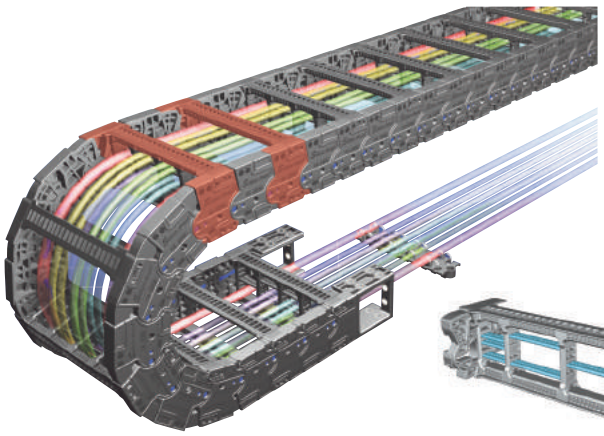
Sabin Chain was given ISO CLASS1 clean room certification according to the Germany IPA Dust Collection Test (VDI 2083 CLASS 1 / DIN EN 14644-1 ISO CLASS 1) It is qualified to be used in semiconductor production lines on automation machine tools and machines requiring quiet and quick applications.

※This test was done by the IPA TEST CENTER for the semiconductor manfacturer equipment and measurement processed with CLASS1 CLEAN ROOM. (US Federal Standard 209E)

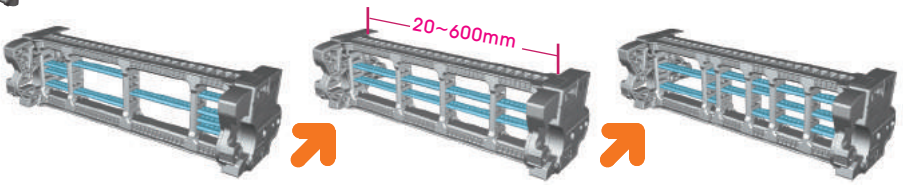


- Clean room environment
  Air speed(0.45 m/s)
  Temperature(+5˚C)
  Humidity (45%)
- Test equipment
  Fraunhofer IPA Test machine
- Measurement Skill
  To checking the dimension of ＞0.2㎛, ＞0.3㎛, ＞0.5㎛, use LPSA210 TYPE machine made by PMS.
- Test operation and analysis
  Operated by the guideline of VDI 2083 Part8

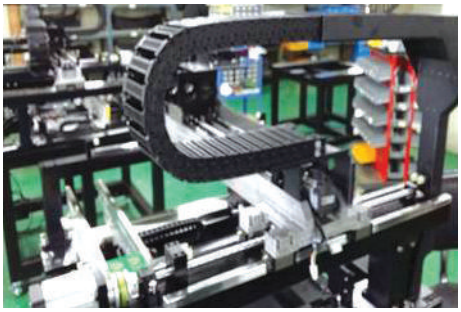
- Section composition method



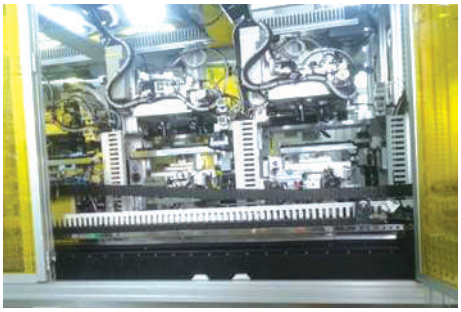
You should make section composition every second frames to make sure long lifetime of cables by preventing from twisting and lost of cables inside. (It's strongly recommended for customers who want to use for long time). It's basic issue and one of the most important factors showing long lifetime of cables.
You can make suitable section composition by using our diverse our dividers and separators that can be modified from 20mm ~ 600mm.



≫ Application of nsb Chain Clean Room type



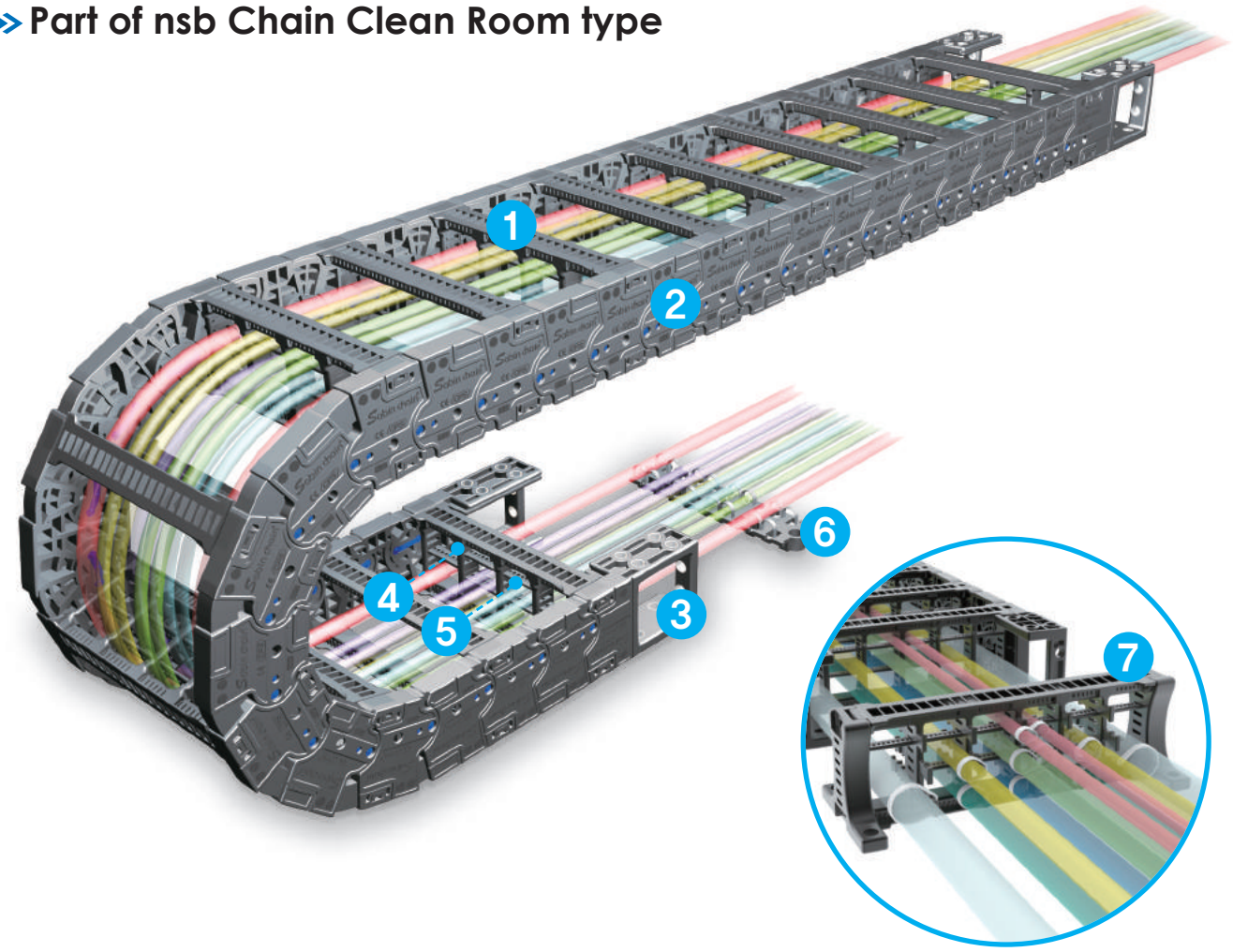
▶ **NSB 022CR** **Application:**
Testing machine for Lead application
Location:
Korea



▶ **NSB 035CR**
Application:
LCD Cleaner Line
Location:
Korea

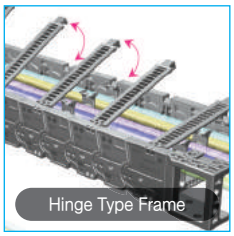
nsb Chain - Clean Room type

≫ Part of nsb Chain Clean Room type



❶ Frame (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.

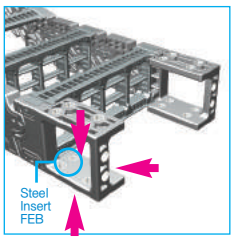


❷ Side Band (SB)

It's part of cable chain that each side band's connected by holding band.

❸ FREE END BRACKET (FEB)

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



❹ Divider (DV-S, M, R, T)

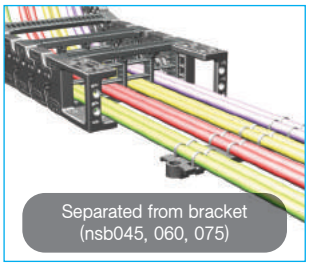
A unit that divides inserted cables horizontally.

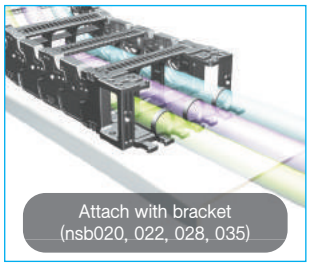
❺ Separators (SP)

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

❻ 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.



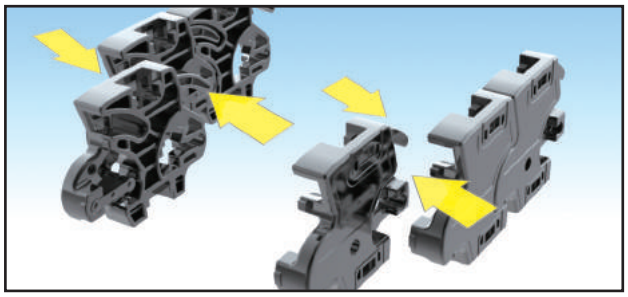


❼ System tie wrap (STW)

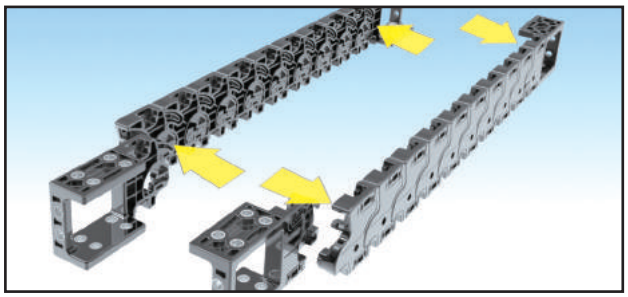
System-Tie Wrap has to be assembled on fixing and moving point of bracket and can be assembled wthout any tie wrap plate. This tie wrap is used to stay the cables on several floors prevent the cables from being twisting and it can also be assemble without any tools or bolt. This tie wrap has two types,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

Assembly procedure of nsb Chain room Type

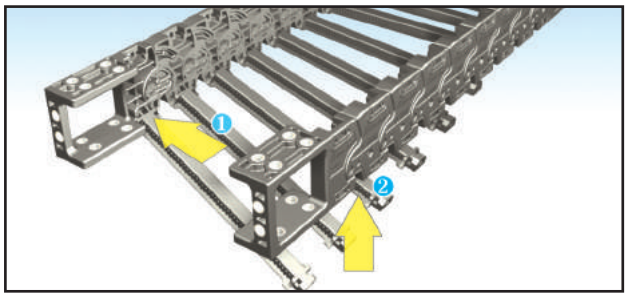
The assembling process of CR-Type of New Sabin Chain is like below and users must use rubber hammer with careful combination of Divider and Separator.



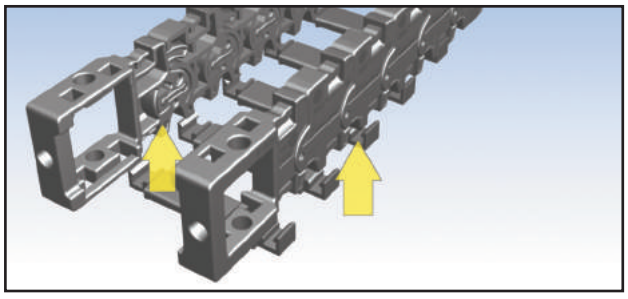
1 Connect each side band as many as you need.



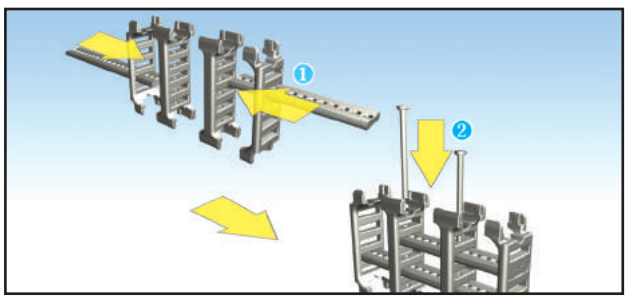
2 Assemble the end brackets on both ends.



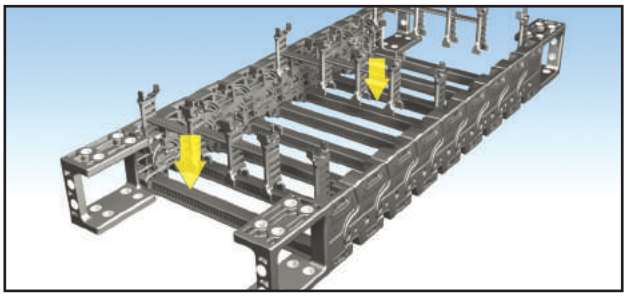
3 Attach frames to one side groove on the frames, then the other side.



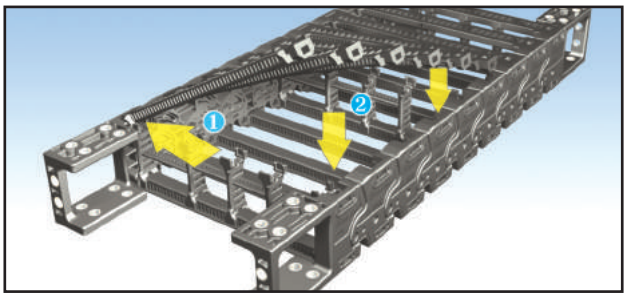
3-1 For nsb020CR and nsb022CR, they are not Hinge Type for method to connect frames, but Hook Type on both sides.



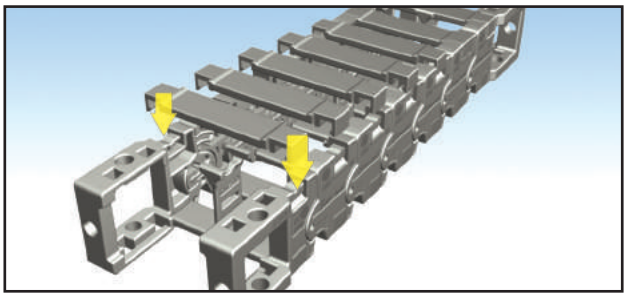
4 For nsb045, 060 and 075, connect the pin of separator in hole of divider after inserting separator in hole of divider. For nsb028 and nsb035, separator fixing pins are not used.



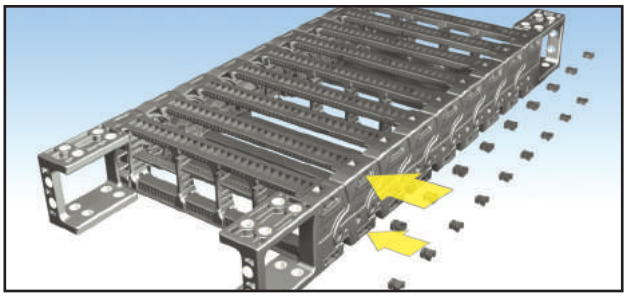
5 Fix the separator and divider patterns to the bottom-side frames as needed.



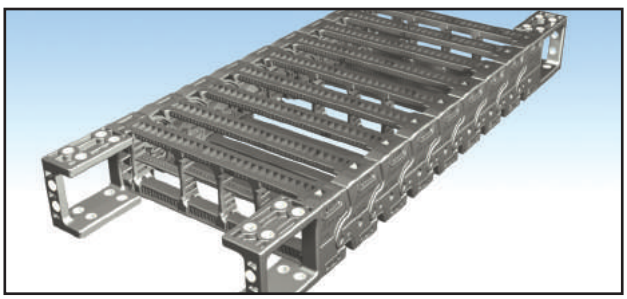
6 Attach frames to one side groove on the frames, then the other side.



6-1 For nsb020CR and nsb022CR, they are not Hinge Type for method to connect frames, but Hook Type on both sides.



7 Insert frame pins to secure the frames and complete carrier. (nsb045, 060, 075 are applied with frame pin, and nsb028, 035 are Hinge Type or Hook Type without frame pin.)



8 Complete to assemble New Sabin CR-Type, Sabin Chain.

nsb Chain - Clean Room type

≫ Part list of nsb Chain Clean Room type

- Composition of Cable chain(Standard)
  = Side band(RH) + Frame + Side band(LH) + Bending radius Unit + Free end bracket
- M divider(normal divider) should be applied every second frames to make a section composition.

※ Please refer to below part list and description to understand composition of cable chain.

Model	Classification	Part number	Description
nsb020CR	SIDE BAND	nsb-SB020CR.R*(LH) nsb-SB020CR.R*(RH)	Left side band of nsb020CR Right side band of nsb020CR
	FRAME	sb-FR018CR.20 sb-FR018CR.40	Frame, 20mm Frame, 40mm
	FREE END BRACKET	nsb-FEB020CR	End bracket of nsb020CR
	DIVIDER	sb-DV018CR	Normal divider, clean room type
	TIE WRAP	sb-TW018CR.20 sb-TW018CR.40	Tie wrap for end bracket to fix cables, 20mm Tie wrap for end bracket to fix cables, 40mm

Model	Classification	Part number	Description
nsb022CR	SIDE BAND	nsb-SB022CR.R*(LH) nsb-SB022CR.R*(RH)	Left side band of nsb022CR Right side band of nsb022CR
	FRAME	sb-FR020CR.16 S-FR033/020CR.27 S-FR033/020CR.37 S-FR033/020CR.47 S-FR033/020CR.67 S-FR033/020CR.77	Frame, 16mm Frame, 27mm Frame, 37mm Frame, 47mm Frame, 67mm Frame, 77mm
	FREE END BRACKET	nsb-FEB022CR	End bracket of nsb022CR
	DIVIDER	sb-DV020CR	Normal divider, cleanroom type
	TIE WRAP	sb-TW020CR.16 S-TW033/020CR.27 S-TW033/020CR.37 S-TW033/020CR.47 S-TW033/020CR.67 S-TW033/020CR.77	Tie wrap for end bracket to fix cables, 16mm Tie wrap for end bracket to fix cables, 27m Tie wrap for end bracket to fix cables, 37mm Tie wrap for end bracket to fix cables, 47mm Tie wrap for end bracket to fix cables, 67mm Tie wrap for end bracket to fix cables, 77mm

Model	Classification	Part number	Description
nsb028CR	SIDE BAND	nsb-SB028CR.R*(LH) nsb-SB028CR.R*(RH)	Left side band of nsb028CR Right side band of nsb028CR
	FRAME	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	nsb-FEB028CR	End bracket of nsb028CR
	DIVIDER	sb-DV028/M sb-DV028/S	Normal divider To fix separstors 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
	TIE WRAP	S-TW036/025CR.35 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, 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
	SYSTEM TIE WRAP	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

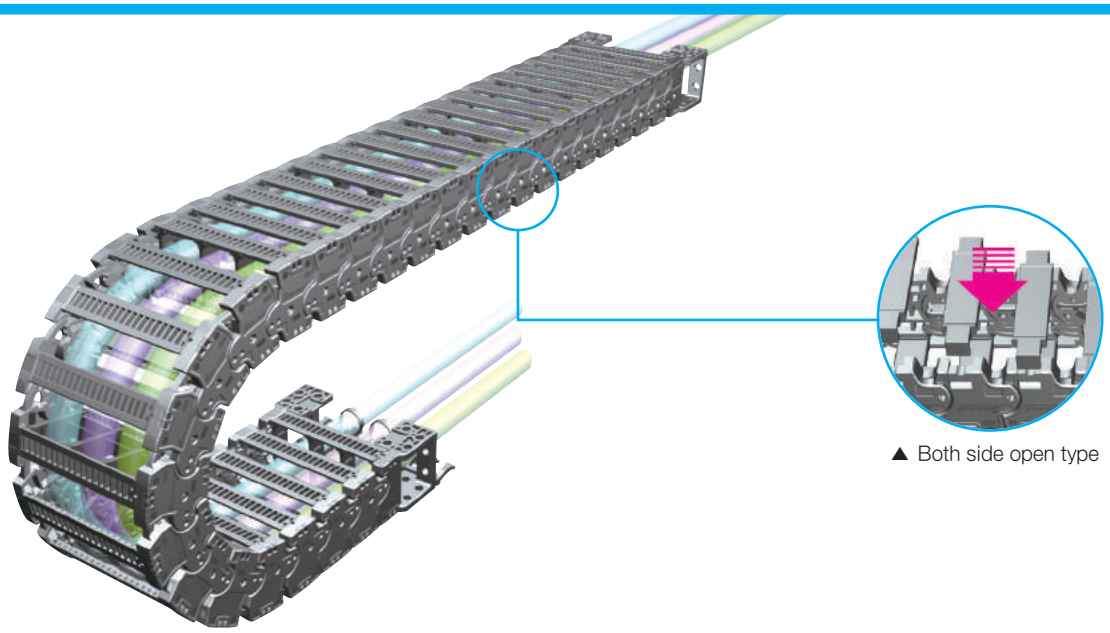
Model	Classification	Part number	Description
nsb035CR	SIDE BAND	nsb-SB035CR.R*(LH) nsb-SB035CR.R*(RH)	Left side band of nsb035CR Right side band of nsb035CR
	FRAME	sb-FR/M.35 sb-FR/M.50 sb-FR/M.55 sb-FR/M.75 sb-FR/M.100 sb-FR/M.125 sb-FR/M.150 sb-FR/M.175 sb-FR/M.200	Frame, 35mm Frame, 50mm Frame, 55mm Frame, 75mm Frame, 100mm Frame, 125mm Frame, 150mm Frame, 175mm Frame, 200mm
	FREE END BRACKET	nsb-FEB035CR	End bracket of nsb035CR
	DIVIDER	sb-DV035/M sb-DV035/S	Normal divider To fix separstors 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
	TIE WRAP	S-TW036/025CR.50 S-TW036/025CR.75 S-TW036/025CR.100 S-TW036/025CR.125 S-TW036/025CR.150 S-TW036/025CR.175 S-TW036/025CR.200	Tie wrap for end bracket to fix cables, 50mm 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 Tie wrap for end bracket to fix cables, 150mm Tie wrap for end bracket to fix cables, 175mm Tie wrap for end bracket to fix cables, 200mm
	SYSTEM TIE WRAP	sb-DV035/W S-TW.EB035	Divider for fixing cables at end bracket System tie wrap to arrange for cables right after moving bracket or fixing bracket

Model	Classification	Part number	Description
nsb045CR	SIDE BAND	nsb-SB045CR.R*(LH) nsb-SB045CR.R*(RH)	Left side band of nsb045CR Right side band of nsb045CR
	FRAME PIN	S-FP/S1	Frame pin
	FRAME	sb-FR045.50 sb-FR045.75 sb-FR045.100 sb-FR045.125 sb-FR045.140 sb-FR045.150 sb-FR045.165 sb-FR045.175 sb-FR045.190 sb-FR045.200 sb-FR045.240 sb-FR045.250 sb-FR045.300	Frame, 50mm Frame, 75mm Frame, 100mm Frame, 125mm Frame, 140mm Frame, 150mm Frame, 165mm Frame, 175mm Frame, 190mm Frame, 200mm Frame, 240mm Frame, 250mm Frame, 300mm
	FREE END BRACKET	nsb-FEB045CR sb-FEB/WH045	End bracket of nsb045CR Steel washer for end bracket
	DIVIDER	sb-DV045/M sb-DV045/S sb-DV045/T sb-DV045/TP	Normal divider To fix separstors at the both side section T divider T divider pin
	SEPARATOR	sb-SP/400.400 SP-PIN045	Separator, 400mm Separator pin to fix
	TIE WRAP	S-TW50 S-TW75 S-TW100 S-TW125 S-TW150	Tie wrap for end bracket to fix cables, 50mm 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 Tie wrap for end bracket to fix cables, 150mm
	SYSTEM TIE WRAP	sb-DV045/W S-TW.EB045	Divider for fixing cables at end bracket System tie wrap to arrange for cables right after moving bracket or fixing bracket

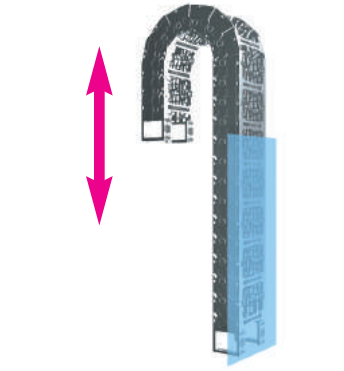
Model	Classification	Part number	Description
nsb060CR	SIDE BAND	nsb-SB060CR.R*(LH) nsb-SB060CR.R*(RH)	Left side band of nsb060CR Right side band of nsb060CR
	FRAME PIN	S-FP/S1	Frame pin
	FRAME	sb-FR060.75 sb-FR060.100 sb-FR060.125 sb-FR060.150 sb-FR060.175 sb-FR060.190 sb-FR060.200 sb-FR060.230 sb-FR060.250 sb-FR060.300 sb-FR060.350 sb-FR060.400	Frame, 75mm Frame, 100mm Frame, 125mm Frame, 150mm Frame, 175mm Frame, 190mm Frame, 200mm Frame, 230mm Frame, 250mm Frame, 300mm Frame, 350mm Frame, 400mm
	FREE END BRACKET	nsb-FEB060CR sb-FEB/WH060	End bracket of nsb060CR Steel washer for end bracket
	DIVIDER	sb-DV060/M sb-DV060/S sb-DV060/R sb-DV060/T sb-DV060/TP	Normal divider To fix separstors at the both side section Roller divider to reduce friction with cables, Clean room type T divider T divider pin
	SEPARATOR	sb-SP/400.400 SP-PIN060	Separator, 400mm Separator pin to fix
	TIE WRAP	S-TW50 S-TW75 S-TW100 S-TW125 S-TW150	Tie wrap for end bracket to fix cables, 50mm 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 Tie wrap for end bracket to fix cables, 150mm
	SYSTEM TIE WRAP	sb-DV060/W S-TW.EB060	Divider for fixing cables at end bracket System tie wrap to arrange for cables right after moving bracket or fixing bracket

Model	Classification	Part number	Description
nsb075CR	SIDE BAND	nsb-SB075CR.R*(LH) nsb-SB075CR.R*(RH)	Left side band of nsb075CR Right side band of nsb075CR
	FRAME PIN	S-FP/S2	Frame pin
	FRAME	sb-FR075/100.75 sb-FR075/100.100 sb-FR075/100.115 sb-FR075/100.125 sb-FR075/100.150 sb-FR075/100.175 sb-FR075/100.200 sb-FR075/100.240 sb-FR075/100.250 sb-FR075/100.290 sb-FR075/100.300 sb-FR075/100.350 sb-FR075/100.400 sb-FR075/100.450 sb-FR075/100.500 sb-FR075/100.550 sb-FR075/100.600	Frame, 75mm Frame, 100mm Frame, 115mm Frame, 125mm Frame, 150mm Frame, 175mm Frame, 200mm Frame, 240mm Frame, 250mm Frame, 290mm Frame, 300mm Frame, 350mm Frame, 400mm Frame, 450mm Frame, 500mm Frame, 550mm Frame, 600mm
	FREE END BRACKET	nsb-FEB075CR sb-FEB/WH075	End bracket of nsb075CR Steel washer for end bracket
	DIVIDER	sb-DV075/M sb-DV075/S sb-DV075/R sb-DV075/T sb-DV075/TP	Normal divider To fix separstors at the both side section Roller divider to reduce friction with cables, Clean room type T divider T divider pin
	SEPARATOR	sb-SP/400.400 SP-PIN075	Separator, 400mm Separator pin to fix
	TIE WRAP	S-TW50 S-TW75 S-TW100 S-TW125 S-TW150	Tie wrap for end bracket to fix cables, 50mm 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 Tie wrap for end bracket to fix cables, 150mm
	SYSTEM TIE WRAP	sb-DV075/W S-TW.EB075	Divider for fixing cables at end bracket System tie wrap to arrange for cables right after moving bracket or fixing bracket

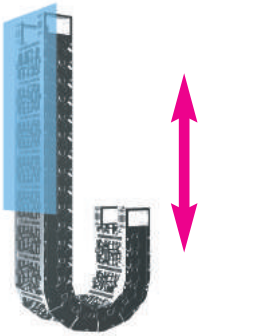
nsb 020CR



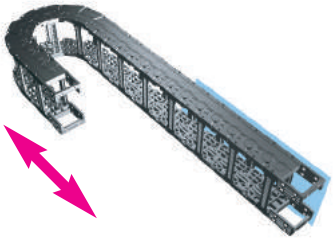
▲ Both side open type



Vertical with curve above



Vertical with curve below

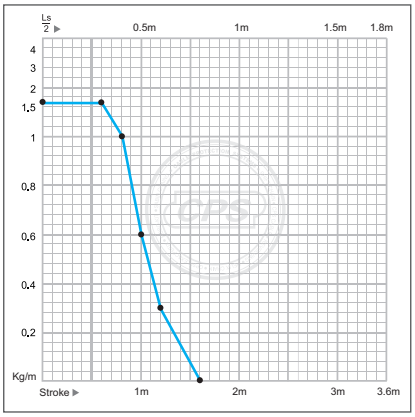


Horizontal application mounted on its side

Calculation of the chain length

$$[\ L = \frac{Ls}{2} + Lp\ ]$$

Load diagrams self-supporting length

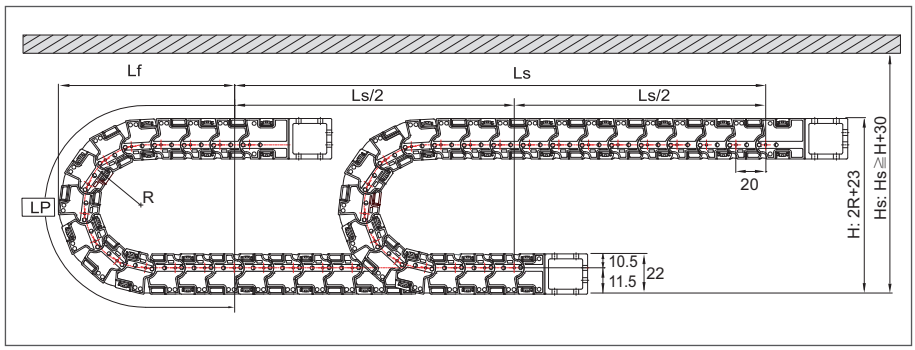


Other installation length

Vertical curve above = max 1.0m
Vertical curve below = max 5m
Side Mounted, Unsupported = max 0.5m

Layout of the chain

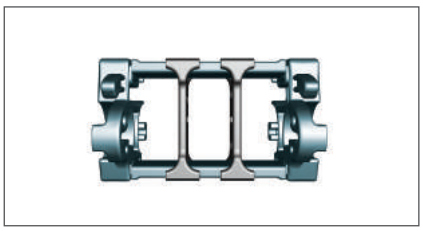
Ls: Stroke Hs: Safe Space

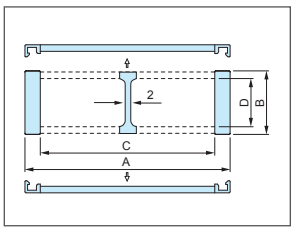


Bending Radius (R)	Lp Loop Length	Lf Loof Projection	H Moving Height
28	162	76	79
38	202	90	99
48	242	105	119

(Dimensions in mm)

Chain cross section

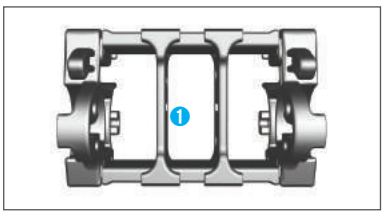




Chain Type	A Width (Outer)	B Height (Outer)	C Frame	D Height (Inner)	Weight kg/m
nsb 020CR	34 54	22	20 40	15	0.32 0.35

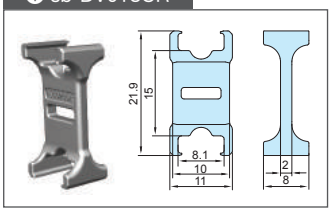
(Dimensions in mm)

Dividers(DV)



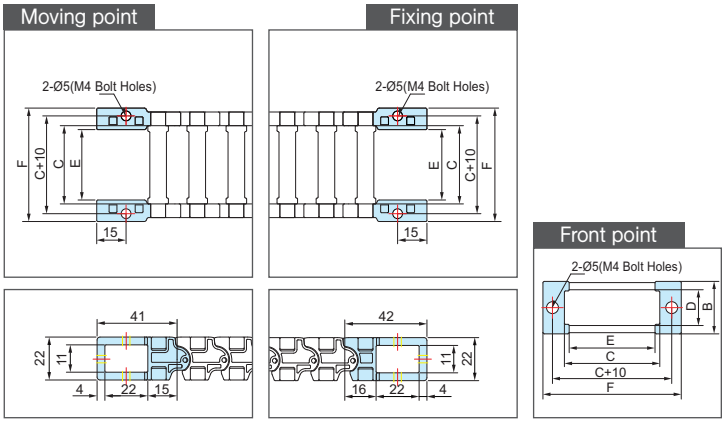
Assemble divider every third links.

❶ sb-DV018CR



(Dimensions in mm)

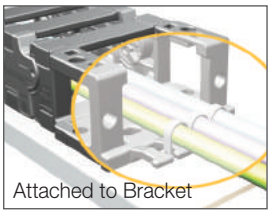
Free end bracket

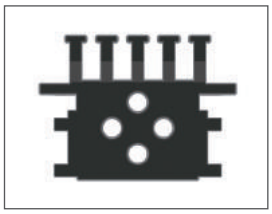


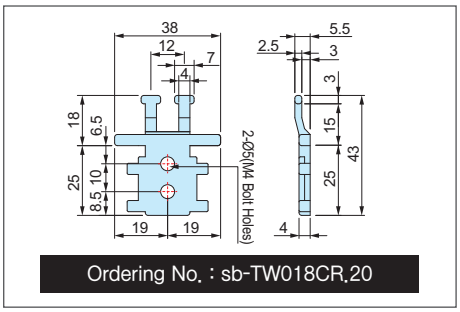
Chain Type	F Width(Outer)	B Height(Outer)	C Frame	D Height(Inner)	E M.E.B Bolt hole width	Hole Type
nsb 020CR	38 58	22	20 40	15	16 36	M4 Bolt Holes

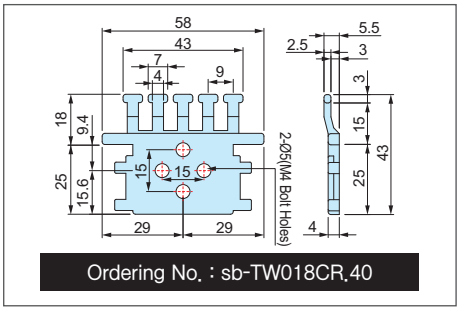
(Dimensions in mm)

Tie wrap (TW)



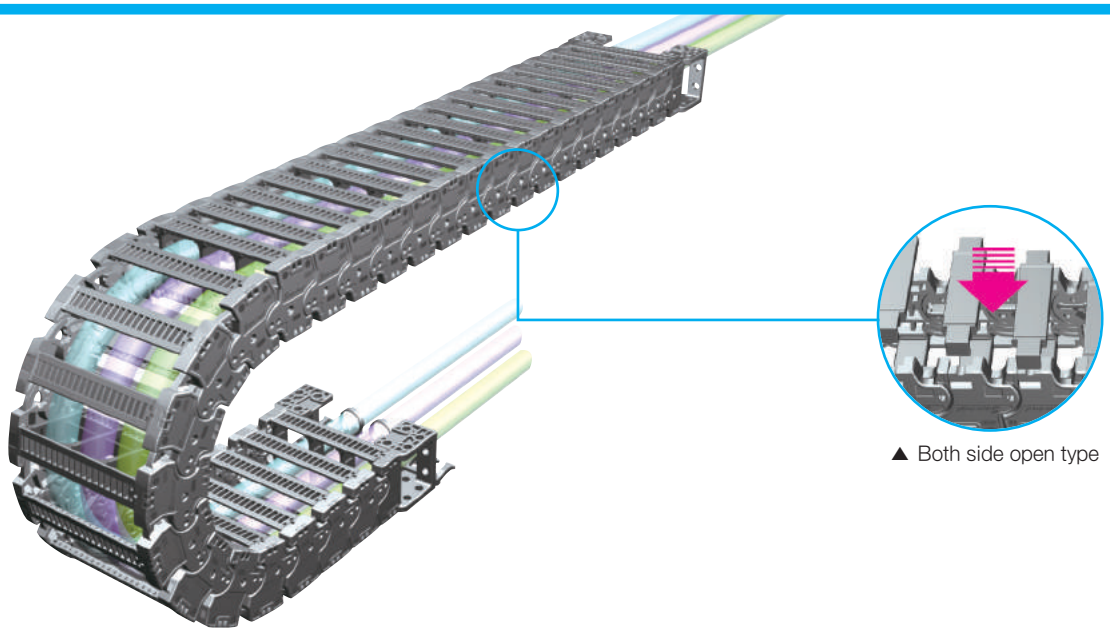




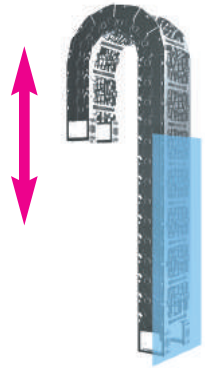


(Dimensions in mm)

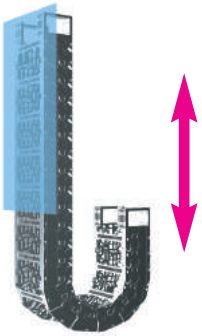
nsb 022CR



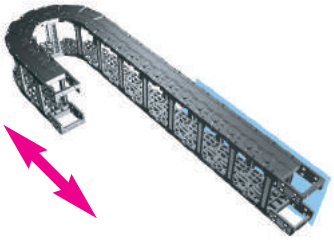
▲ Both side open type



Vertical with curve above



Vertical with curve below

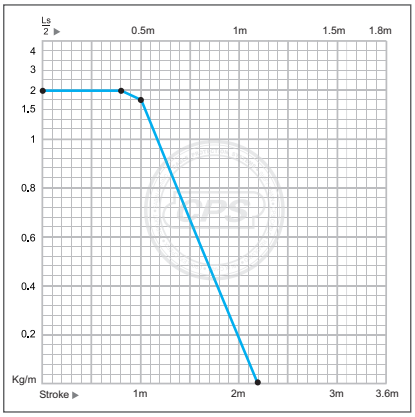


Horizontal application mounted on its side

Calculation of the chain length

$$[\ L = \frac{Ls}{2} + Lp\ ]$$

Load diagrams self-supporting length

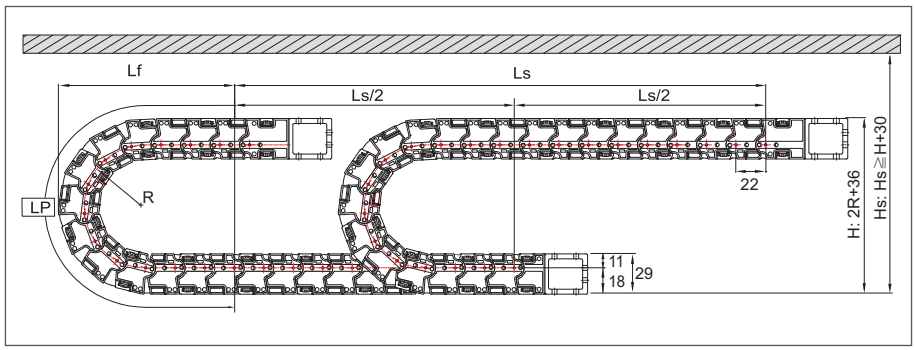


Other installation length

Vertical curve above = max 1.0m
Vertical curve below = max 5m
Side Mounted, Unsupported = max 0.5m

Layout of the chain

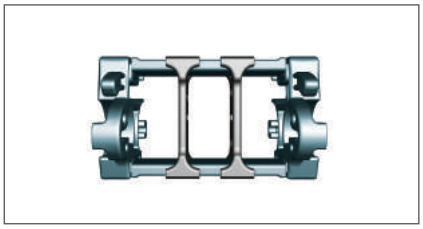
Ls: Stroke Hs: Safe Space

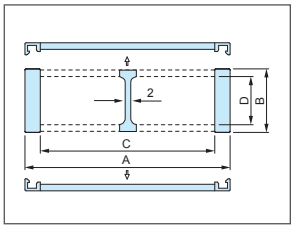


Bending Radius (R)	Lp Loop Length	Lf Loof Projection	H Moving Height
35	222	108	106
45	266	125	126
75	353	152	186
100	441	182	236
120	485	192	276

(Dimensions in mm)

Chain cross section

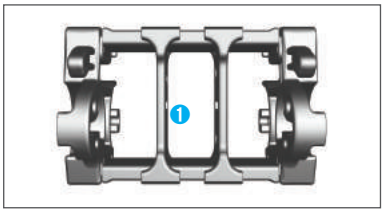




Chain Type	A Width (Outer)	B Height (Outer)	C Frame	D Height (Inner)	Weight kg/m
nsb 022CR	30	29	16	22	0.43
	41		27		0.47
	51		37		0.51
	61		47		0.55
	81		67		0.67
	91		77		0.69

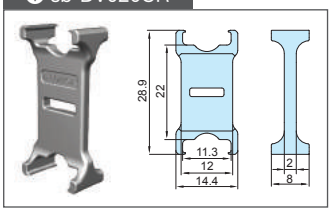
(Dimensions in mm)

Dividers(DV)



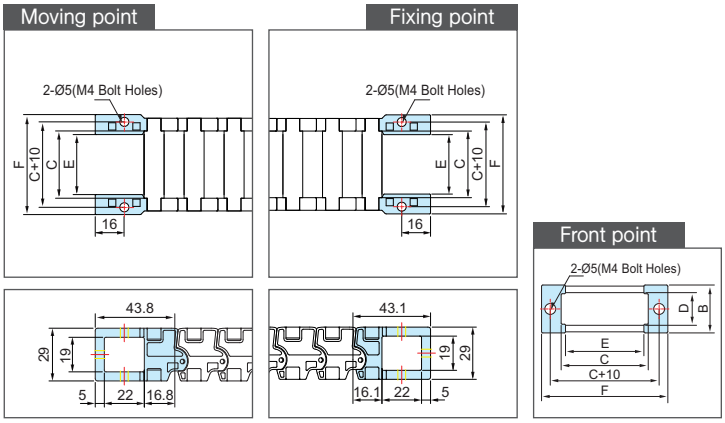
Assemble divider every third links.

❶ sb-DV020CR



(Dimensions in mm)

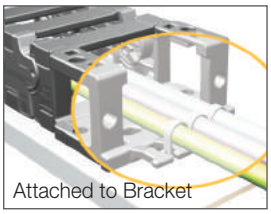
Free end bracket

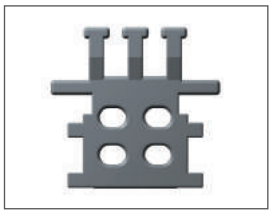


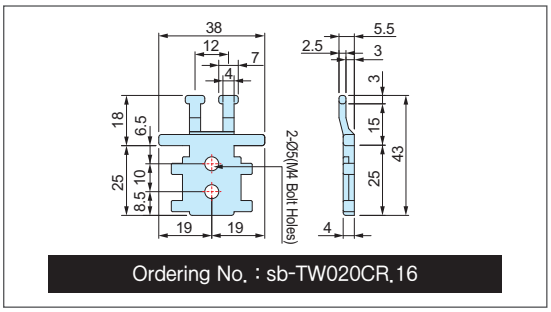
Chain Type	F Width(Outer)	B Height(Outer)	C Frame	D Height(Inner)	E M,EB Bolt hole width	Hole Type
nsb 022CR	34	29	16	22	12	M4 Bolt Holes
	45		27		23	
	55		37		33	
	65		47		43	
	85		67		63	
	95		77		73	

(Dimensions in mm)

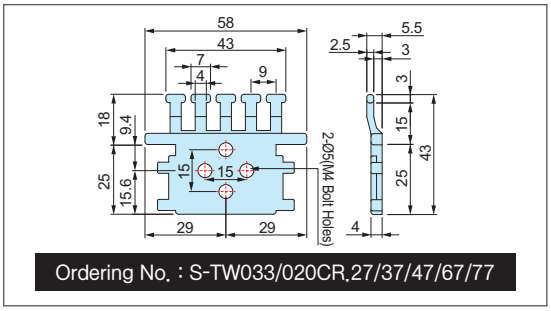
Tie wrap (TW)







Ordering No. : sb-TW020CR.16

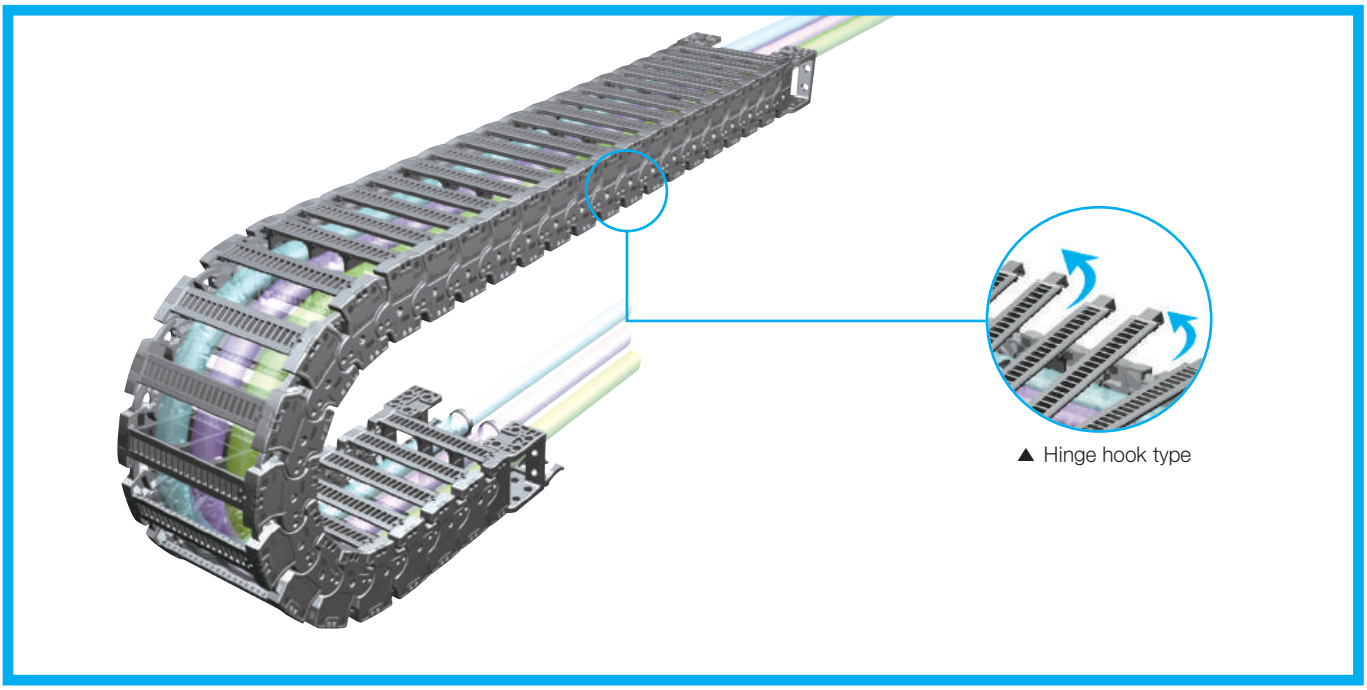


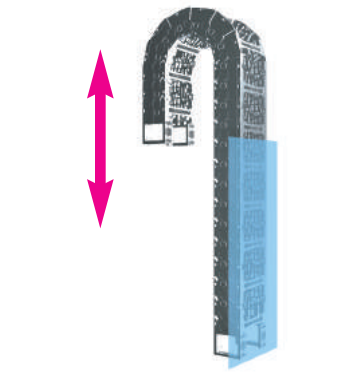
Ordering No. : S-TW033/020CR.27/37/47/67/77

Chain Type	Ordering No.	A	B	C	D
nsb 022CR	sb-TW020CR.16	34	-	10.00	-
	S-TW033/020CR.27	45	27.5	10.20	12
	S-TW033/020CR.37	55	41.0	8.50	22
	S-TW033/020CR.47	65	48.0	10.40	32
	S-TW033/020CR.67	85	68.0	10.00	52
	S-TW033/020CR.77	95	78.0	8.87	62

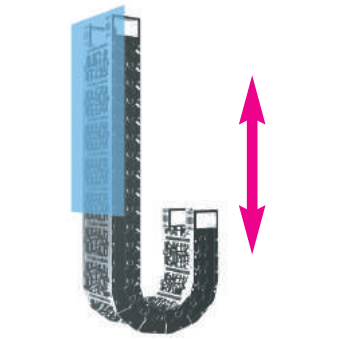
(Dimensions in mm)

nsb 028CR

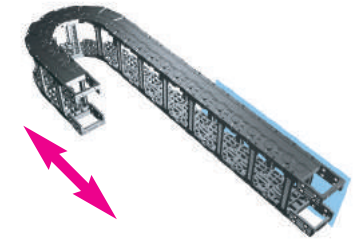




Vertical with curve above



Vertical with curve below

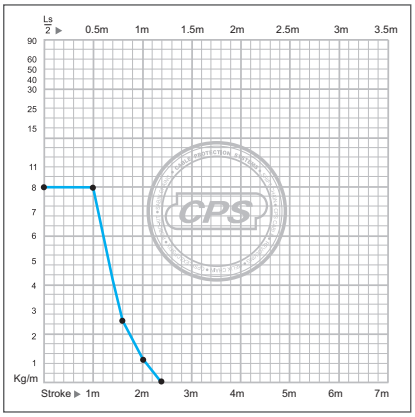


Horizontal application mounted on its side

Calculation of the chain length

$$[\ L = \frac{Ls}{2} + Lp\ ]$$

Load diagrams self-supporting length

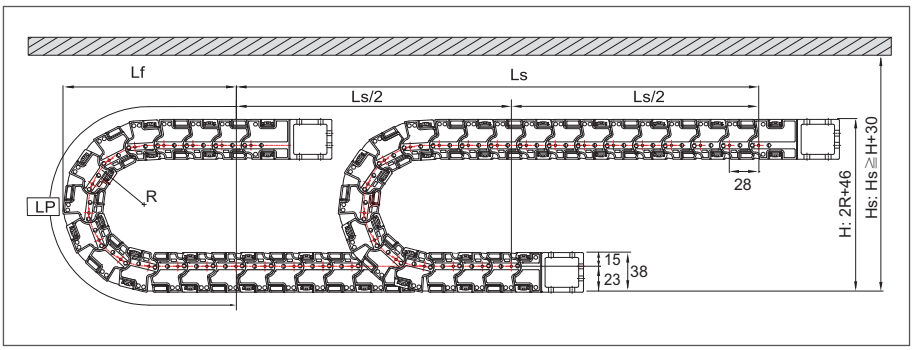


Other installation length

Vertical curve above = max 2.0m
Vertical curve below = max 40m
Side Mounted, Unsupported = max 1.0m

Layout of the chain

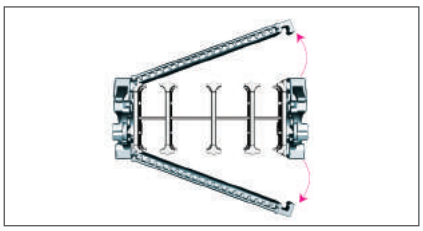
Ls: Stroke Hs: Safe Space

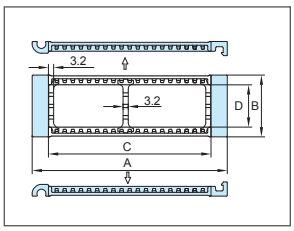


Bending Radius (R)	Lp Loop Length	Lf Loof Projection	H Moving Height
50	311	149	146
70	367	135	186
90	422	182	226
120	533	221	286
150	589	232	346

(Dimensions in mm)

Chain cross section

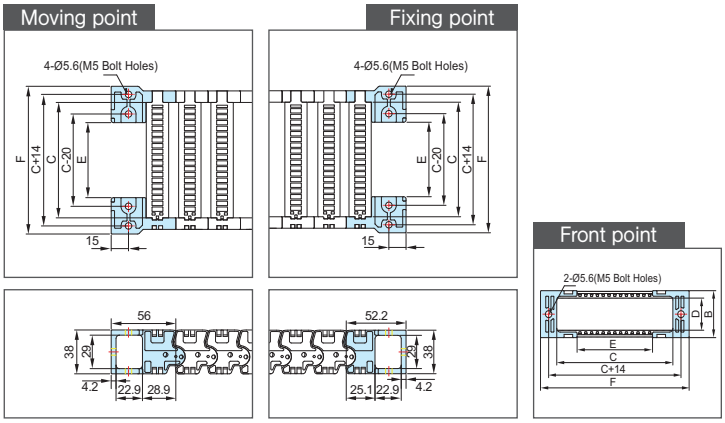




Chain Type	A Width (Outer)	B Height (Outer)	C Frame	D Height (Inner)	Weight kg/m
nsb 028CR	55	38	35	26	0.90
	70		50		0.98
	75		55		1.02
	95		75		1.12
	120		100		1.27
	145		125		1.41
	170		150		1.59
	195		175		1.74
	220		200		1.84

(Dimensions in mm)

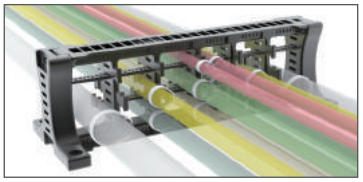
Free end bracket



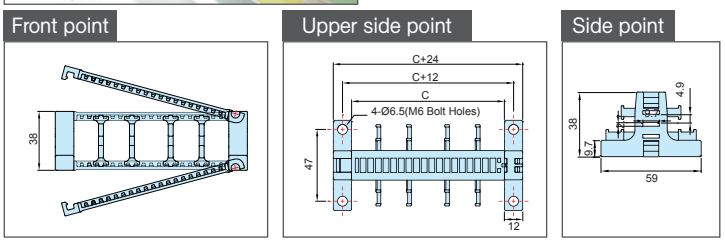
Chain Type	F Width(Outer)	B Height(Outer)	C Frame	D Height(Inner)	E M.EB Bolt hole width	Hole Type
nsb 028CR	63	38	35	26	0	M5 Bolt Holes
	78		50		15	
	83		55		20	
	103		75		40	
	128		100		65	
	153		125		90	
	178		150		115	
	203		175		140	
	228		200		165	

(Dimensions in mm)

System tie wrap (STW)

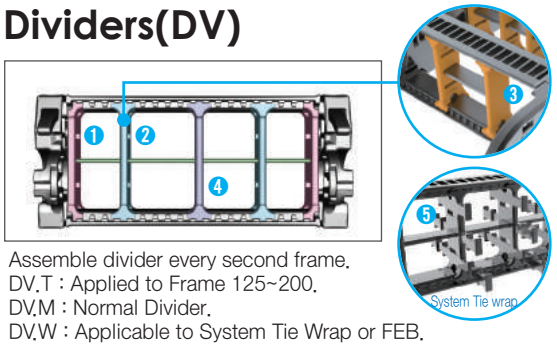


It is a unit to classify each cable for preventing entanglement of cables. It can either be installed to free end bracket or installed separately according its application environment.



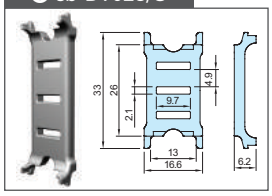
Chain Type	Ordering No.	C Frame	Hole Type
nsb 028CR	S-TW.EB028.35	35	M6 Bolt Holes
	S-TW.EB028.50	50	
	S-TW.EB028.55	55	
	S-TW.EB028.75	75	
	S-TW.EB028.100	100	
	S-TW.EB028.125	125	
	S-TW.EB028.150	150	
	S-TW.EB028.175	175	
	S-TW.EB028.200	200	

Dividers(DV)

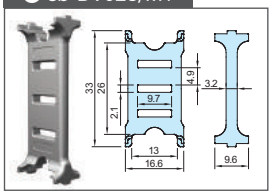


Assemble divider every second frame.
DV.T : Applied to Frame 125~200.
DV.M : Normal Divider.
DV.W : Applicable to System Tie Wrap or FEB.

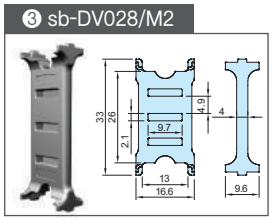
❶ sb-DV028/S



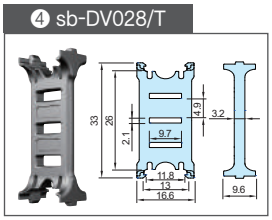
❷ sb-DV028/M1



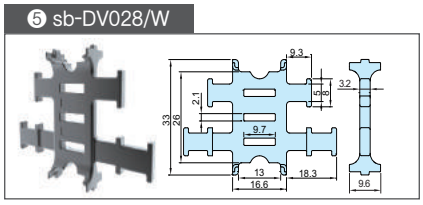
❸ sb-DV028/M2



❹ sb-DV028/T

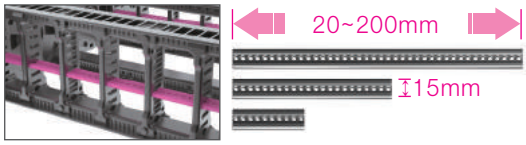


❺ sb-DV028/W



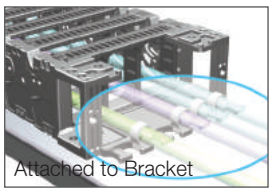
(Dimensions in mm)

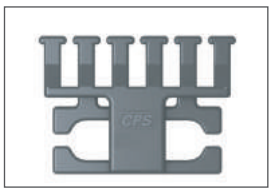
Separators(SP)

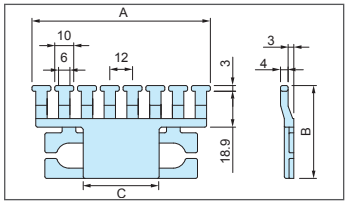


Chain Type	Ordering NO.	Frame
nsb 028CR	S-SP/M.35	35
	S-SP/M.50	50
	S-SP/M.55	55
	S-SP/M.75	75
	S-SP/M.100	100
	S-SP/M.125	125
	S-SP/M.150	150
	S-SP/M.175	175
	S-SP/M.200	200

Tie wrap (TW)

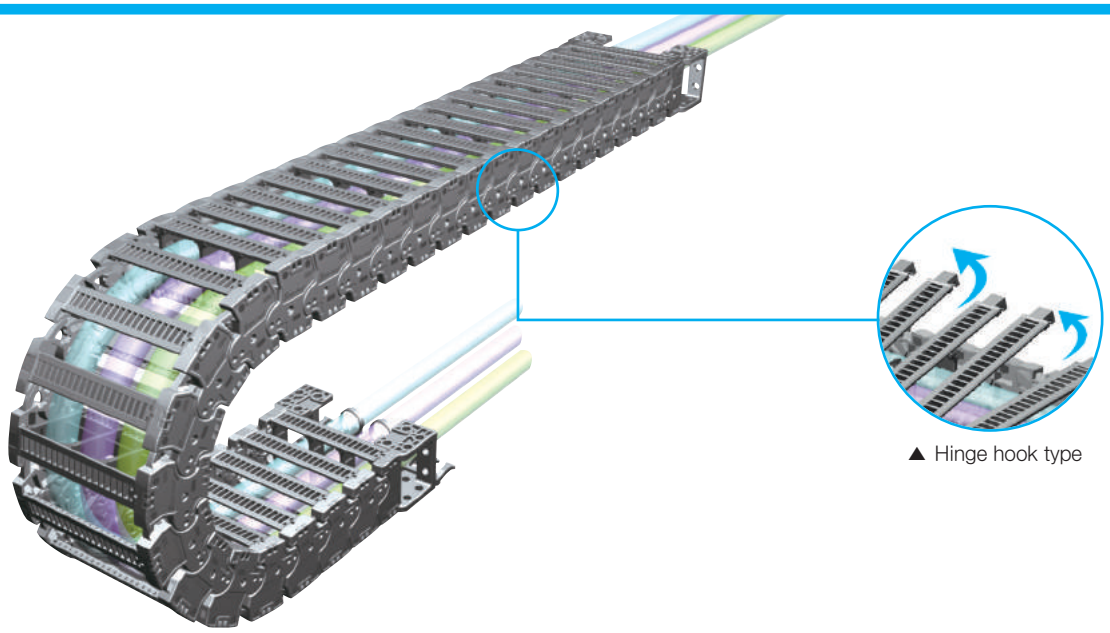




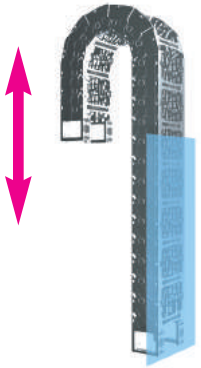


Chain Type	Ordering No.	A	B	C
nsb 028CR	S-TW036/025CR.35	46	35.4	-
	S-TW036/025CR.50	69	48.9	15
	S-TW036/025CR.55	70	48.9	20
	S-TW036/025CR.75	94	48.9	40
	S-TW036/025CR.100	118	48.9	65
	S-TW036/025CR.125	142	48.9	90

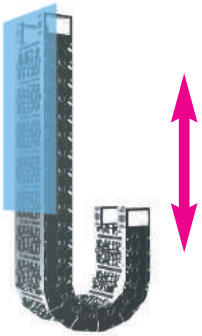
nsb 035CR



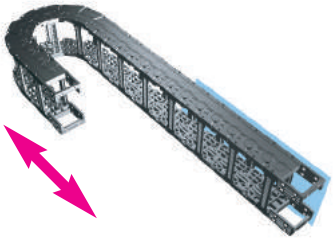
▲ Hinge hook type



Vertical with curve above



Vertical with curve below

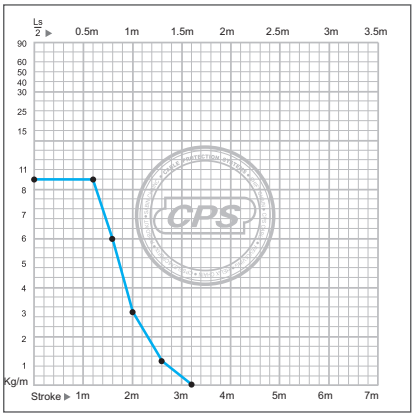


Horizontal application mounted on its side

Calculation of the chain length

$$[\ L = \frac{Ls}{2} + Lp\ ]$$

Load diagrams self-supporting length

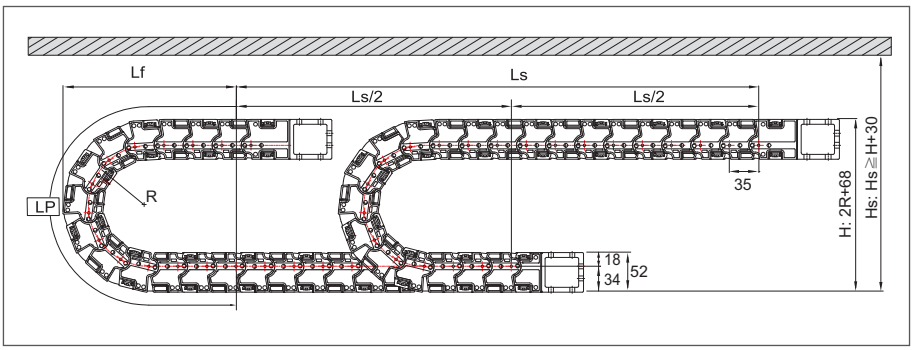


Other installation length

Vertical curve above = max 3.0m
Vertical curve below = max 50m
Side Mounted, Unsupported = max 1.0m

Layout of the chain

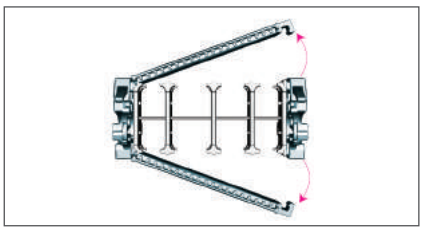
Ls: Stroke Hs: Safe Space

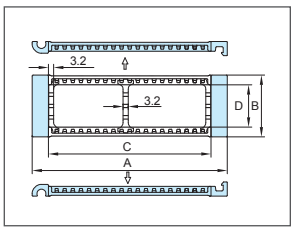


Bending Radius (R)	Lp Loop Length	Lf Loof Projection	H Moving Height
75	471	226	218
100	550	251	268
125	628	276	318
150	706	301	368
200	863	351	468

(Dimensions in mm)

Chain cross section



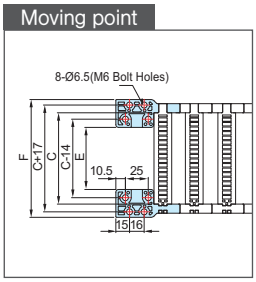


Chain Type	A Width (Outer)	B Height (Outer)	C Frame	D Height (Inner)	Weight kg/m
nsb 035CR	55	52	35	40	1.00
	70		50		1.06
	75		55		1.09
	95		75		1.17
	120		100		1.29
	145		125		1.39
	170		150		1.53
	195		175		1.65
	220		200		1.73

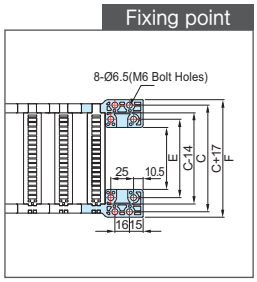
(Dimensions in mm)

Free end bracket

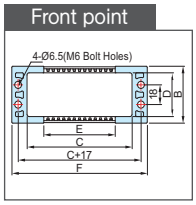
Moving point



Fixing point



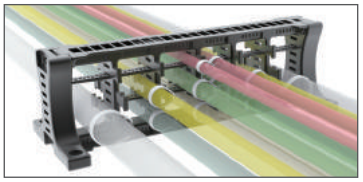
Front point



Chain Type	F Width(Outer)	B Height(Outer)	C Frame	D Height(Inner)	E M.EB Bolt hole width	Hole Type
nsb 035CR	64	52	35	40	3	M6 Bolt Holes
	79		50		18	
	84		55		23	
	104		75		43	
	129		100		68	
	154		125		93	
	179		150		118	
	204		175		143	
	229		200		168	

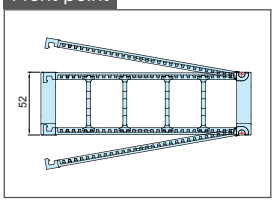
(Dimensions in mm)

System tie wrap (STW)

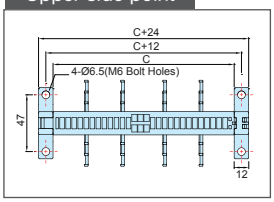


It is a unit to classify each cable for preventing entanglement of cables. It can either be installed to free end bracket or installed separately according its application environment.

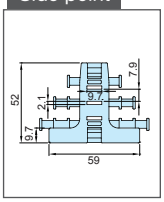
Front point



Upper side point

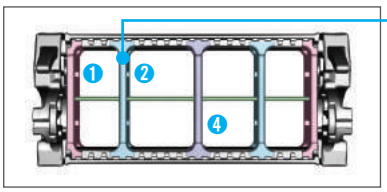


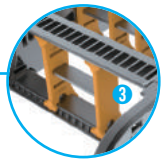
Side point

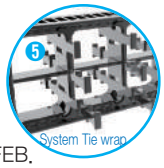


Chain Type	Ordering No.	C Frame	Hole Type
nsb 035CR	S-TW.EB035.35	35	M6 Bolt Holes
	S-TW.EB035.50	50	
	S-TW.EB035.55	55	
	S-TW.EB035.75	75	
	S-TW.EB035.100	100	
	S-TW.EB035.125	125	
	S-TW.EB035.150	150	
	S-TW.EB035.175	175	
	S-TW.EB035.200	200	

Dividers(DV)

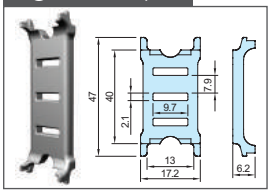




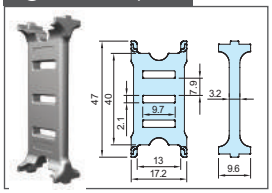


Assemble divider every second frame.
DV.T : Applied to Frame 125~200.
DV.M : Normal Divider.
DV.W : Applicable to System Tie Wrap or FEB.

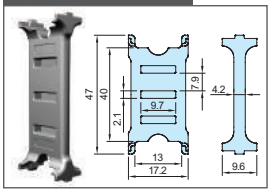
❶ sb-DV035/S



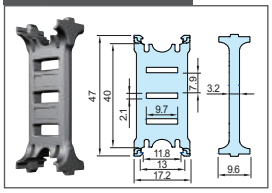
❷ sb-DV035/M1



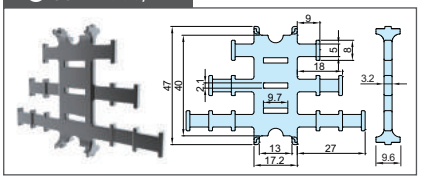
❸ sb-DV035/M2



❹ sb-DV035/T

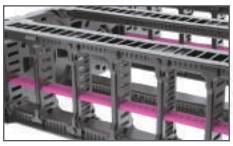


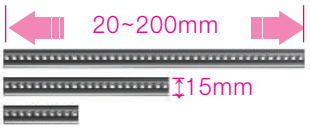
❺ sb-DV035/W



(Dimensions in mm)

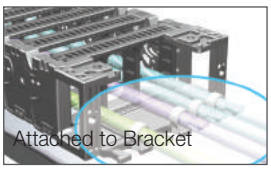
Separators(SP)

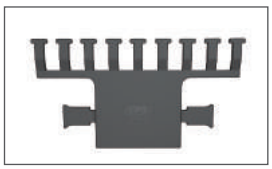


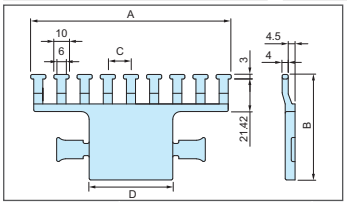


Chain Type	Ordering NO.	Frame
nsb 035CR	S-SP/M.35	35
	S-SP/M.50	50
	S-SP/M.55	55
	S-SP/M.75	75
	S-SP/M.100	100
	S-SP/M.125	125
	S-SP/M.150	150
	S-SP/M.175	175
	S-SP/M.200	200

Tie wrap (TW)



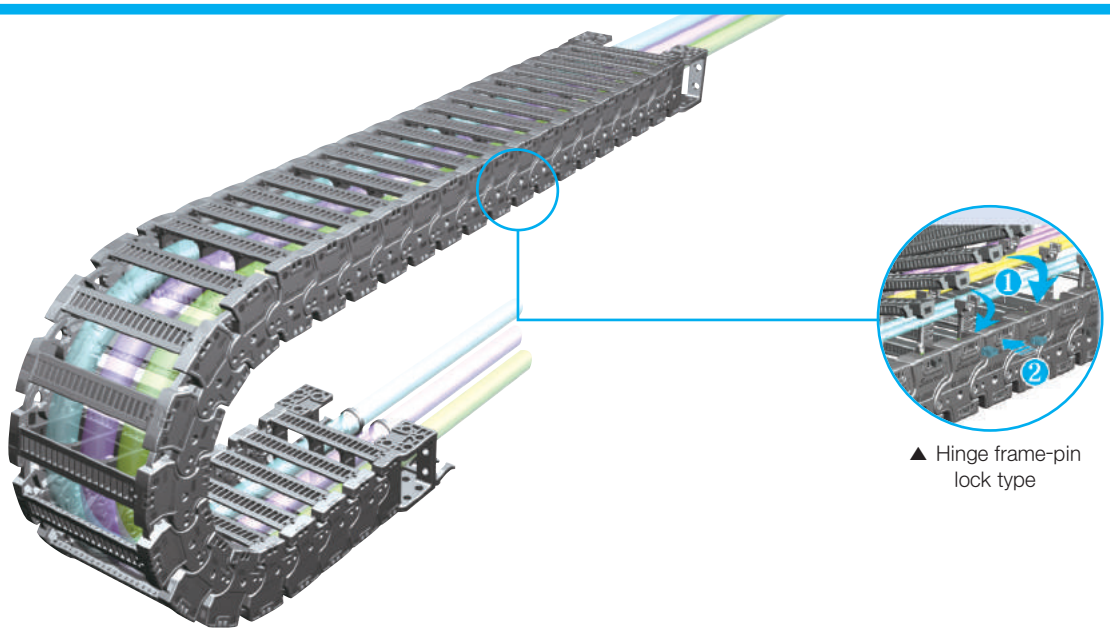




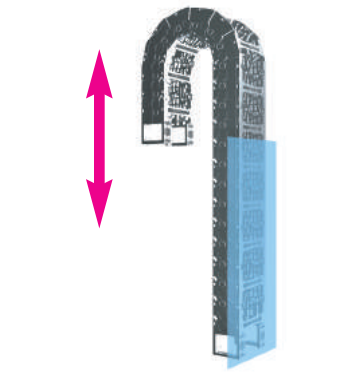
(Dimensions in mm)

Chain Type	Ordering No.	A	B	C	D
nsb 035CR	S-TW050/035N.50	82	64.5	12.00	5
	S-TW050/035N.55	82		12.00	10
	S-TW050/035N.75	107		12.13	30
	S-TW050/035N.100	132		15.25	55
	S-TW050/035N.125	157		14.70	80
	S-TW050/035N.150	182		14.35	105
	S-TW050/035N.175	203		12.31	130
	S-TW050/035N.200	232		13.88	155

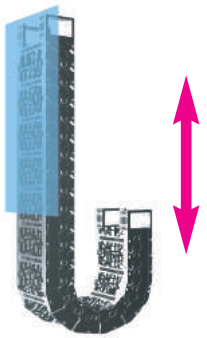
nsb 045CR



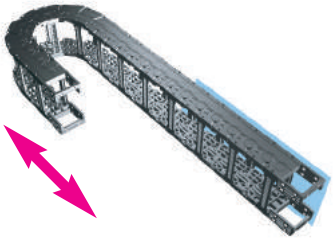
▲ Hinge frame-pin lock type



Vertical with curve above



Vertical with curve below

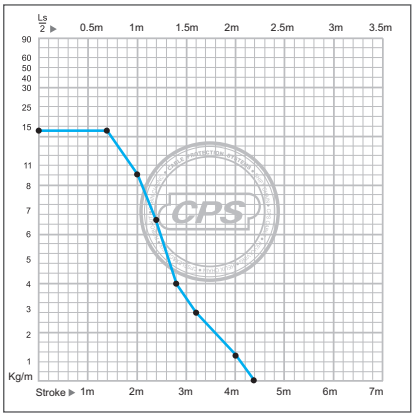


Horizontal application mounted on its side

Calculation of the chain length

$$[\ L = \frac{Ls}{2} + Lp\ ]$$

Load diagrams self-supporting length

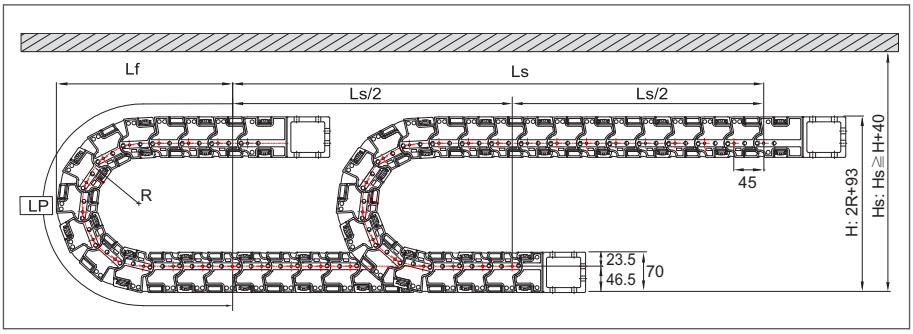


Other installation length

Vertical curve above = max 6.0m
Vertical curve below = max 100m
Side Mounted, Unsupported = max 2.5m

Layout of the chain

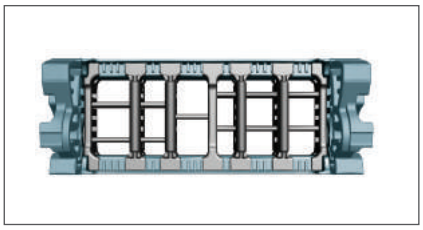
Ls: Stroke Hs: Safe Space

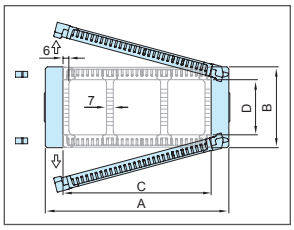


Bending Radius (R)	Lp Loop Length	Lf Loof Projection	H Moving Height
75	587	279	243
100	665	304	293
120	728	324	333
140	791	344	373
200	979	404	493
250	1,136	454	593
300	1,293	504	693

(Dimensions in mm)

Chain cross section



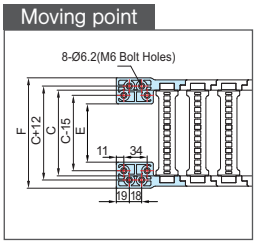


Chain Type	A Width (Outer)	B Height (Outer)	C Frame	D Height (Inner)	Weight kg/m
nsb 045CR	80 105 130 155 170 180 195 205 220 230 270 280 330	70	50 75 100 125 140 150 165 175 190 200 240 250 300	49	2.59 2.74 2.90 3.11 3.23 3.31 3.41 3.48 3.90 4.18 4.64 4.76 5.32

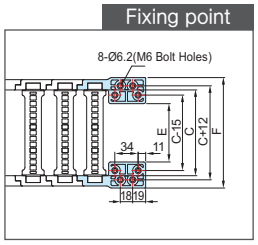
(Dimensions in mm)

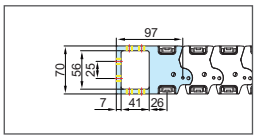
Free end bracket

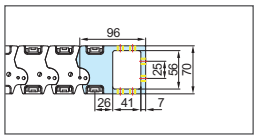
Moving point



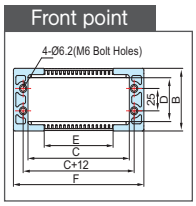
Fixing point







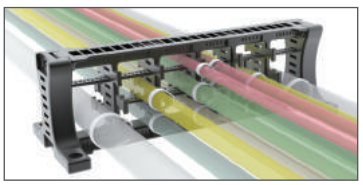
Front point



Chain Type	F Width(Outer)	B Height(Outer)	C Frame	D Height(Inner)	E M.E.B Bolt hole width	Hole Type
nsb 045CR	86 111 136 161 176 186 201 211 226 236 276 286 336	70	50 75 100 125 140 150 165 175 190 200 240 250 300	49	10 35 60 85 100 110 125 135 150 160 200 210 260	M6 Bolt Holes

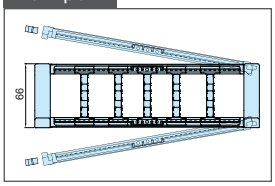
(Dimensions in mm)

System tie wrap (STW)

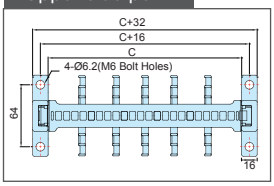


It is a unit to classify each cable for preventing entanglement of cables. It can either be installed to free end bracket or installed separately according its application environment.

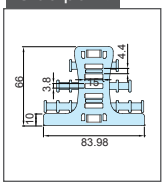
Front point



Upper side point

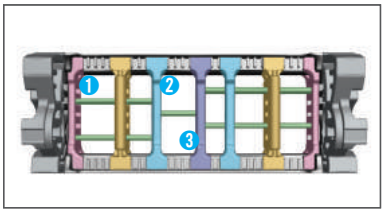


Side point



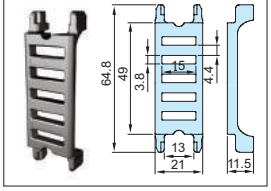
Chain Type	Ordering No.	C Frame	Hole Type
nsb 045CR	S-TW.EB045.50 S-TW.EB045.75 S-TW.EB045.100 S-TW.EB045.125 S-TW.EB045.140 S-TW.EB045.150 S-TW.EB045.165 S-TW.EB045.175 S-TW.EB045.190 S-TW.EB045.200 S-TW.EB045.240 S-TW.EB045.250 S-TW.EB045.300	50 75 100 125 140 150 165 175 190 200 240 250 300	M6 Bolt Holes

Dividers(DV)

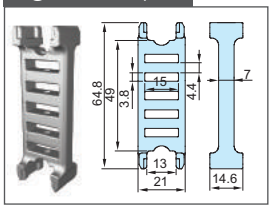


Assemble divider every second frame.
DV.T : Applied to Frame 200~300.
DV.M : Normal Divider.

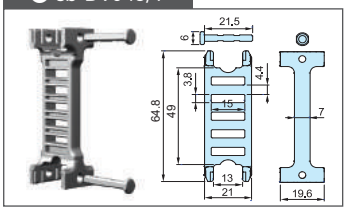
❶ sb-DV045/S



❷ sb-DV045/M

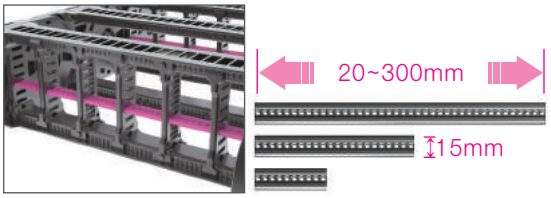


❸ sb-DV045/T



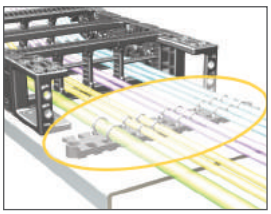
(Dimensions in mm)

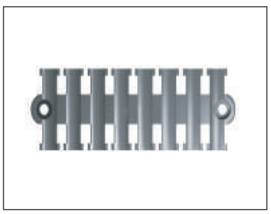
Separators(SP)

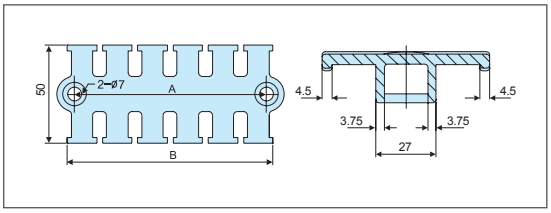


Chain Type	Ordering NO.
nsb 045CR	sb-SP/400.400

Tie wrap (TW)



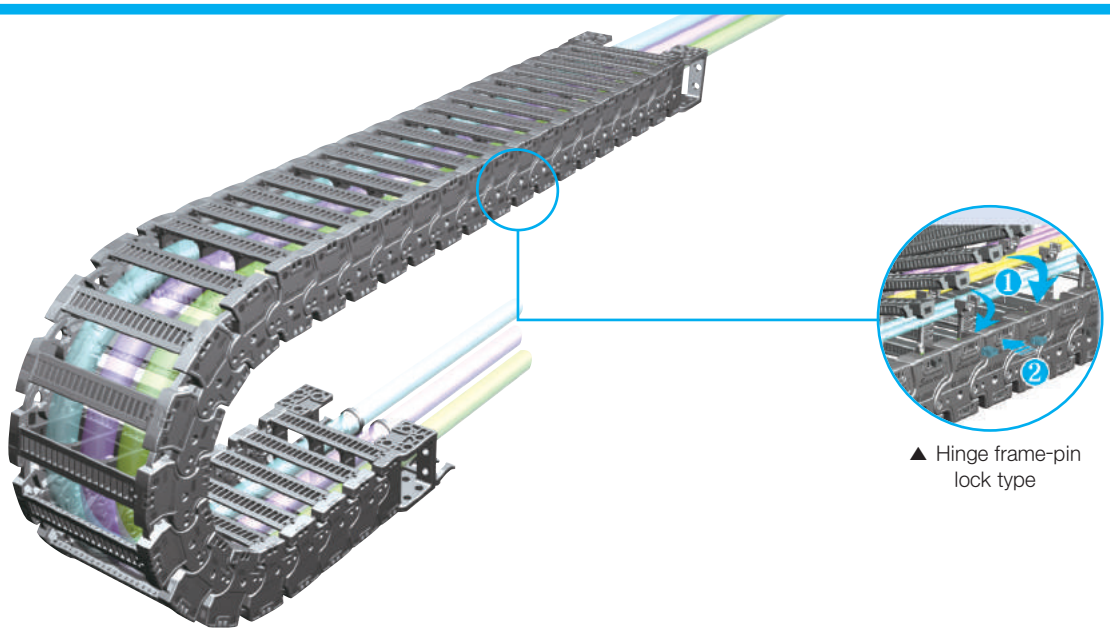




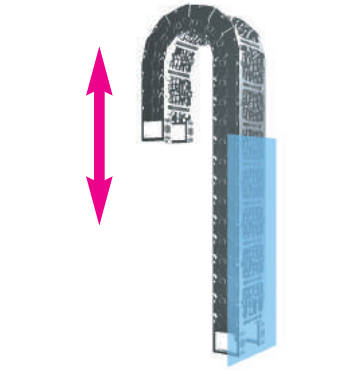
Chain Type	Ordering No.	A	B
nsb 045CR	S-TW50 S-TW75 S-TW100 S-TW125 S-TW150	58 75 98 122 141	65 82 105 129 148

(Dimensions in mm)

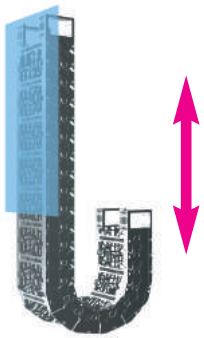
nsb 060CR



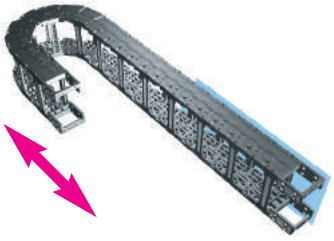
▲ Hinge frame-pin lock type



Vertical with curve above



Vertical with curve below

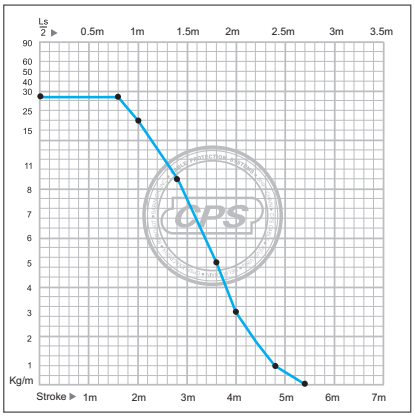


Horizontal application mounted on its side

Calculation of the chain length

$$[\ L = \frac{Ls}{2} + Lp\ ]$$

Load diagrams self-supporting length

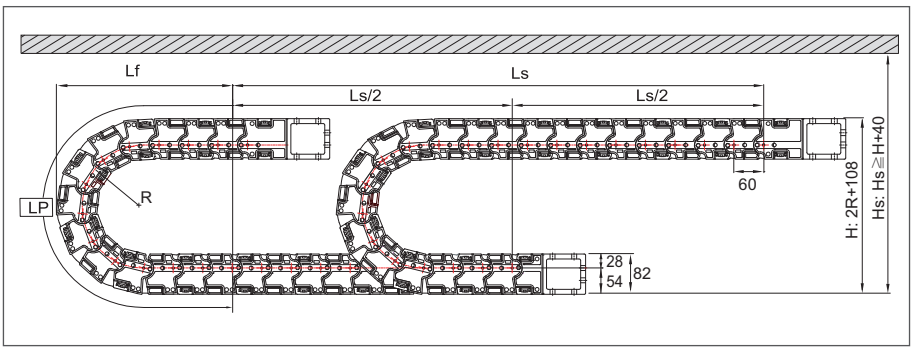


Other installation length

Vertical curve above = max 6.0m
Vertical curve below = max 100m
Side Mounted, Unsupported = max 3.0m

Layout of the chain

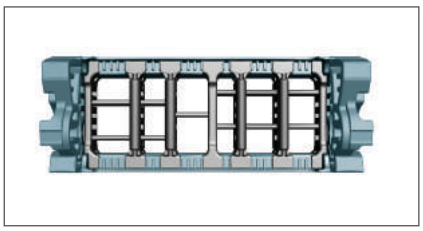
Ls: Stroke Hs: Safe Space

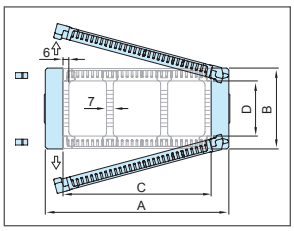


Bending Radius (R)	Lp Loop Length	Lf Loof Projection	H Moving Height
125	854	389	358
140	901	404	388
190	1,058	454	488
220	1,152	484	548
270	1,309	574	648
390	1,686	654	888

(Dimensions in mm)

Chain cross section



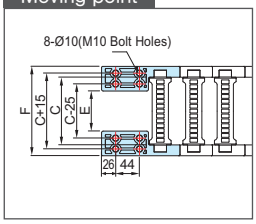


Chain Type	A Width (Outer)	B Height (Outer)	C Frame	D Height (Inner)	Weight kg/m
nsb 060CR	115 140 165 190 215 230 240 270 280 290 340 390 440	82	75 100 125 150 175 190 200 230 240 250 300 350 400	55	3.56 3.66 3.97 4.16 4.33 4.52 4.64 4.90 4.98 5.06 5.48 6.09 6.66

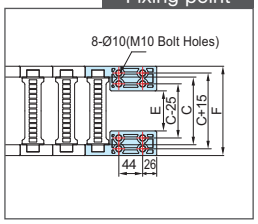
(Dimensions in mm)

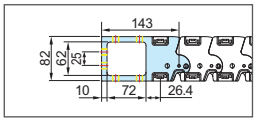
Free end bracket

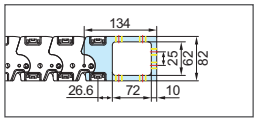
Moving point



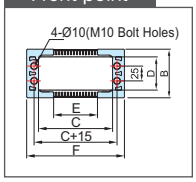
Fixing point







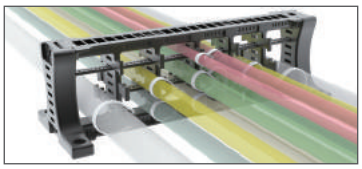
Front point



Chain Type	F Width(Outer)	B Height(Outer)	C Frame	D Height(Inner)	E M,EB Bolt hole width	Hole Type
nsb 060CR	115 140 165 190 215 230 240 270 280 290 340 390 440	82	75 100 125 150 175 190 200 230 240 250 300 350 400	55	24 49 74 99 124 139 149 179 189 199 249 299 349	M10 Bolt Holes

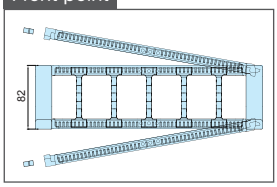
(Dimensions in mm)

System tie wrap (STW)

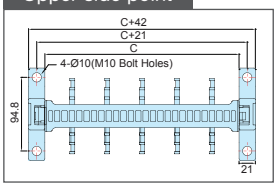


It is a unit to classify each cable for preventing entanglement of cables. It can either be installed to free end bracket or installed separately according its application environment.

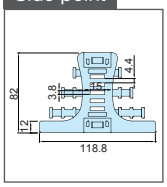
Front point



Upper side point



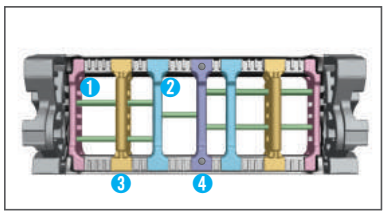
Side point

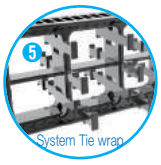


Chain Type	Ordering No.	C Frame	Hole Type
nsb 060CR	S-TW,EB060.75 S-TW,EB060.100 S-TW,EB060.125 S-TW,EB060.150 S-TW,EB060.175 S-TW,EB060.190 S-TW,EB060.200 S-TW,EB060.230 S-TW,EB060.240 S-TW,EB060.250 S-TW,EB060.300 S-TW,EB060.350 S-TW,EB060.400	75 100 125 150 175 190 200 230 240 250 300 350 400	M10 Bolt Holes

(Dimensions in mm)

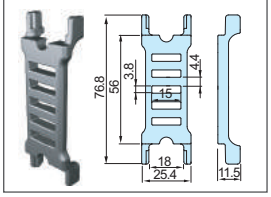
Dividers(DV)



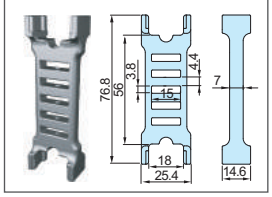


Assemble divider every second frame.
DV.T : Applied to Frame 250~400.
DV.M : Normal Divider.
DV.W : Applicable to System Tie Wrap or FEB.

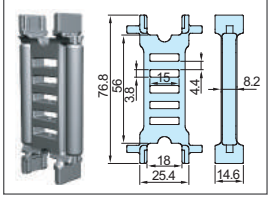
❶ sb-DV060/S



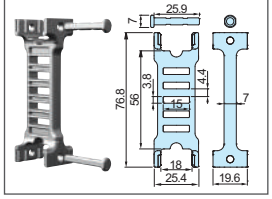
❷ sb-DV060/M



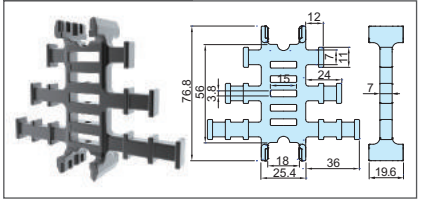
❸ sb-DV060/R



❹ sb-DV060/T

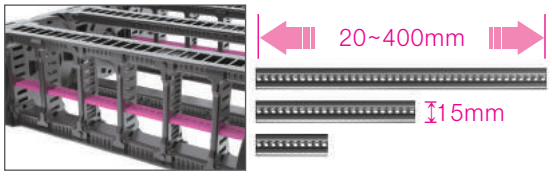


❺ sb-DV060/W



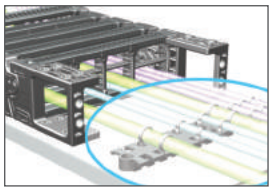
(Dimensions in mm)

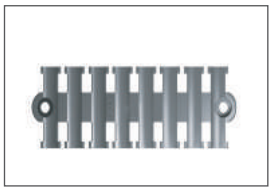
Separators(SP)

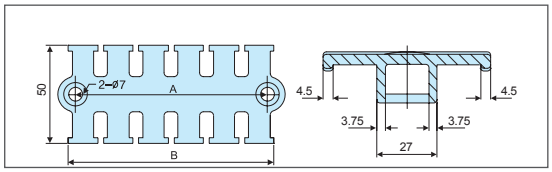


Chain Type	Ordering NO.
nsb 060CR	sb-SP/400,400

Tie wrap (TW)



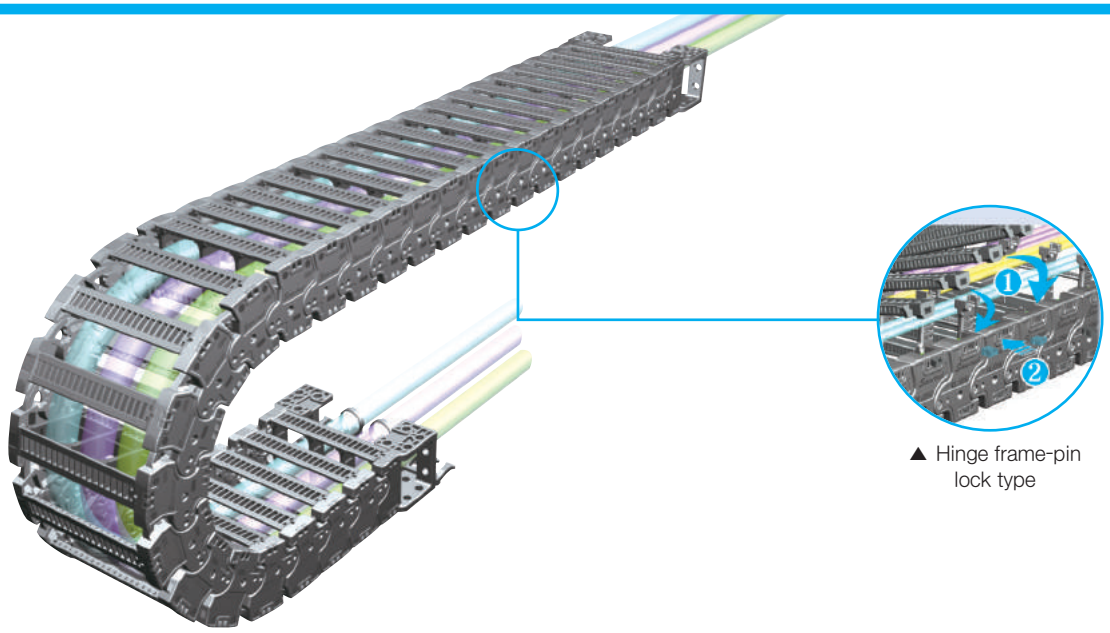




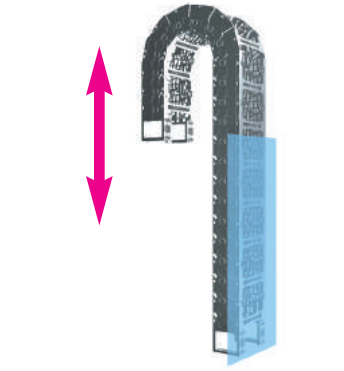
Chain Type	Ordering No.	A	B
nsb 060CR	S-TW50 S-TW75 S-TW100 S-TW125 S-TW150	58 75 98 122 141	65 82 105 129 148

(Dimensions in mm)

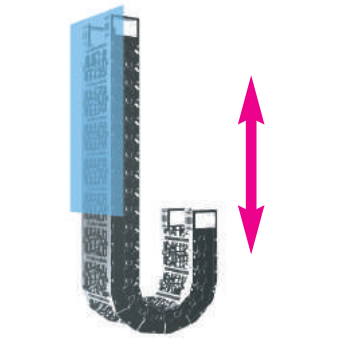
nsb 075CR



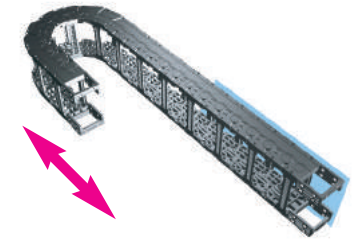
▲ Hinge frame-pin lock type



Vertical with curve above



Vertical with curve below

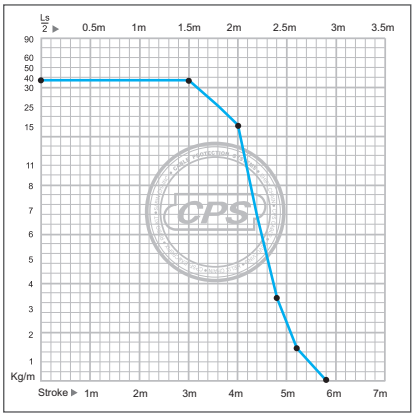


Horizontal application mounted on its side

Calculation of the chain length

$$[\ L = \frac{Ls}{2} + Lp\ ]$$

Load diagrams self-supporting length

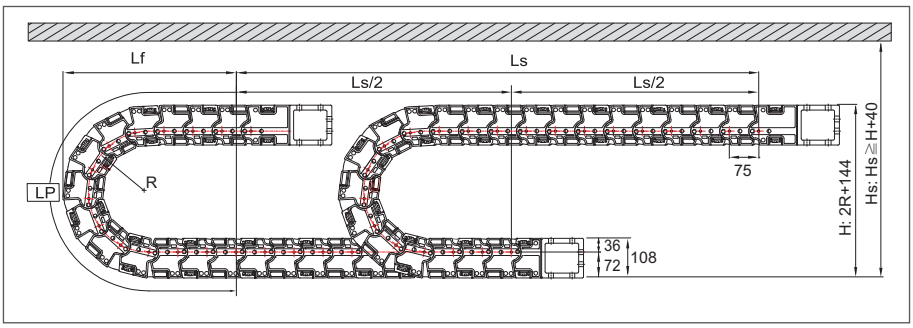


Other installation length

Vertical curve above = max 6.0m
Vertical curve below = max 100m
Side Mounted, Unsupported = max 3.0m

Layout of the chain

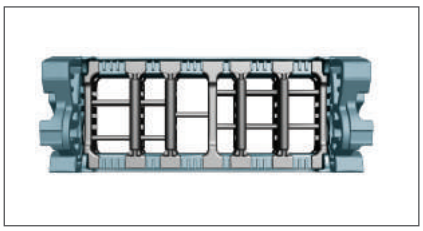
Ls: Stroke Hs: Safe Space

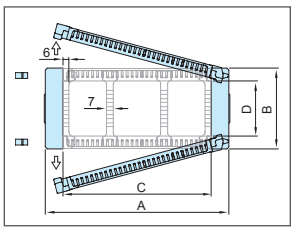


Bending Radius (R)	Lp Loop Length	Lf Loof Projection	H Moving Height
180	1,147	515	504
200	1,210	535	544
250	1,367	585	644
300	1,524	635	744
350	1,681	685	844
400	1,838	735	944
500	2,152	835	1,144

(Dimensions in mm)

Chain cross section



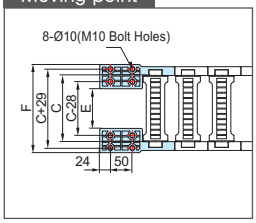


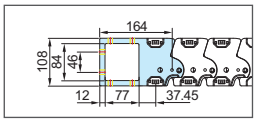
Chain Type	A Width (Outer)	B Height (Outer)	C Frame	D Height (Inner)	Weight kg/m
nsb 075CR	115	108	75	78	5.37
	140		100		5.57
	155		115		5.72
	165		125		5.82
	190		150		6.01
	215		175		6.26
	240		200		6.68
	280		240		7.11
	290		250		7.22
	330		290		7.80
	340		300		7.94
	390		350		8.67
	440		400		9.43
	490		450		10.01
	540		500		10.41
	590		550		11.88
	640		600		12.17

(Dimensions in mm)

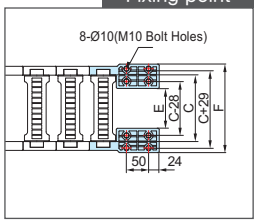
Free end bracket

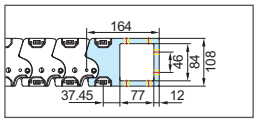
Moving point



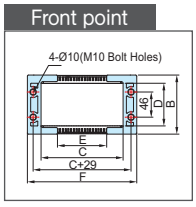


Fixing point





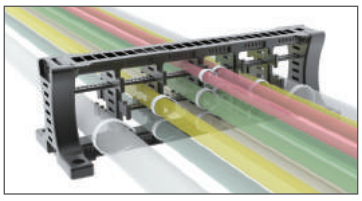
Front point



Chain Type	A Width(Outer)	B Height(Outer)	C Frame	D Height(Inner)	E M,EB Bolt hole width	Hole Type
nsb 075CR	125	108	75	78	15	M10 Bolt Holes
	150		100		40	
	165		115		55	
	175		125		65	
	200		150		90	
	225		175		115	
	250		200		140	
	290		240		180	
	300		250		190	
	340		290		230	
	350		300		240	
	400		350		290	
	450		400		340	
	500		450		390	
	550		500		440	
	600		550		490	
	650		600		540	

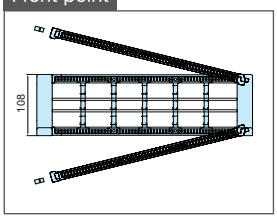
(Dimensions in mm)

System tie wrap (STW)

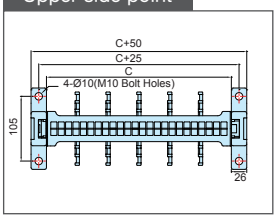


It is a unit to classify each cable for preventing entanglement of cables. It can either be installed to free end bracket or installed separately according its application environment.

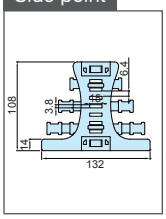
Front point



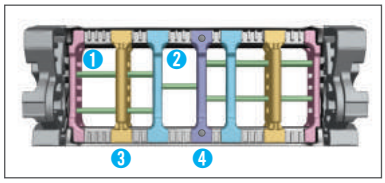
Upper side point



Side point

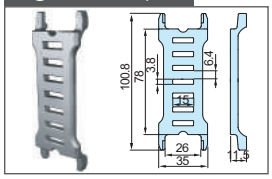


Dividers(DV)

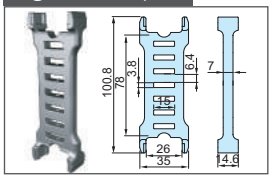


Assemble divider every second frame.
DV.T : Applied to Frame 300~600.
DV.M : Normal Divider.
DV.W : Applicable to System Tie Wrap or FEB.

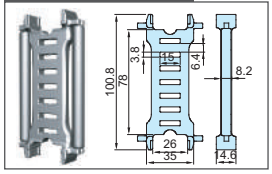
❶ sb-DV075/S



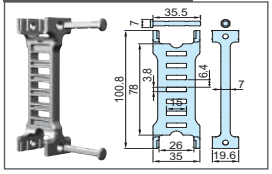
❷ sb-DV075/M



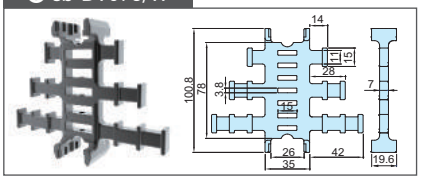
❸ sb-DV075/R



❹ sb-DV075/T

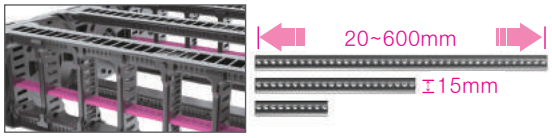


❺ sb-DV075/W



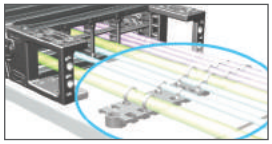
(Dimensions in mm)

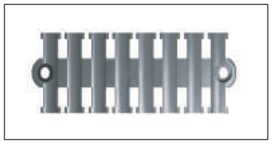
Separators(SP)

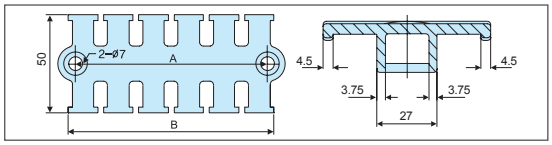


Chain Type	Ordering NO.
nsb 075CR	sb-SP/600,600

Tie wrap (TW)







Chain Type	Ordering No.	A	B
nsb 075CR	S-TW50	58	65
	S-TW75	75	82
	S-TW100	98	105
	S-TW125	122	129
	S-TW150	141	148

Chain Type	Ordering No.	C Frame	Hole Type
nsb 075CR	S-TW,EB075,75	75	M10 Bolt Holes
	S-TW,EB075,100	100	
	S-TW,EB075,115	115	
	S-TW,EB075,125	125	
	S-TW,EB075,150	150	
	S-TW,EB075,175	175	
	S-TW,EB075,200	200	
	S-TW,EB075,240	240	
	S-TW,EB075,250	250	
	S-TW,EB075,290	290	
	S-TW,EB075,300	300	
	S-TW,EB075,350	350	
	S-TW,EB075,400	400	
	S-TW,EB075,450	450	
	S-TW,EB075,500	500	
	S-TW,EB075,550	550	
	S-TW,EB075,600	600	

nsb Chain - Normal type

General information

Item	Value
Material	CPS-Amid(PA6+GF), RoHs
Speed	5m/s
Acceleration	15m/s²
Temperature	-30℃ ~+130℃
Special production	ESD, UV, Customized color
Certificate	CE, ATEX(Ex)

Calculation table

Item	Value
Length of Cable Chain	L = ½ X LS + LP
Bending Radius	
The biggest Cable inserted	Multiply 8~10 and the biggest cable
The biggest Hydraulic Hose inserted	Multiply 15~20 and the biggest hose

Dimension table

nsb Chain N Type	Pitch	Bending Radius (R)	Weight kg/m	Speed m/s	Temperature ℃	Size A	Size B	Size C	Size D	Frame style	Section - composition
nsb 028N	28	46, 66, 86, 116, 146	0.79 0.82 0.85 0.90 0.98 1.08 1.18 1.45 1.59	5	-30 ~ +130	55 70 75 95 120 145 170 195 220	38	35 50 55 75 100 125 150 175 200	26		
nsb 035N	35	55, 65, 90, 115, 140, 190	1.10 1.13 1.15 1.18 1.25 1.32 1.41 1.62 1.72	5	-30 ~ +130	55 70 75 95 120 145 170 195 220	52	35 50 55 75 100 125 150 175 200	40		
nsb 045N	45	90, 110, 135, 165, 185, 235, 285	2.06 2.14 2.22 2.32 2.38 2.42 2.47 2.51 2.72 2.86 3.09 3.15 3.43	5	-30 ~ +130	80 105 130 155 170 180 195 205 220 230 270 280 330	66	50 75 100 125 140 150 165 175 190 200 240 250 300	45		
nsb 060N	60	125, 135, 150, 180 230, 270, 340	3.30 3.35 3.51 3.60 3.69 3.78 3.84 4.01 4.05 4.26 4.57 4.85	5	-30 ~ +130	115 140 165 190 215 230 240 280 290 340 390 440	82	75 100 125 150 175 190 200 240 250 300 350 400	56		
nsb 075N	75	160, 180, 230, 280, 330, 380, 480	4.80 4.90 4.97 5.02 5.12 5.25 5.46 5.67 5.72 6.02 6.09 6.45 6.83 7.12 7.32 8.06 8.20	5	-30 ~ +130	115 140 155 165 190 215 240 280 290 330 340 390 440 490 540 590 640	108	75 100 115 125 150 175 200 240 250 290 300 350 400 450 500 550 600	78		

(Dimensions in mm)

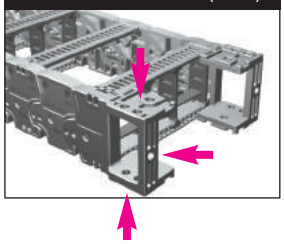
Ordering

nsb 028N. 50. R66 / F - 1000L : 10ST

- Sabin Chain
- Normal (N)
- Inside width
- Bending radius
- Bracket Type
  - F : Free End Bracket
  - FT : Tie Wrap
  - FST : System Tie Wrap
- Length(mm)
- Q'ty(set)

Bracket type

Free End Bracket (FEB)

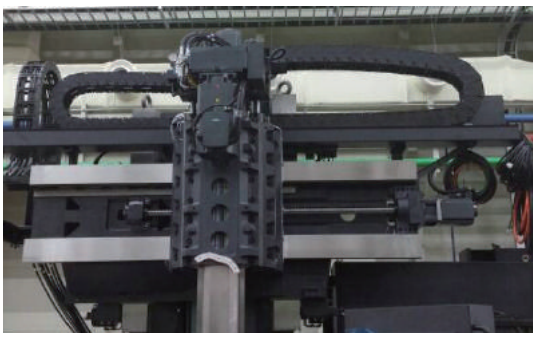


≫ Application of nsb Chain Normal type

- nsb Chain can be applied to all kinds of machine tools and factory lines.

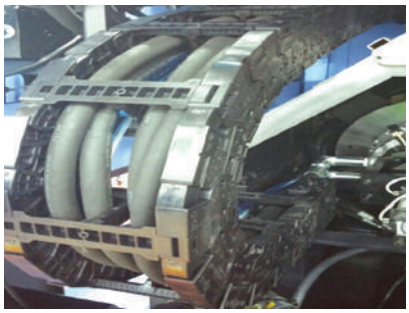
▶ NSB 045N & 035N

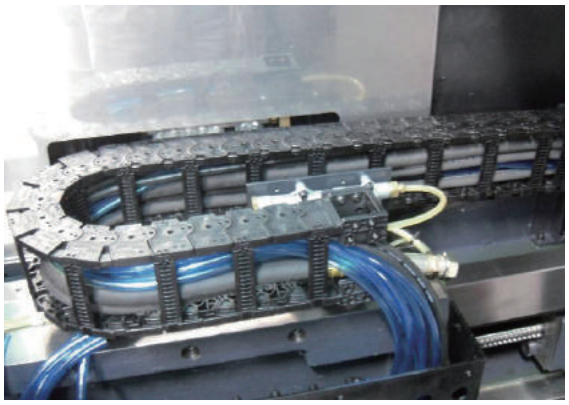
Application
Machine tools
Location
Korea
Remark
Stroke : 2 meters



▶ NSB 060N

Application
Machine tools
Location
Korea
Remark
Stroke : 2 meters





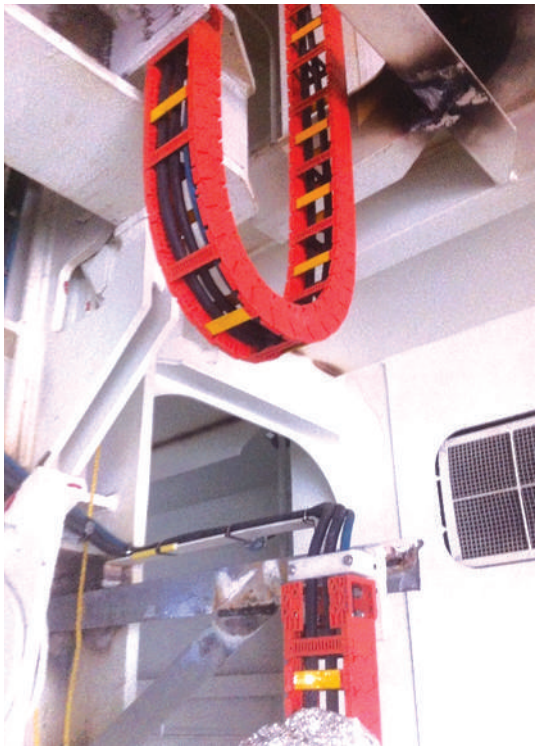
▶ NSB 045N

Application
Factory production line
Location
Korea

- CPS can produce customized product for customers for ESD and special color.

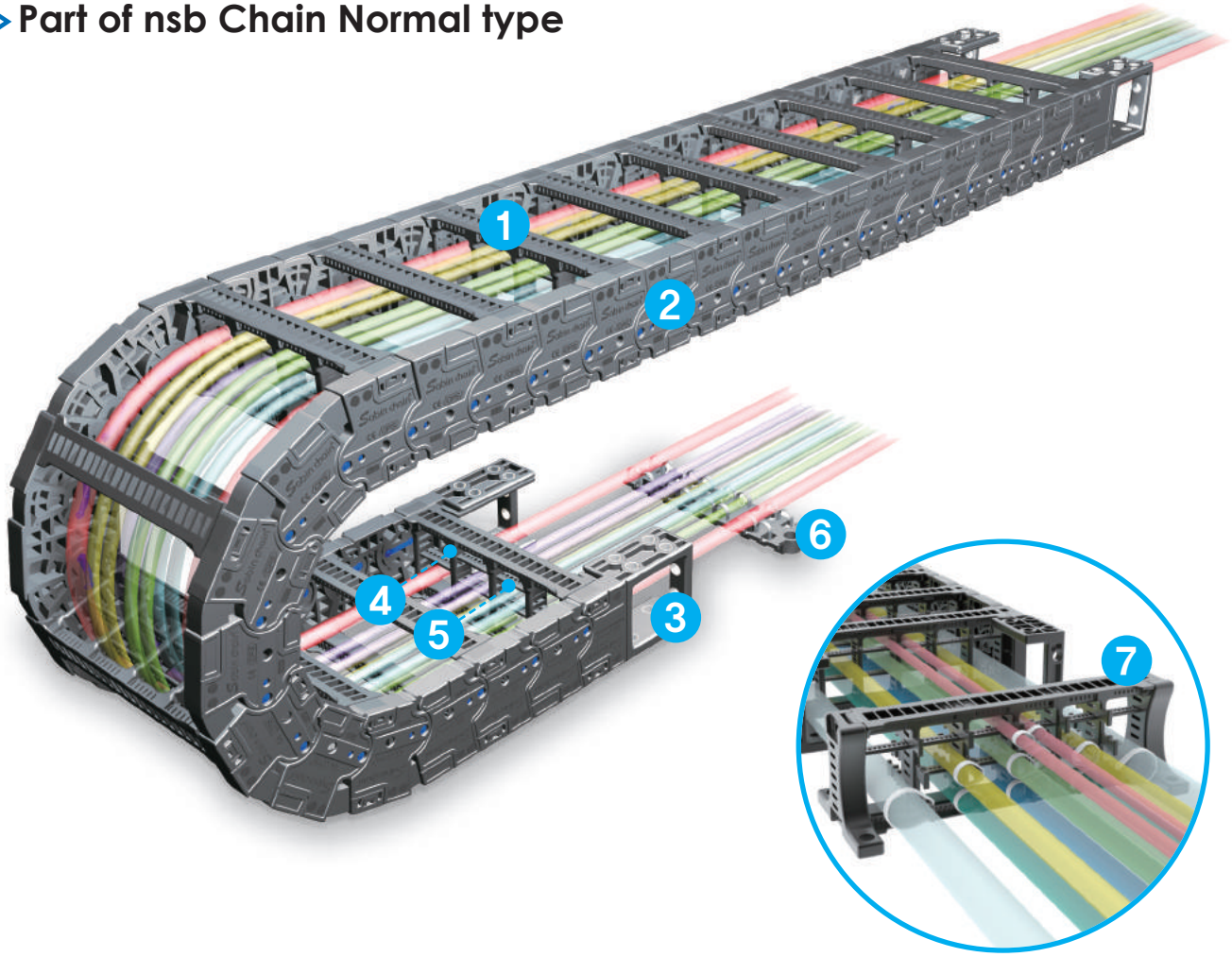
▶ NSB 035N

Application
PCTC Ship
Location
Korea (H-heavy industry)
Remark
ESD, Orange color



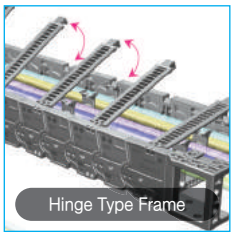
nsb Chain - Normal type

≫ Part of nsb Chain Normal type



❶ Frame (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.

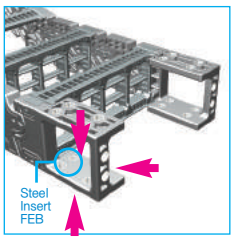


❷ Side Band (SB)

It's part of cable chain that each side band's connected by holding band.

❸ FREE END BRACKET (FEB)

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



❹ Dividers (DV)

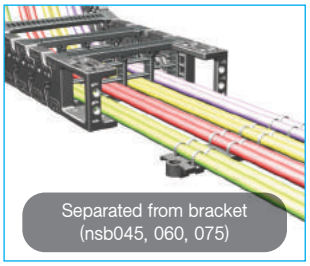
Divider sets the inside of chain vertically to prevent cable from twisting and sheath damage caused by friction. There are S, M, R and T type.

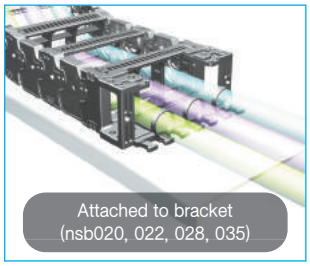
❺ Separators (SP)

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

❻ 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.



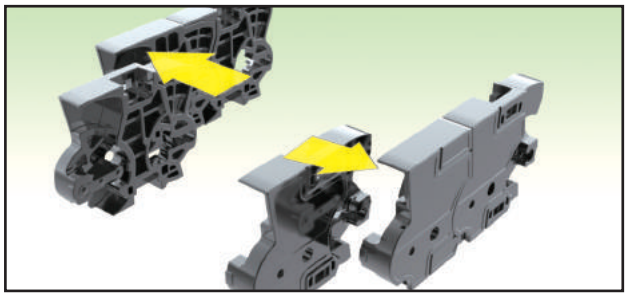


❼ System tie wrap (STW)

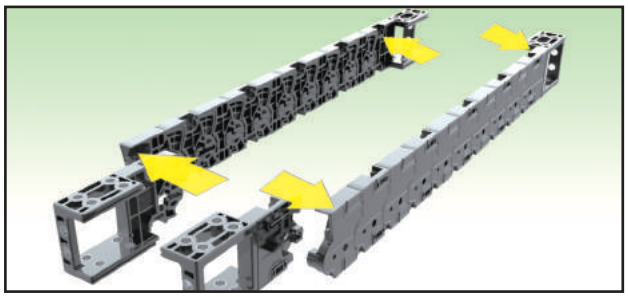
System-Tie Wrap has to be assembled on fixing and moving point of bracket and can be assembled wthout any tie wrap plate. This tie wrap is used to stay the cables on several floors prevent the cables from being twisting and it can also be assemble without any tools or bolt. This tie wrap has two types,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

≫ Assembly procedure of nsb Chain Normal Type

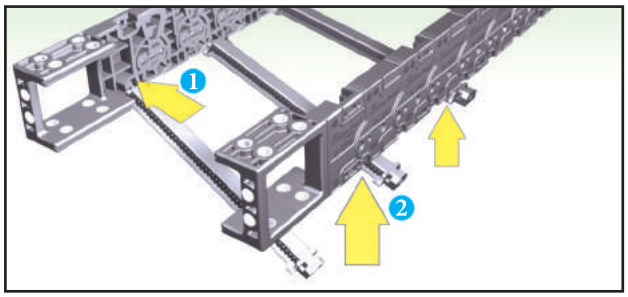
The assembling process of N-Type of New Sabin Chain is like below and user must use rubber hammer with careful combination of Divider and Separator.



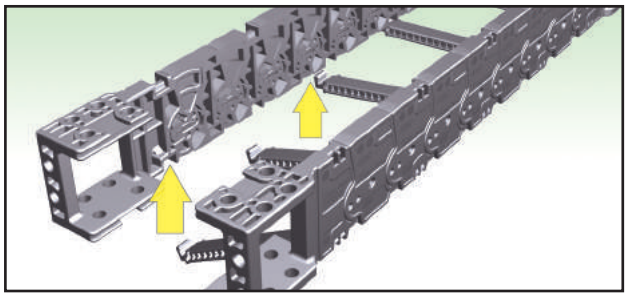
1 Connect each side band as many as you need.



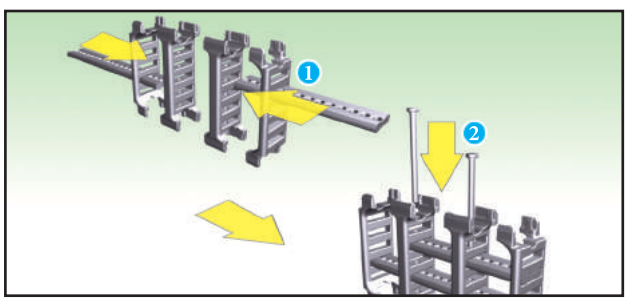
2 Assemble the end brackets on both ends.



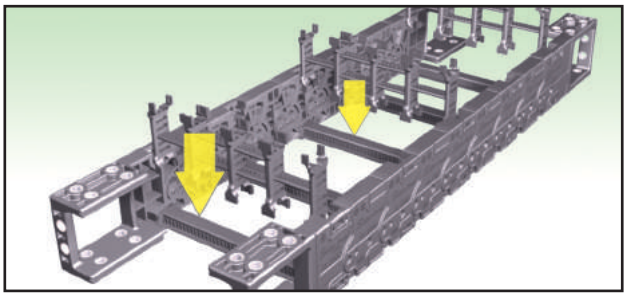
3 Attach frames to one side groove on the frames, then the other side.



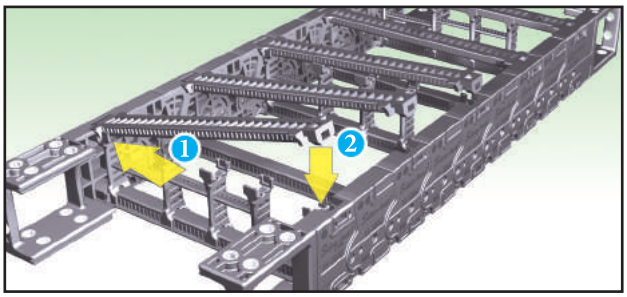
3-1 028N, 035N Type are Hinge Frame Type.



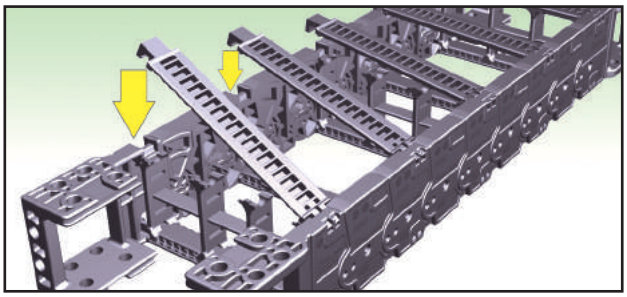
4 For nsb 045, 060, and 075, connect the pin of separator in hole of divider after inserting separator in hole of divider.
For nsb028 and nsb035, separator fixing pins are not used.



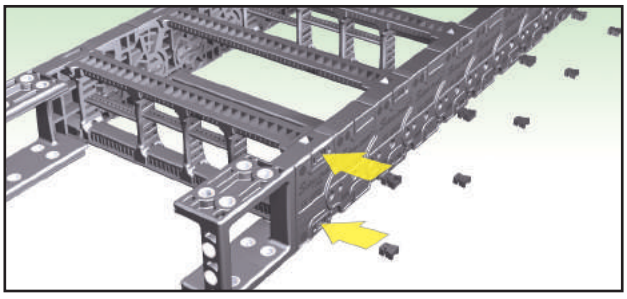
5 Fix the separator and divider patterns to the bottom-side frames as needed.



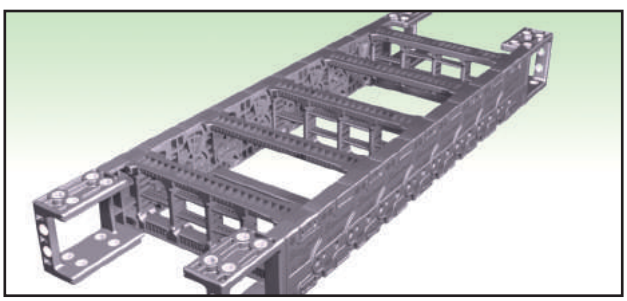
6 Attach frames to one side groove on the frames, then the other side.



6-1 028N, 035N Type are Hinge Frame Type.



7 Insert frame pins to secure the frames and complete carrier. (nsb045, 060, 075 are applied with frame pin, and nsb028, 035 are Hinge Type or Hook Type without frame pin.)



8 Complete to assemble New Sabin N-Type, Sabin Chain.

nsb Chain - Normal type

≫ Part list of nsb Chain Normal type

- Composition of Cable chain(Standard)
  = Side band(RH) + Frame + Side band(LH) + Bending radius Unit + Free end bracket
- M divider(normal divider) should be applied every second frames to make a section composition.

※ Please refer to below part list and description to understand composition of cable chain.

Model	Classification	Part number	Description
nsb028N	SIDE BAND	nsb-SB028N.R*(RH) nsb-SB028N.R*(LH)	Left side band of nsb028N Right side band of nsb028N
	FRAME	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	nsb-FEB028N	End bracket of nsb028N
	DIVIDER	sb-DV028/M sb-DV028/S	Normal divider To fix separstors 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
	TIE WRAP	S-TW036/025CR.35 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, 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
	SYSTEM TIE WRAP	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

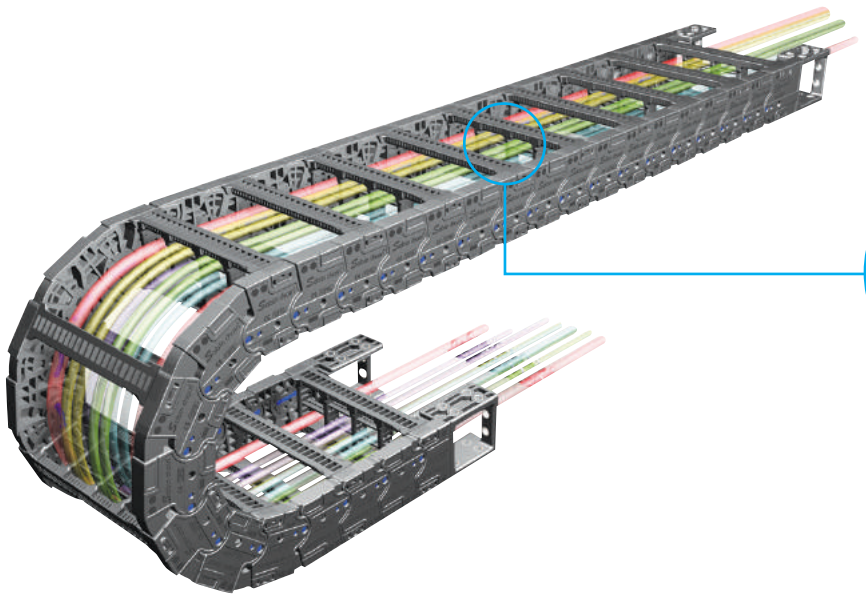
Model	Classification	Part number	Description
nsb035N	SIDE BAND	nsb-SB035N.R*(LH) nsb-SB035N.R*(RH)	Left side band of nsb035N Right side band of nsb035N
	FRAME	sb-FR/M.35 sb-FR/M.50 sb-FR/M.55 sb-FR/M.75 sb-FR/M.100 sb-FR/M.125 sb-FR/M.150 sb-FR/M.175 sb-FR/M.200	Frame, 35mm Frame, 50mm Frame, 55mm Frame, 75mm Frame, 100mm Frame, 125mm Frame, 150mm Frame, 175mm Frame, 200mm
	FREE END BRACKET	nsb-FEB035N	End bracket of nsb035N
	DIVIDER	sb-DV035/M sb-DV035/S	Normal divider To fix separstors 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
	TIE WRAP	S-TW050/035N.50 S-TW050/035N.75 S-TW050/035N.100 S-TW050/035N.125 S-TW050/035N.150 S-TW050/035N.175 S-TW050/035N.200	Tie wrap for end bracket to fix cables, 50mm 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 Tie wrap for end bracket to fix cables, 150mm Tie wrap for end bracket to fix cables, 175mm Tie wrap for end bracket to fix cables, 200mm
	SYSTEM TIE WRAP	sb-DV035/W S-TW.EB035	Divider for fixing cables at end bracket System tie wrap to arrange for cables right after moving bracket or fixing bracket

Model	Classification	Part number	Description
nsb045N	SIDE BAND	nsb-SB045N.R*(LH) nsb-SB045N.R*(RH)	Left side band of nsb045N Right side band of nsb045N
	FRAME PIN	S-FP/S1	Frame pin
	FRAME	sb-FR/M.50 sb-FR/M.75 sb-FR/M.100 sb-FR/M.125 sb-FR/M.140 sb-FR/M.150 sb-FR/M.165 sb-FR/M.175 sb-FR/M.190 sb-FR/M.200 sb-FR/M.240 sb-FR/M.250 sb-FR/M.300	Frame, 50mm Frame, 75mm Frame, 100mm Frame, 125mm Frame, 140mm Frame, 150mm Frame, 165mm Frame, 175mm Frame, 190mm Frame, 200mm Frame, 240mm Frame, 250mm Frame, 300mm
	FREE END BRACKET	nsb-FEB045N sb-FEB/WH045	End bracket of nsb045N Steel washer for end bracket
	DIVIDER	sb-DV045/M sb-DV045/S sb-DV045/T	Normal divider To fix separstors at the both side section T divider
	SEPARATOR	sb-SP/400.400 SP-PIN045	Separator, 400mm Separator pin to fix
	TIE WRAP	S-TW50 S-TW75 S-TW100 S-TW125 S-TW150	Tie wrap for end bracket to fix cables, 50mm 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 Tie wrap for end bracket to fix cables, 150mm
	SYSTEM TIE WRAP	sb-DV045/W S-TW.EB045	Divider for fixing cables at end bracket System tie wrap to arrange for cables right after moving bracket or fixing bracket

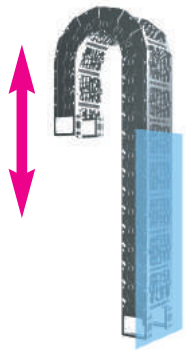
Model	Classification	Part number	Description
nsb060N	SIDE BAND	nsb-SB060N.R*(LH) nsb-SB060N.R*(RH)	Left side band of nsb060N Right side band of nsb060N
	FRAME PIN	S-FP/S1	Frame pin
	FRAME	sb-FR/M.75 sb-FR/M.100 sb-FR/M.125 sb-FR/M.150 sb-FR/M.175 sb-FR/M.190 sb-FR/M.200 sb-FR/M.230 sb-FR/M.250 sb-FR/M.300 sb-FR/M.350 sb-FR/M.400	Frame, 75mm Frame, 100mm Frame, 125mm Frame, 150mm Frame, 175mm Frame, 190mm Frame, 200mm Frame, 230mm Frame, 250mm Frame, 300mm Frame, 350mm Frame, 400mm
	FREE END BRACKET	nsb-FEB060N sb-FEB/WH060	End bracket of nsb060N Steel washer for end bracket
	DIVIDER	sb-DV060/M sb-DV060/S sb-DV060/R sb-DV060/T sb-DV060/TP	Normal divider To fix separstors at the both side section Roller divider to reduce friction with cables, Clean room type T divider T divider pin
	SEPARATOR	sb-SP/400.400 SP-PIN060	Separator, 400mm Separator pin to fix
	TIE WRAP	S-TW50 S-TW75 S-TW100 S-TW125 S-TW150	Tie wrap for end bracket to fix cables, 50mm 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 Tie wrap for end bracket to fix cables, 150mm
	SYSTEM TIE WRAP	sb-DV060/W S-TW.EB060	Divider for fixing cables at end bracket System tie wrap to arrange for cables right after moving bracket or fixing bracket

Model	Classification	Part number	Description
nsb075N	SIDE BAND	nsb-SB075N.R*(LH) nsb-SB075N.R*(RH)	Left side band of nsb075N Right side band of nsb075N
	FRAME PIN	S-FP/S2	Frame pin
	FRAME	sb-FR075/100.75 sb-FR075/100.100 sb-FR075/100.115 sb-FR075/100.125 sb-FR075/100.150 sb-FR075/100.175 sb-FR075/100.200 sb-FR075/100.240 sb-FR075/100.250 sb-FR075/100.290 sb-FR075/100.300 sb-FR075/100.350 sb-FR075/100.400 sb-FR075/100.450 sb-FR075/100.500 sb-FR075/100.550 sb-FR075/100.600	Frame, 75mm Frame, 100mm Frame, 115mm Frame, 125mm Frame, 150mm Frame, 175mm Frame, 200mm Frame, 240mm Frame, 250mm Frame, 290mm Frame, 300mm Frame, 350mm Frame, 400mm Frame, 450mm Frame, 500mm Frame, 550mm Frame, 600mm
	FREE END BRACKET	nsb-FEB075N sb-FEB/WH075	End bracket of nsb075N Steel washer for end bracket
	DIVIDER	sb-DV075/M sb-DV075/S sb-DV075/R sb-DV075/T sb-DV075/TP	Normal divider To fix separstors at the both side section Roller divider to reduce friction with cables, Clean room type T divider T divider pin
	SEPARATOR	sb-SP/400.400 SP-PIN075	Separator, 400mm Separator pin to fix
	TIE WRAP	S-TW50 S-TW75 S-TW100 S-TW125 S-TW150	Tie wrap for end bracket to fix cables, 50mm 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 Tie wrap for end bracket to fix cables, 150mm
	SYSTEM TIE WRAP	sb-DV075/W S-TW.EB075	Divider for fixing cables at end bracket System tie wrap to arrange for cables right after moving bracket or fixing bracket

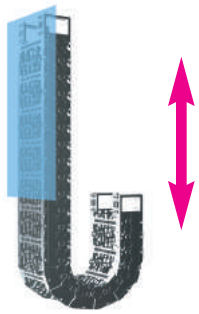
nsb 028N



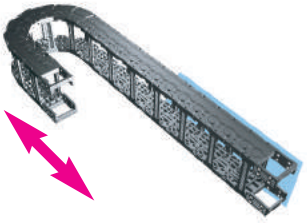
▲ Hinge hook type



Vertical with curve above



Vertical with curve below

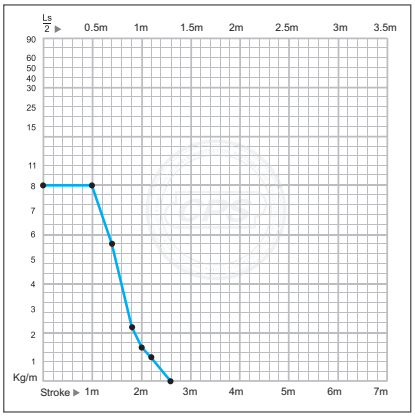


Horizontal application mounted on its side

Calculation of the chain length

$$[\ L = \frac{Ls}{2} + Lp\ ]$$

Load diagrams self-supporting length

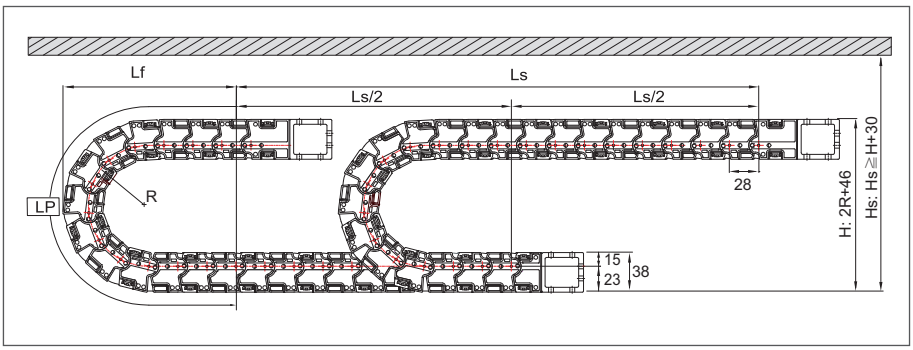


Other installation length

Vertical curve above = max 2.0m
Vertical curve below = max 40m
Side Mounted, Unsupported = max 1.0m

Layout of the chain

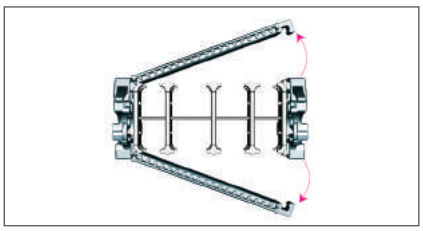
Ls: Stroke Hs: Safe Space

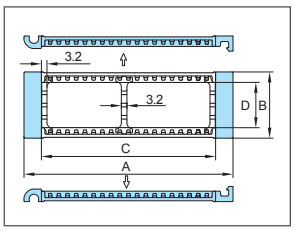


Bending Radius (R)	Lp Loop Length	Lf Loof Projection	H Moving Height
46	313	153	138
66	376	173	178
86	439	193	218
116	533	223	278
146	627	253	338

(Dimensions in mm)

Chain cross section

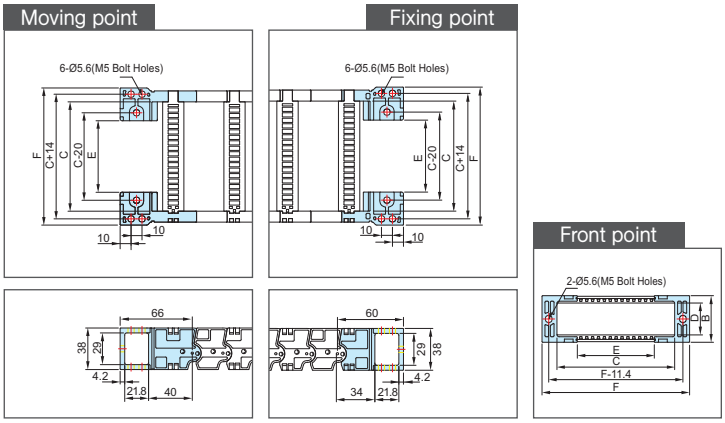




Chain Type	A Width (Outer)	B Height (Outer)	C Frame	D Height (Inner)	Weight kg/m
nsb 028N	55	38	35	26	0.79
	70		50		0.82
	75		55		0.85
	95		75		0.90
	120		100		0.98
	145		125		1.08
	170		150		1.18
	195		175		1.45
	220		200		1.59

(Dimensions in mm)

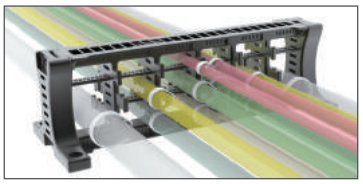
Free end bracket



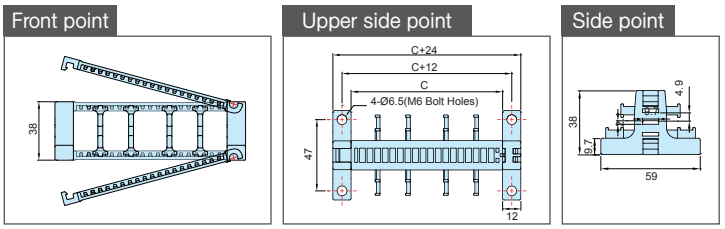
Chain Type	F Width(Outer)	B Height(Outer)	C Frame	D Height(Inner)	E M.E.B Bolt hole width	Hole Type
nsb 028N	60.4	38	35	26	0.4	M5 Bolt Holes
	75.4		50		15.4	
	80.4		55		20.4	
	100.4		75		40.4	
	125.4		100		65.4	
	150.4		125		90.4	
	175.4		150		115.4	
	200.4		175		140.4	
	225.4		200		165.4	

(Dimensions in mm)

System tie wrap (STW)



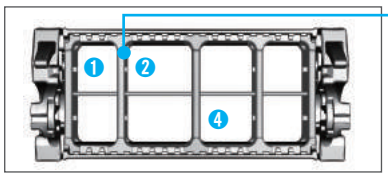
It is a unit to classify each cable for preventing entanglement of cables. It can either be installed to free end bracket or installed separately according its application environment.

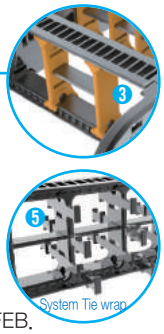


Chain Type	Ordering No.	C Frame	Hole Type
nsb 028N	S-TW.EB028.35	35	M6 Bolt Holes
	S-TW.EB028.50	50	
	S-TW.EB028.55	55	
	S-TW.EB028.75	75	
	S-TW.EB028.100	100	
	S-TW.EB028.125	125	
	S-TW.EB028.150	150	
	S-TW.EB028.175	175	
	S-TW.EB028.200	200	

(Dimensions in mm)

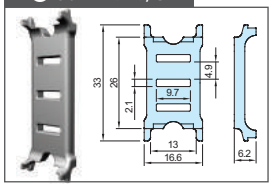
Dividers(DV)



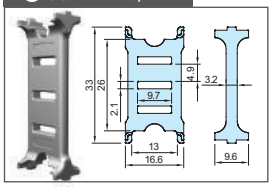


Assemble divider every second frame.
DV.T : Applied to Frame 125~200.
DV.M : Normal Divider.
DV.W : Applicable to System Tie Wrap or FEB.

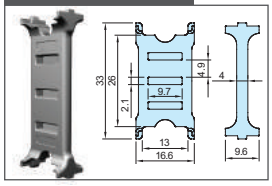
❶ sb-DV028/S



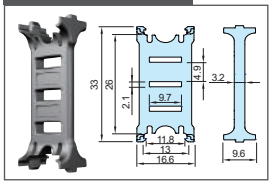
❷ sb-DV028/M1



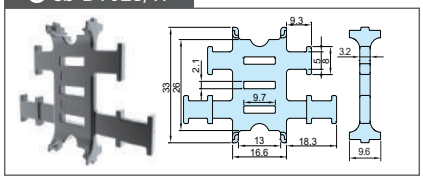
❸ sb-DV028/M2



❹ sb-DV028/T

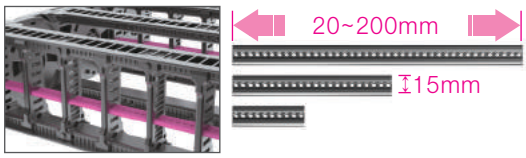


❺ sb-DV028/W



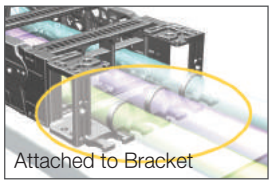
(Dimensions in mm)

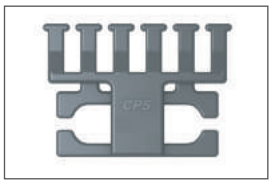
Separators(SP)

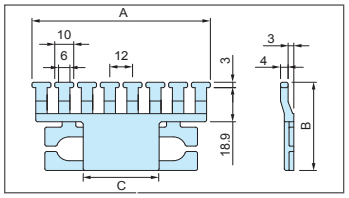


Chain Type	Ordering NO.	Frame
nsb 028N	S-SP/M.35	35
	S-SP/M.50	50
	S-SP/M.55	55
	S-SP/M.75	75
	S-SP/M.100	100
	S-SP/M.125	125
	S-SP/M.150	150
	S-SP/M.175	175
	S-SP/M.200	200

Tie wrap (TW)

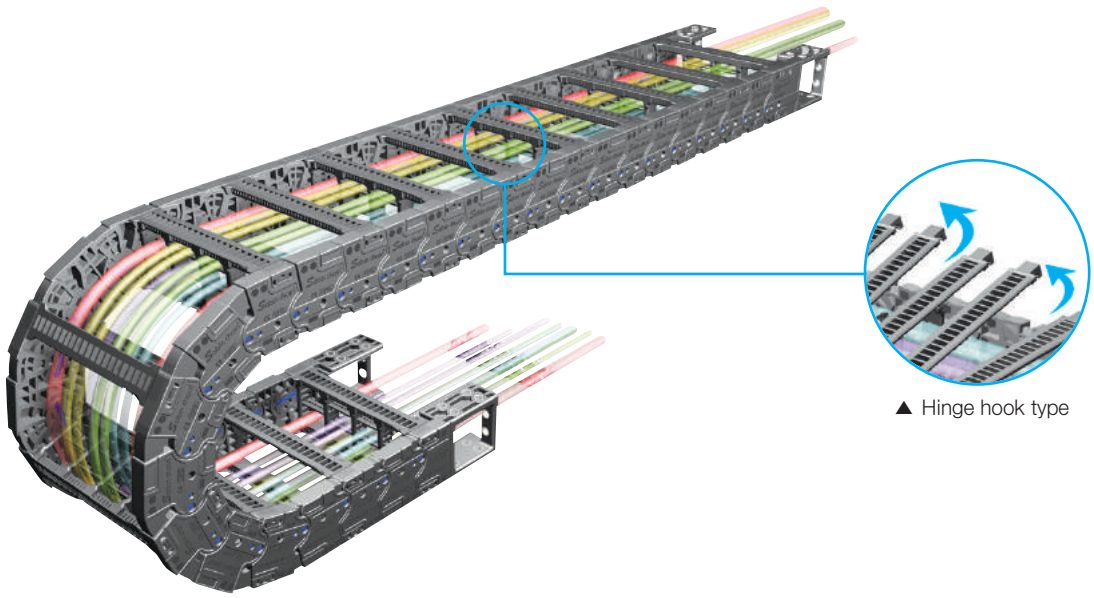




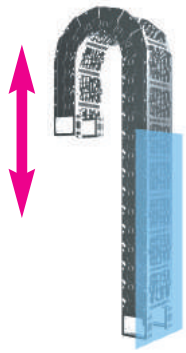


Chain Type	Ordering No.	A	B	C
nsb 028N	S-TW036/025CR.35	46	35.4	-
	S-TW036/025CR.50	69	48.9	15
	S-TW036/025CR.55	70	48.9	20
	S-TW036/025CR.75	94	48.9	40
	S-TW036/025CR.100	118	48.9	65
	S-TW036/025CR.125	142	48.9	90

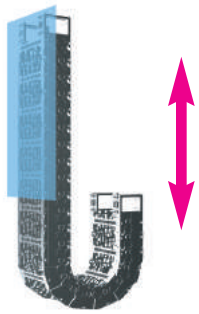
nsb 035N



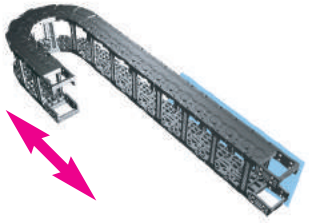
▲ Hinge hook type



Vertical with curve above



Vertical with curve below

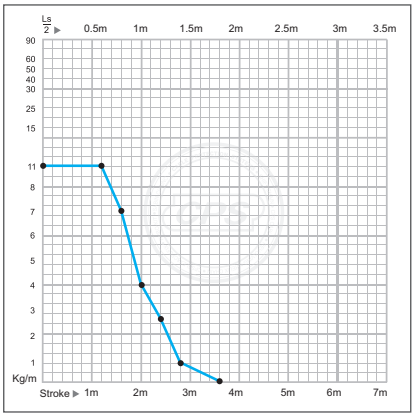


Horizontal application mounted on its side

Calculation of the chain length

$$[\ L = \frac{Ls}{2} + Lp\ ]$$

Load diagrams self-supporting length

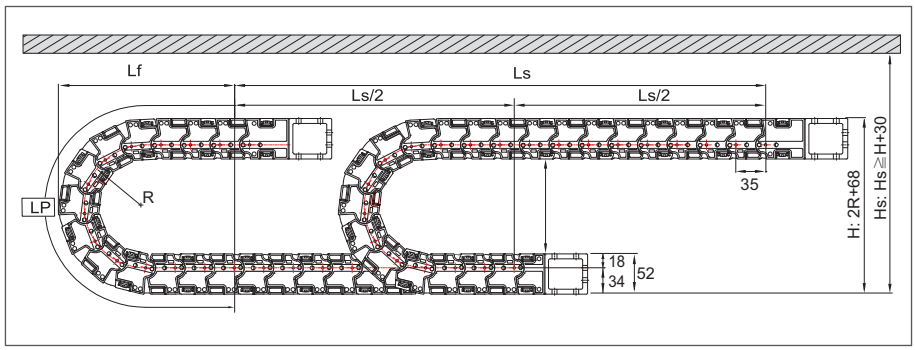


Other installation length

Vertical curve above = max 2.0m
Vertical curve below = max 40m
Side Mounted, Unsupported = max 1.0m

Layout of the chain

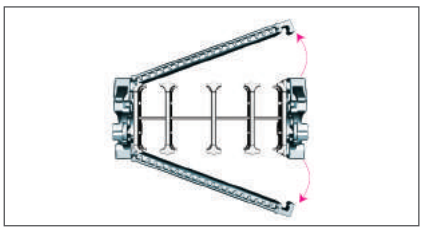
Ls: Stroke Hs: Safe Space

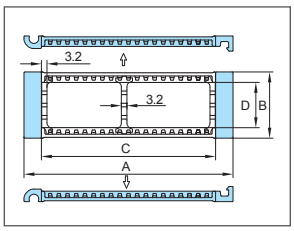


Bending Radius (R)	Lp Loop Length	Lf Loof Projection	H Moving Height
55	383	194	178
65	414	204	198
90	493	229	248
115	572	254	298
140	650	279	348
190	807	329	448

(Dimensions in mm)

Chain cross section



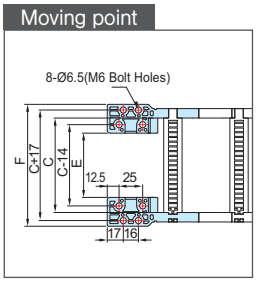


Chain Type	A Width (Outer)	B Height (Outer)	C Frame	D Height (Inner)	Weight kg/m
nsb 035N	55	52	35	40	1.10
	70		50		1.13
	75		55		1.15
	95		75		1.18
	120		100		1.25
	145		125		1.32
	170		150		1.41
	195		175		1.62
	220		200		1.72

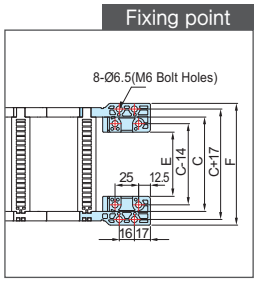
(Dimensions in mm)

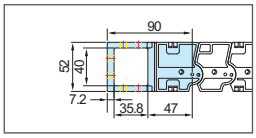
Free end bracket

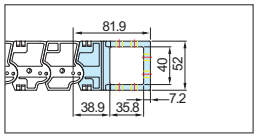
Moving point



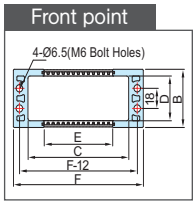
Fixing point







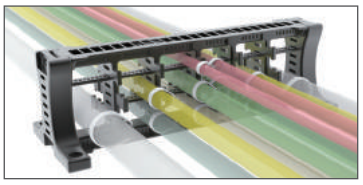
Front point



Chain Type	F Width(Outer)	B Height(Outer)	C Frame	D Height(Inner)	E M,EB Bolt hole width	Hole Type
nsb 035N	64	52	35	40	3	M6 Bolt Holes
	79		50		18	
	84		55		23	
	104		75		43	
	129		100		68	
	154		125		93	
	179		150		118	
	204		175		143	
	229		200		168	

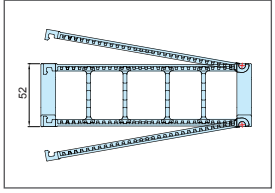
(Dimensions in mm)

System tie wrap (STW)

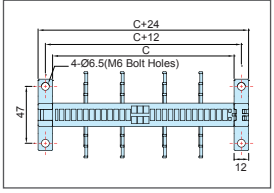


It is a unit to classify each cable for preventing entanglement of cables. It can either be installed to free end bracket or installed separately according its application environment.

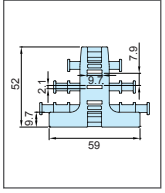
Front point



Upper side point



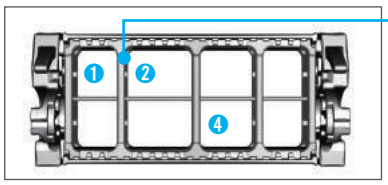
Side point

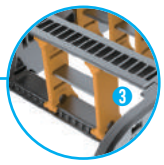


Chain Type	Ordering No.	C Frame	Hole Type
nsb 035N	S-TW.EB028.35	35	M6 Bolt Holes
	S-TW.EB028.50	50	
	S-TW.EB028.55	55	
	S-TW.EB028.75	75	
	S-TW.EB028.100	100	
	S-TW.EB028.125	125	
	S-TW.EB028.150	150	
	S-TW.EB028.175	175	
	S-TW.EB028.200	200	

(Dimensions in mm)

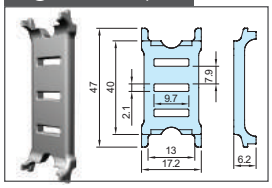
Dividers(DV)



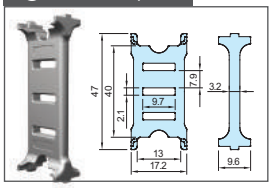


Assemble divider every second frame.
DV.T : Applied to Frame 125~200.
DV.M : Normal Divider.
DV.W : Applicable to System Tie Wrap or FEB.

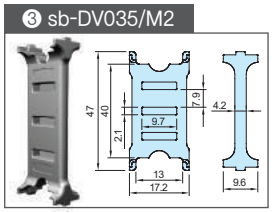
❶ sb-DV035/S



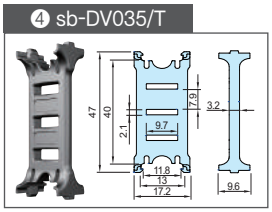
❷ sb-DV035/M1



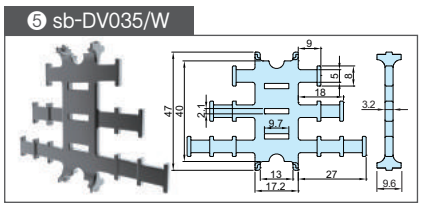
❸ sb-DV035/M2



❹ sb-DV035/T

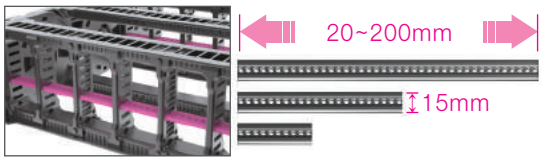


❺ sb-DV035/W



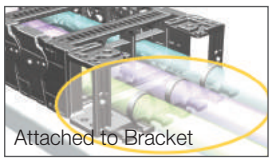
(Dimensions in mm)

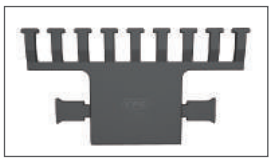
Separators(SP)

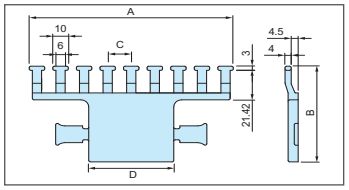


Chain Type	Ordering NO.	Frame
nsb 035N	S-SP/M.35	35
	S-SP/M.50	50
	S-SP/M.55	55
	S-SP/M.75	75
	S-SP/M.100	100
	S-SP/M.125	125
	S-SP/M.150	150
	S-SP/M.175	175
	S-SP/M.200	200

Tie wrap (TW)

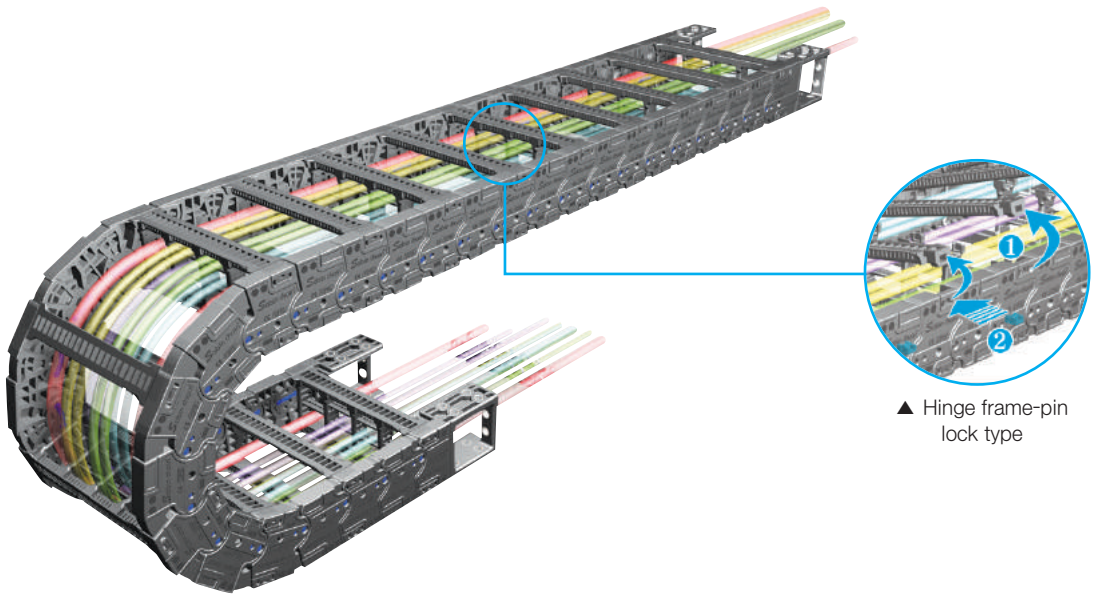




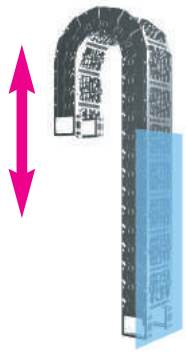


Chain Type	Ordering No.	A	B	C	D
nsb 035N	S-TW050/035N.50	82	64.5	12.00	5
	S-TW050/035N.55	82		12.00	10
	S-TW050/035N.75	107		12.13	30
	S-TW050/035N.100	132		15.25	55
	S-TW050/035N.125	157		14.70	80
	S-TW050/035N.150	182		14.35	105
	S-TW050/035N.175	203		12.31	130
	S-TW050/035N.200	232		13.88	155

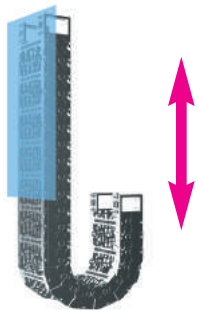
nsb 045N



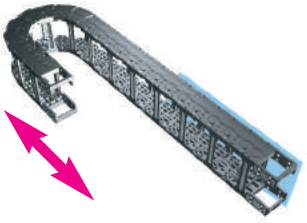
▲ Hinge frame-pin lock type



Vertical with curve above



Vertical with curve below

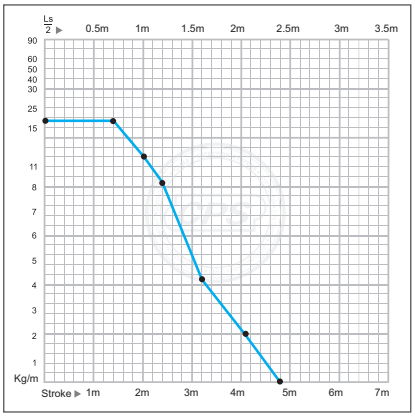


Horizontal application mounted on its side

Calculation of the chain length

$$[\ L = \frac{Ls}{2} + Lp\ ]$$

Load diagrams self-supporting length

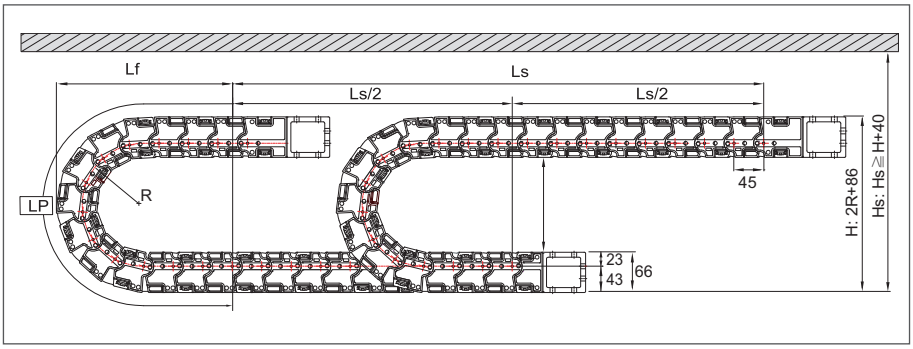


Other installation length

Vertical curve above = max 6.0m
Vertical curve below = max 100m
Side Mounted, Unsupported = max 2.5m

Layout of the chain

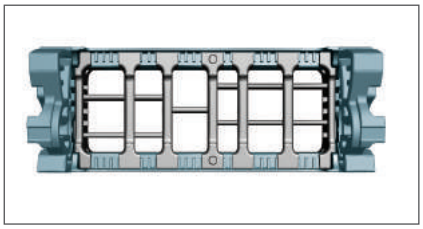
Ls: Stroke Hs: Safe Space

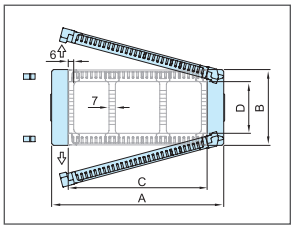


Bending Radius (R)	Lp Loop Length	Lf Loof Projection	H Moving Height
90	633	291	266
110	695	311	306
135	774	336	356
165	868	366	416
185	931	386	456
235	1,088	436	556
285	1,245	486	656

(Dimensions in mm)

Chain cross section



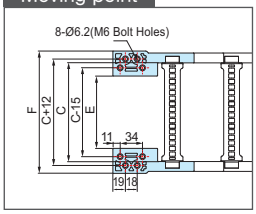


Chain Type	A Width (Outer)	B Height (Outer)	C Frame	D Height (Inner)	Weight kg/m
nsb 045N	80 105 130 155 170 180 195 205 220 230 270 280 330	66	50 75 100 125 140 150 165 175 190 200 240 250 300	45	2.06 2.14 2.22 2.32 2.38 2.42 2.47 2.51 2.72 2.86 3.09 3.15 3.43

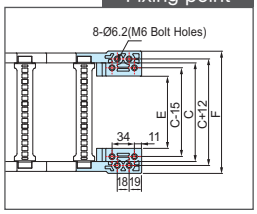
(Dimensions in mm)

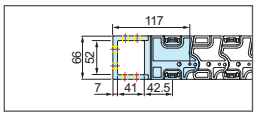
Free end bracket

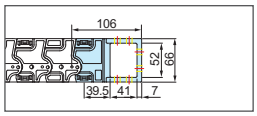
Moving point



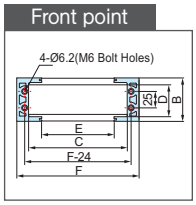
Fixing point







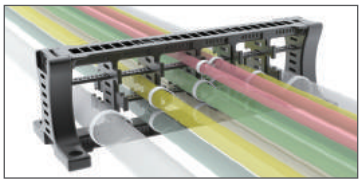
Front point



Chain Type	F Width(Outer)	B Height(Outer)	C Frame	D Height(Inner)	E M.E.B Bolt hole width	Hole Type
nsb 045N	86 111 136 161 176 186 201 211 226 236 276 286 336	66	50 75 100 125 140 150 165 175 190 200 240 250 300	45	10 35 60 85 100 110 125 135 150 160 200 210 260	M6 Bolt Holes

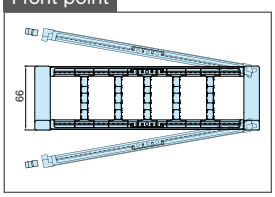
(Dimensions in mm)

System tie wrap (STW)

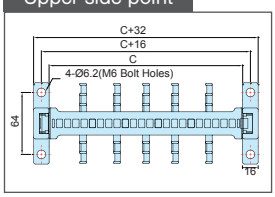


It is a unit to classify each cable for preventing entanglement of cables. It can either be installed to free end bracket or installed separately according its application environment.

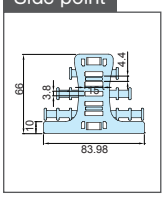
Front point



Upper side point

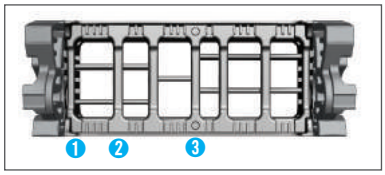


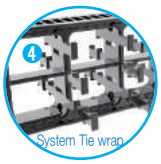
Side point



Chain Type	Ordering No.	C Frame	Hole Type
nsb 045N	S-TW.EB045.50 S-TW.EB045.75 S-TW.EB045.100 S-TW.EB045.125 S-TW.EB045.140 S-TW.EB045.150 S-TW.EB045.165 S-TW.EB045.175 S-TW.EB045.190 S-TW.EB045.200 S-TW.EB045.240 S-TW.EB045.250 S-TW.EB045.300	50 75 100 125 140 150 165 175 190 200 240 250 300	M6 Bolt Holes

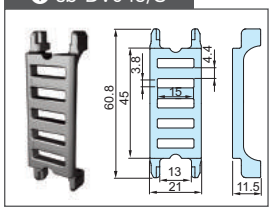
Dividers(DV)



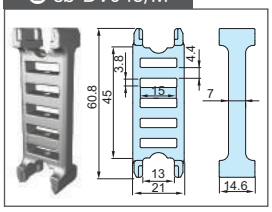


Assemble divider every second frame.
DV.T : Applied to Frame 200~300.
DV.M : Normal Divider.
DV.W : Applicable to System Tie Wrap or FEB.

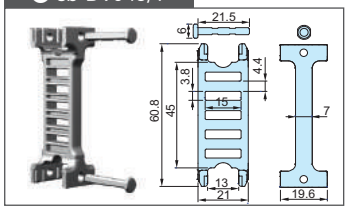
❶ sb-DV045/S



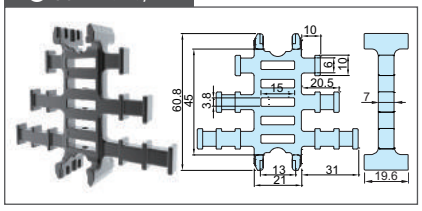
❷ sb-DV045/M



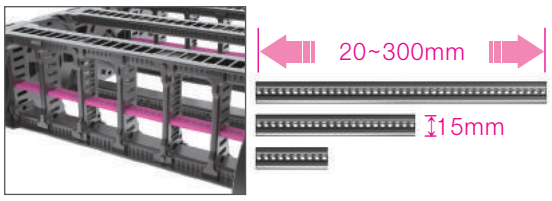
❸ sb-DV045/T



❹ sb-DV045/W

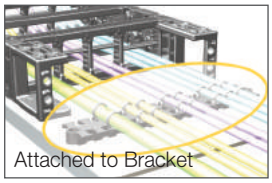


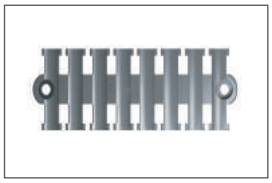
Separators(SP)

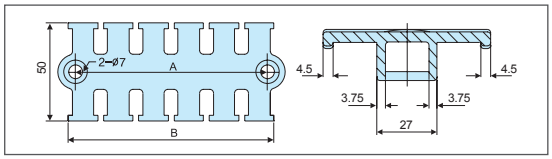


Chain Type	Ordering NO.
nsb 045N	sb-SP/400.400

Tie wrap (TW)

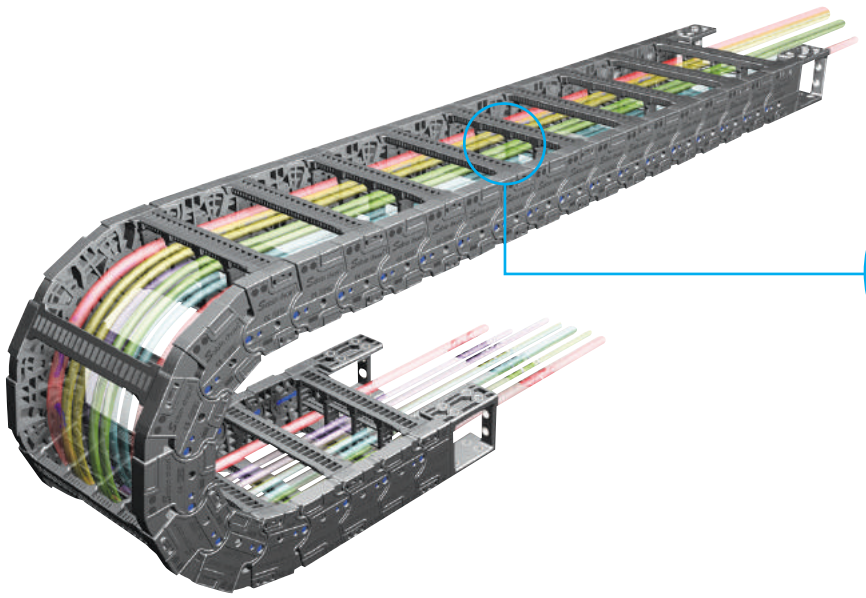




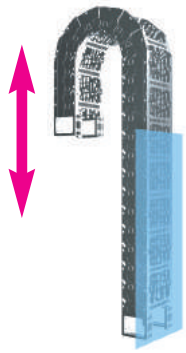


Chain Type	Ordering No.	A	B
nsb 045N	S-TW50 S-TW75 S-TW100 S-TW125 S-TW150	58 75 98 122 141	65 82 105 129 148

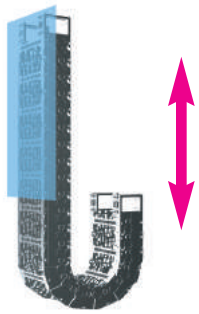
nsb 060N



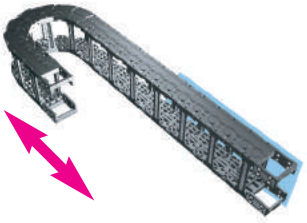
▲ Hinge frame-pin lock type



Vertical with curve above



Vertical with curve below

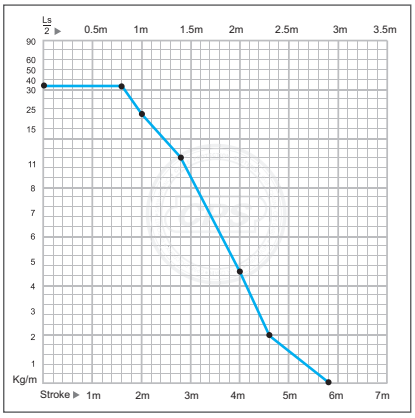


Horizontal application mounted on its side

Calculation of the chain length

$$[\ L = \frac{Ls}{2} + Lp\ ]$$

Load diagrams self-supporting length

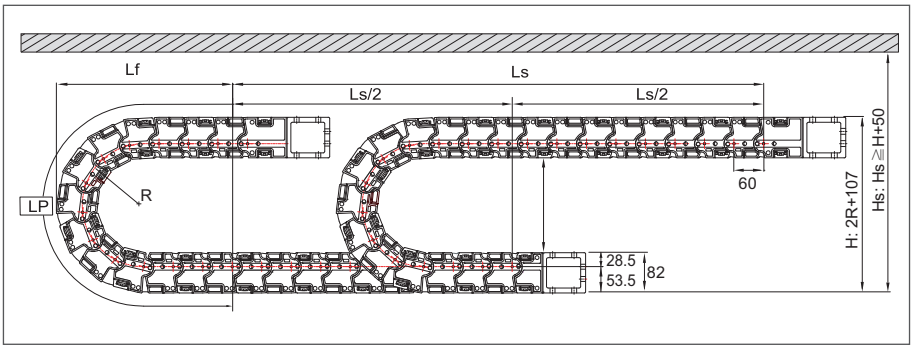


Other installation length

Vertical curve above = max 6.0m
Vertical curve below = max 100m
Side Mounted, Unsupported = max 3.0m

Layout of the chain

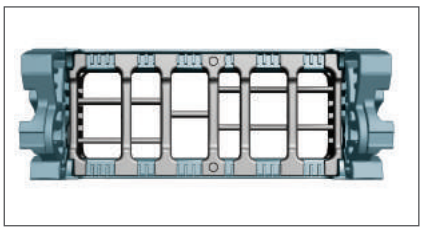
Ls: Stroke Hs: Safe Space

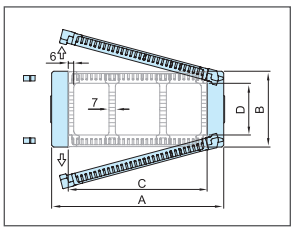


Bending Radius (R)	Lp Loop Length	Lf Loof Projection	H Moving Height
125	854	389	357
135	885	399	377
150	932	414	407
180	1,026	444	467
230	1,183	494	567
270	1,309	534	647
340	1,529	604	787

(Dimensions in mm)

Chain cross section



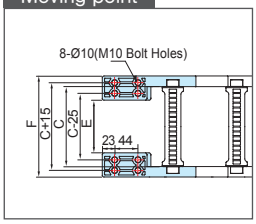


Chain Type	A Width (Outer)	B Height (Outer)	C Frame	D Height (Inner)	Weight kg/m
nsb 060N	115 140 165 190 215 230 240 270 280 290 340 390 440	82	75 100 125 150 175 190 200 230 240 250 300 350 400	55	3.30 3.35 3.51 3.60 3.69 3.78 3.84 3.97 4.01 4.05 4.26 4.57 4.86

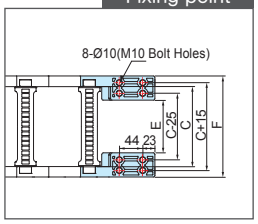
(Dimensions in mm)

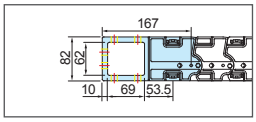
Free end bracket

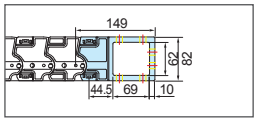
Moving point



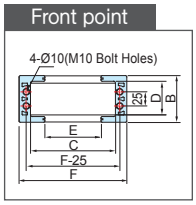
Fixing point







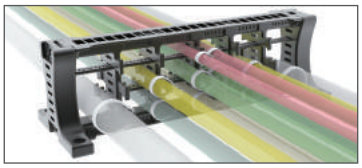
Front point



Chain Type	F Width(Outer)	B Height(Outer)	C Frame	D Height(Inner)	E M,EB Bolt hole width	Hole Type
nsb 060N	115 140 165 190 215 230 240 270 280 290 340 390 440	82	75 100 125 150 175 190 200 230 240 250 300 350 400	55	24 49 74 99 124 139 149 179 189 199 249 299 349	M10 Bolt Holes

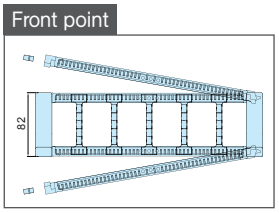
(Dimensions in mm)

System tie wrap (STW)

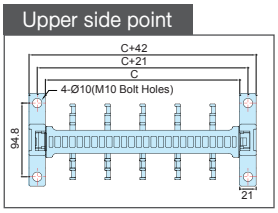


It is a unit to classify each cable for preventing entanglement of cables. It can either be installed to free end bracket or installed separately according its application environment.

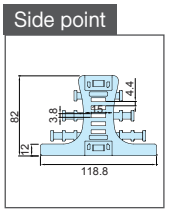
Front point



Upper side point

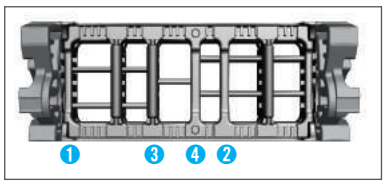


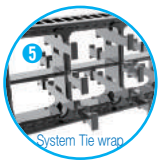
Side point



Chain Type	Ordering No.	C Frame	Hole Type
nsb 060N	S-TW,EB060,75 S-TW,EB060,100 S-TW,EB060,125 S-TW,EB060,150 S-TW,EB060,175 S-TW,EB060,190 S-TW,EB060,200 S-TW,EB060,230 S-TW,EB060,240 S-TW,EB060,250 S-TW,EB060,300 S-TW,EB060,350 S-TW,EB060,400	75 100 125 150 175 190 200 230 240 250 300 350 400	M10 Bolt Holes

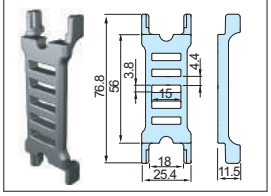
Dividers(DV)



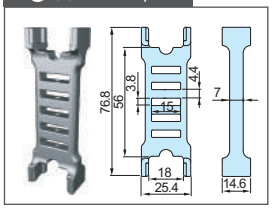


Assemble divider every second frame.
DV.T : Applied to Frame 250~400.
DV.M : Normal Divider.
DV.W : Applicable to System Tie Wrap or FEB.

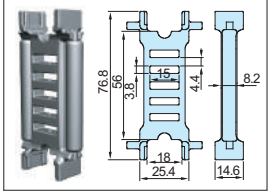
❶ sb-DV060/S



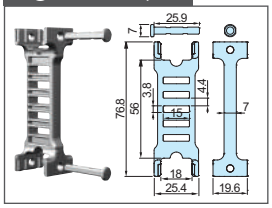
❷ sb-DV060/M



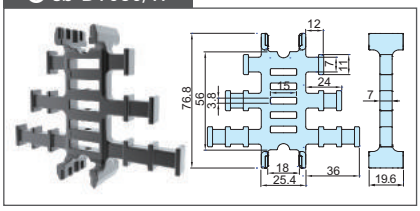
❸ sb-DV060/R



❹ sb-DV060/T

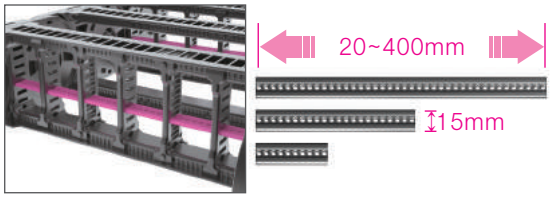


❺ sb-DV060/W



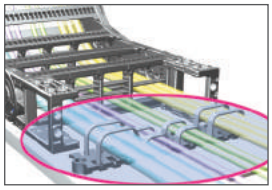
(Dimensions in mm)

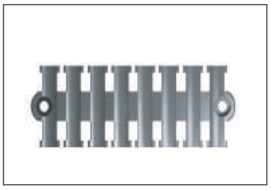
Separators(SP)

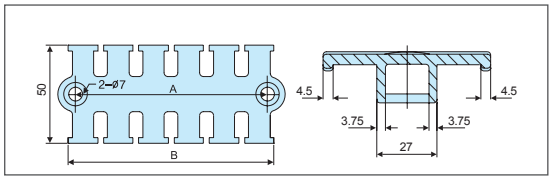


Chain Type	Ordering NO.
nsb 060N	sb-SP/400.400

Tie wrap (TW)

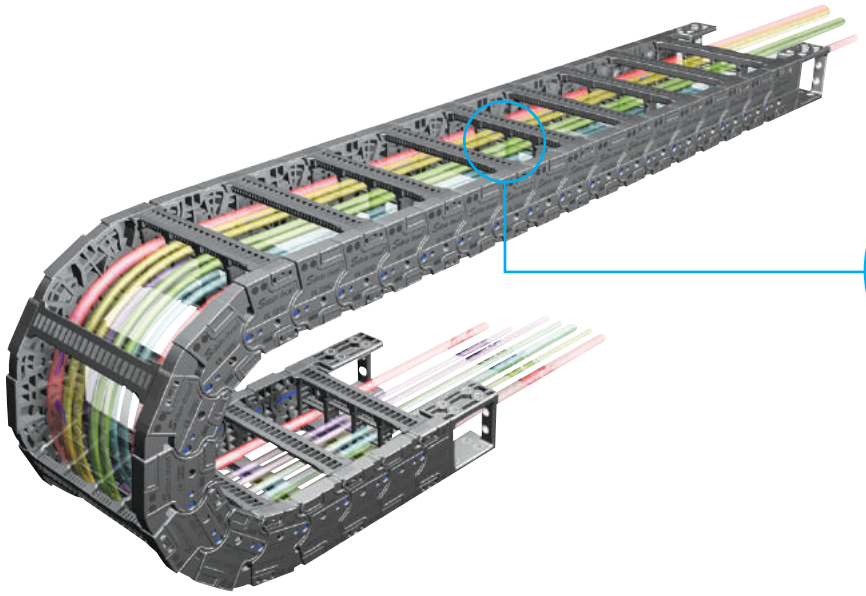




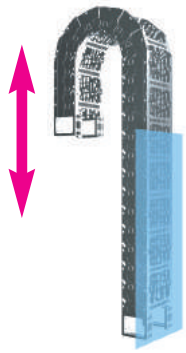


Chain Type	Ordering No.	A	B
nsb 060N	S-TW50 S-TW75 S-TW100 S-TW125 S-TW150	58 75 98 122 141	65 82 105 129 148

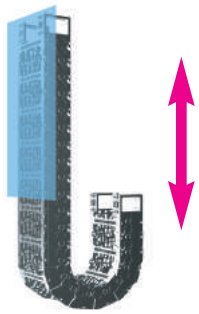
nsb 075N



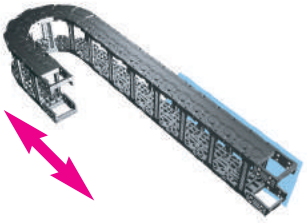
▲ Hinge frame-pin lock type



Vertical with curve above



Vertical with curve below

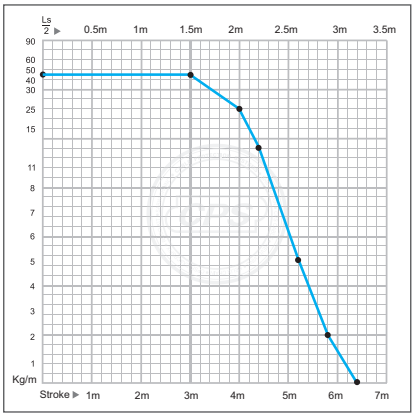


Horizontal application mounted on its side

Calculation of the chain length

$$[\ L = \frac{Ls}{2} + Lp\ ]$$

Load diagrams self-supporting length

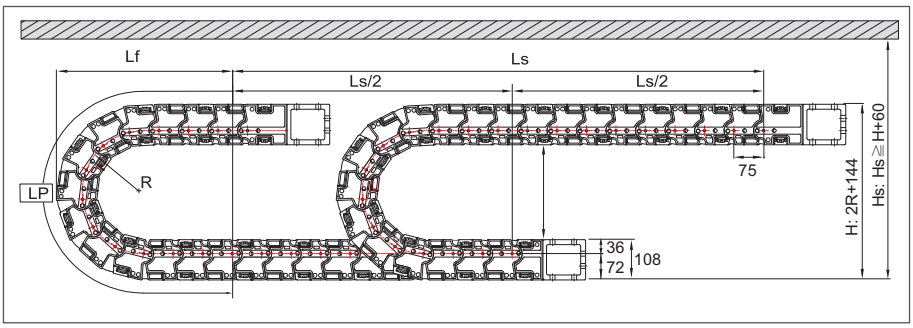


Other installation length

Vertical curve above = max 6.0m
Vertical curve below = max 100m
Side Mounted, Unsupported = max 3.0m

Layout of the chain

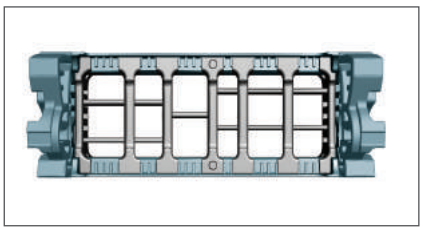
Ls: Stroke Hs: Safe Space

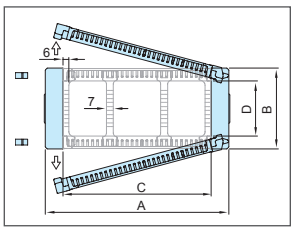


Bending Radius (R)	Lp Loop Length	Lf Loof Projection	H Moving Height
160	1,084	495	464
180	1,147	515	504
230	1,304	565	604
280	1,461	615	704
330	1,618	665	804
380	1,775	715	904
480	2,089	815	1,104

(Dimensions in mm)

Chain cross section



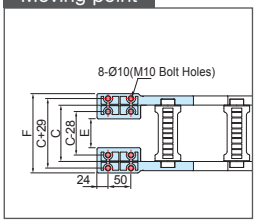


Chain Type	A Width (Outer)	B Height (Outer)	C Frame	D Height (Inner)	Weight kg/m
nsb 075N	115 140 155 165 190 215 240 280 290 330 340 390 440 490 540 590 640	108	75 100 115 125 150 175 200 240 250 290 300 350 400 450 500 550 600	78	4.80 4.90 4.97 5.02 5.12 5.25 5.46 5.67 5.72 6.02 6.09 6.45 6.83 7.12 7.32 8.06 8.20

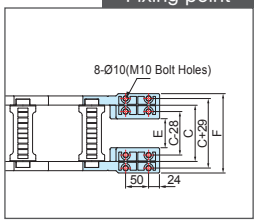
(Dimensions in mm)

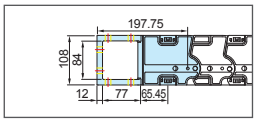
Free end bracket

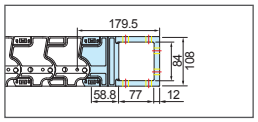
Moving point



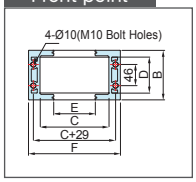
Fixing point







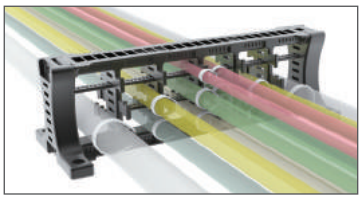
Front point



Chain Type	A Width(Outer)	B Height(Outer)	C Frame	D Height(Inner)	E M,EB Bolt hole width	Hole Type
nsb 075N	125 150 165 175 200 225 250 290 300 340 350 400 450 500 550 600 650	108	75 100 115 125 150 175 200 240 250 290 300 350 400 450 500 550 600	78	15 40 55 65 90 115 140 180 190 230 240 290 340 390 440 490 540	M10 Bolt Holes

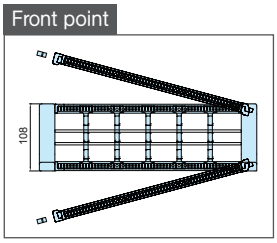
(Dimensions in mm)

System tie wrap (STW)

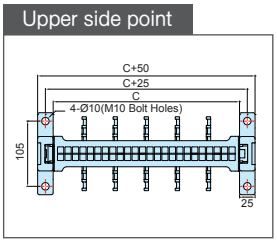


It is a unit to classify each cable for preventing entanglement of cables. It can either be installed to free end bracket or installed separately according its application environment.

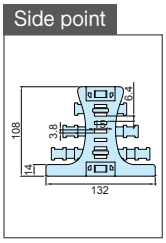
Front point



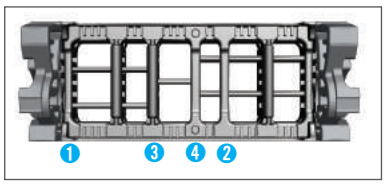
Upper side point

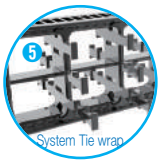


Side point



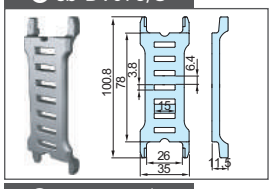
Dividers(DV)



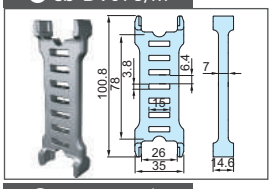


Assemble divider every second frame.
DV.T : Applied to Frame 300~600.
DV.M : Normal Divider.
DV.W : Applicable to System Tie Wrap or FEB.

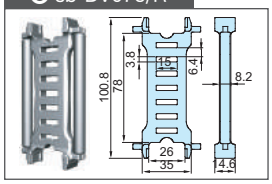
❶ sb-DV075/S



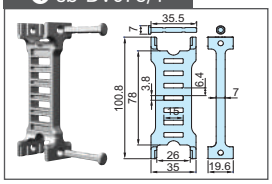
❷ sb-DV075/M



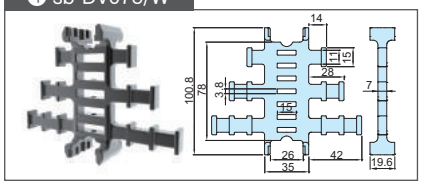
❸ sb-DV075/R



❹ sb-DV075/T

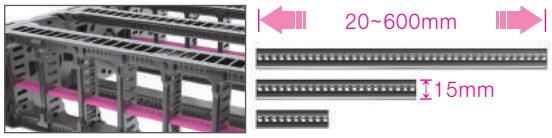


❹ sb-DV075/W



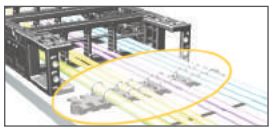
(Dimensions in mm)

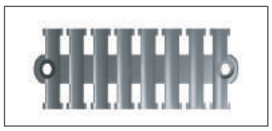
Separators(SP)

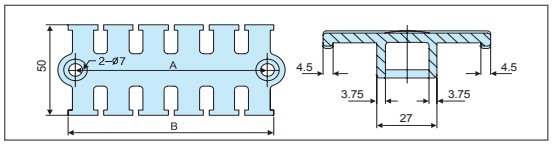


Chain Type	Ordering NO.
nsb 075N	sb-SP/600.600

Tie wrap (TW)







Chain Type	Ordering No.	A	B
nsb 075N	S-TW50 S-TW75 S-TW100 S-TW125 S-TW150	58 75 98 122 141	65 82 105 129 148

Chain Type	Ordering No.	C Frame	Hole Type
nsb 075N	S-TW.EB075.75 S-TW.EB075.100 S-TW.EB075.115 S-TW.EB075.125 S-TW.EB075.150 S-TW.EB075.175 S-TW.EB075.200 S-TW.EB075.240 S-TW.EB075.250 S-TW.EB075.290 S-TW.EB075.300 S-TW.EB075.350 S-TW.EB075.400 S-TW.EB075.450 S-TW.EB075.500 S-TW.EB075.550 S-TW.EB075.600	75 100 115 125 150 175 200 240 250 290 300 350 400 450 500 550 600	M10 Bolt Holes

nsb Chain - Enclosed type

General information

Item	Value
Material	CPS-Amid(PA6+GF), RoHs
Speed	5m/s
Acceleration	15m/s²
Temperature	-30℃ ~+130℃
Special production	ESD, UV, Customized color
Certificate	CE, ATEX(Ex)

Calculation table

Item	Value
Length of Cable Chain	L = ½ X LS + LP
Bending Radius	
The biggest Cable inserted	Multiply 8~10 and the biggest cable
The biggest Hydraulic Hose inserted	Multiply 15~20 and the biggest hose

Dimension table

nsb Chain **E Type**	Pitch	Bending Radius (R)	Weight kg/m	Speed m/s	Temperature ℃	Size A	Size B	Size C	Size D	Frame style	Section - composition
nsb 028E	28	66, 86, 116, 146	1.00 1.13 1.30 1.50	5	-30 ~ +130	55 75 95 120	38	35 55 75 100	26		
nsb 035E	35	90, 115, 140, 190	1.45 1.64 1.83 2.06 2.28	5	-30 ~ +130	70 95 120 145 170	52	50 75 100 125 150	40		
nsb 045E	45	90, 110, 135, 165, 185, 235, 285	2.78 3.07 3.35 3.58	5	-30 ~ +130	105 130 155 180	66	75 100 125 150	45		
nsb 060E	60	125, 135, 150, 180, 230, 270, 340	4.32 4.86 5.41	5	-30 ~ +130	140 190 240	82	100 150 200	56		
nsb 075E	75	160, 180, 230, 280, 330, 380, 480	7.01 7.97 9.48	5	-30 ~ +130	190 240 340	108	150 200 300	78		

(Dimensions in mm)

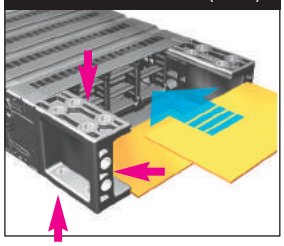
Ordering

nsb 028E. 50. R66 / F - 1000L : 10ST

- Sabin Chain
- Enclosed (E)
- Inside width
- Bending radius
- Bracket Type
  - F : Free End Bracket
  - FT : Tie Wrap
  - FST : System Tie Wrap
- Length(mm)
- Q'ty(set)

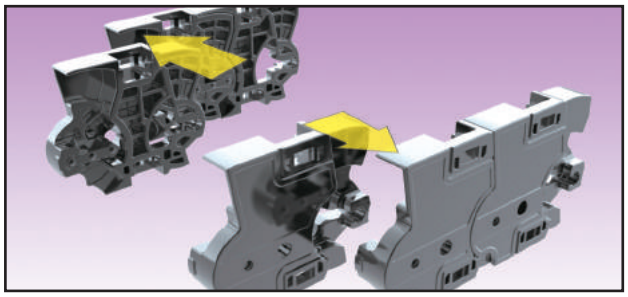
Bracket type

Free End Bracket (FEB)

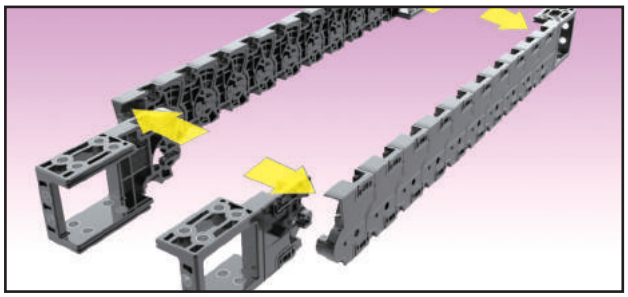


≫ Assembly procedure of nsb Chain Enclosed Type

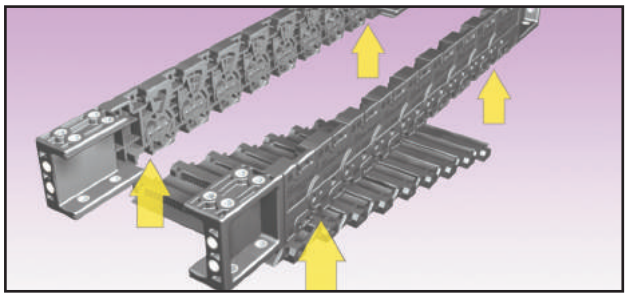
The assembling process of E-Type of New Sabin Chain is like below and user must use rubber hammer with careful combination of Divider and Separator.



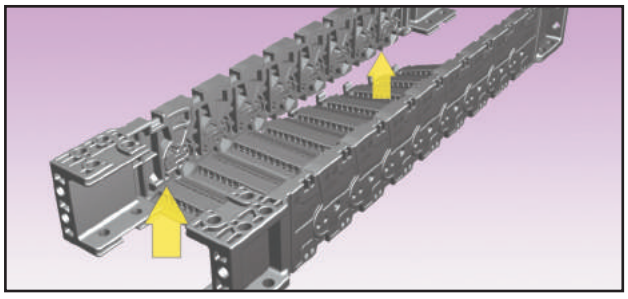
1 Connect each side band as many as you need.



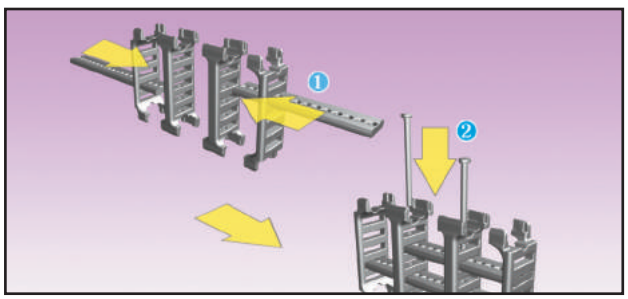
2 Assemble the end brackets on both ends.



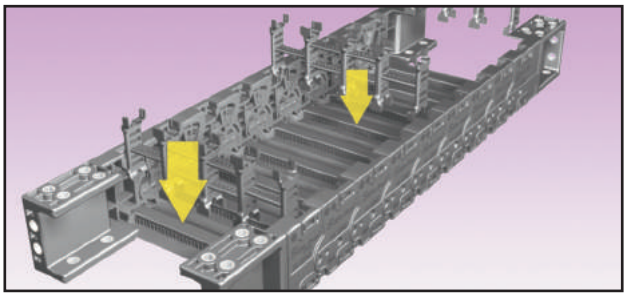
3 Attach frames starting with the bottom side of the carrier.



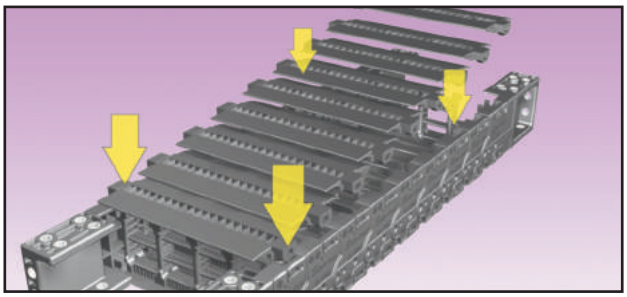
3-1 028E, 035E Type are Hinge Frame Type.



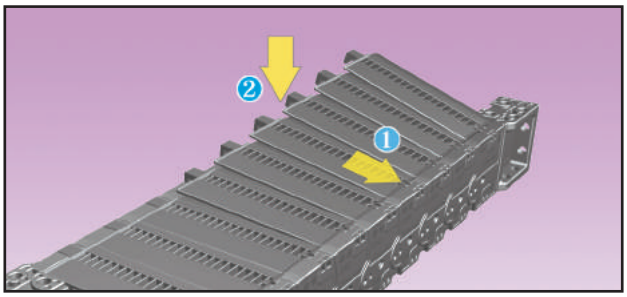
4 For nsb 045, 060, and 075, connect the pin of separator in hole of divider after inserting separator in hole of divider. For nsb028 and nsb035, separator fixing pins are not used.



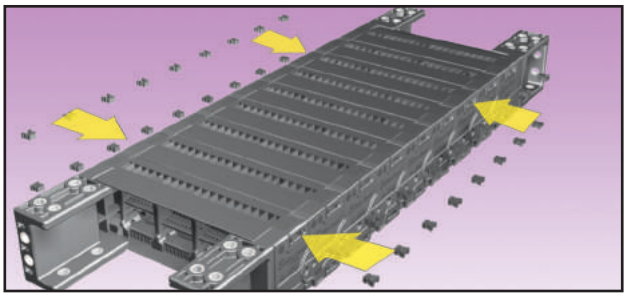
5 Fix the separator and divider patterns to the bottom-side frames as needed.



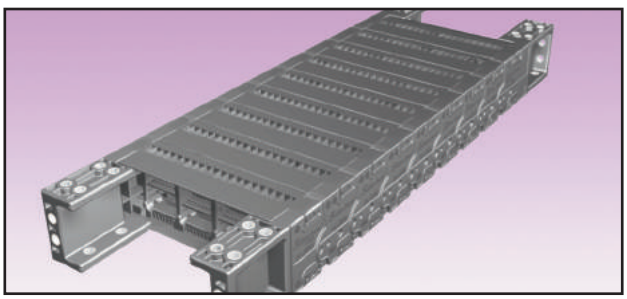
6 Fix the topside frames to the carrier.



6-1 028E, 035E Type are Hinge Frame Type.



7 Insert frame pins to secure the frames and complete carrier. (nsb045, 060, 075 are applied with frame pin, and nsb028, 035 are Hinge Type or Hook Type without frame pin.)



8 Complete to assemble New Sabin E-Type, Sabin Chain.

nsb Chain - Enclosed type

≫ Part list of nsb Chain Enclosed type

- Composition of Cable chain(Standard)
  = Side band(RH) + Frame + Side band(LH) + Bending radius Unit + Free end bracket
- M divider(normal divider) should be applied every second frames to make a section composition.

※ Please refer to below part list and description to understand composition of cable chain.

Model	Classification	Part number	Description
nsb028E	SIDE BAND	nsb-SB028E.R*(LH) nsb-SB028E.R*(RH)	Left side band of nsb028E Right side band of nsb028E
	FRAME(DOWN) FRAME(UP)	ST-FRD028.35 ST-FRU028.35 ST-FRD028.55 ST-FRU028.55 ST-FRD028.75 ST-FRU028.75 ST-FRD028.100 ST-FRU028.100	Inside frame, 35mm Outside frame, 35mm Inside frame, 55mm Outside frame, 55mm Inside frame, 75mm Outside frame, 75mm Inside frame, 100mm Outside frame, 100mm
	FREE END BRACKET	nsb-FEB028E	End bracket of nsb028E
	DIVIDER	sb-DV028/M sb-DV028/S	Normal divider To fix separstors at the both side section
	SEPARATOR	S-SP/M.35 S-SP/M.55 S-SP/M.75 S-SP/M.100	Separator, 35mm Separator, 55mm Separator, 75mm Separator, 100mm
	TIE WRAP	S-TW036/025CR.35 S-TW036/025CR.55 S-TW036/025CR.75 S-TW036/025CR.100	Tie wrap for end bracket to fix cables, 35mm 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
	SYSTEM TIE WRAP	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

Model	Classification	Part number	Description
nsb035E	SIDE BAND	nsb-SB035E.R*(LH) nsb-SB035E.R*(RH)	Left side band of nsb035E Right side band of nsb035E
	FRAME(DOWN) FRAME(UP)	ST-FRD035.50 ST-FRU035.50 ST-FRD035.75 ST-FRU035.75 ST-FRD035.100 ST-FRU035.100 ST-FRD035.125 ST-FRU035.125 ST-FRD035.150 ST-FRU035.150	Inside frame, 50mm Outside frame, 50mm Inside frame, 75mm Outside frame, 75mm Inside frame, 100mm Outside frame, 100mm Inside frame, 125mm Outside frame, 125mm Inside frame, 150mm Outside frame, 150mm
	FREE END BRACKET	nsb-FEB035E	End bracket of nsb035E
	DIVIDER	sb-DV035/M sb-DV035/S	Normal divider To fix separstors 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	Separator, 35mm Separator, 50mm Separator, 75mm Separator, 100mm Separator, 125mm Separator, 150mm
	TIE WRAP	S-TW050/035N.50 S-TW050/035N.75 S-TW050/035N.100 S-TW050/035N.125 S-TW050/035N.150	Tie wrap for end bracket to fix cables, 50mm 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 Tie wrap for end bracket to fix cables, 150mm
	SYSTEM TIE WRAP	sb-DV035/W S-TW.EB035	Divider for fixing cables at end bracket System tie wrap to arrange for cables right after moving bracket or fixing bracket

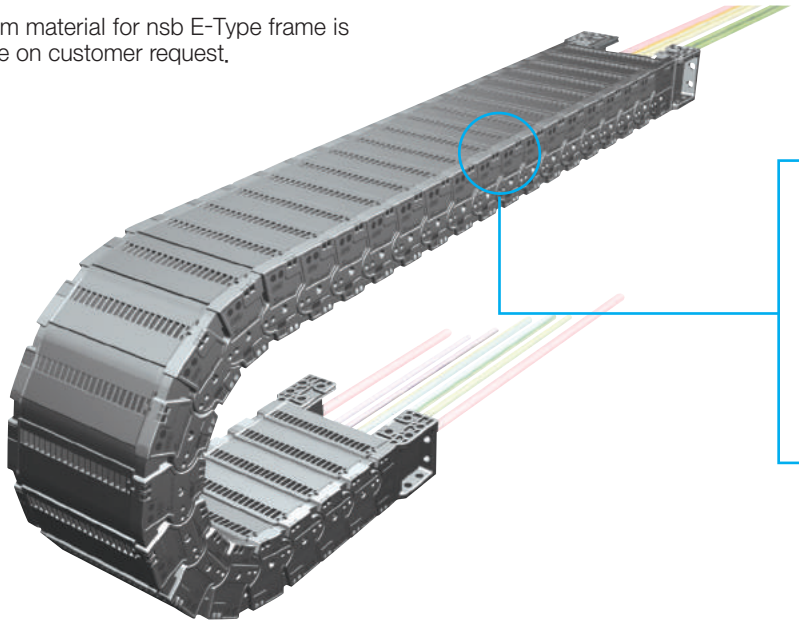
Model	Classification	Part number	Description
nsb045E	SIDE BAND	nsb-SB045E.R*(LH) nsb-SB045E.R*(RH)	Left side band of nsb045E Right side band of nsb045E
	FRAME PIN	S-FP/S1	Frame pin
	FRAME(DOWN) FRAME(UP)	ST-FRD045.75 ST-FRU045.75 ST-FRD045.100 ST-FRU045.100 ST-FRD045.125 ST-FRU045.125 ST-FRD045.150 ST-FRU045.150	Inside frame, 75mm Outside frame, 75mm Inside frame, 100mm Outside frame, 100mm Inside frame, 125mm Outside frame, 125mm Inside frame, 150mm Outside frame, 150mm
	FREE END BRACKET	nsb-FEB045E sb-FEB/WH045	End bracket of nsb045E Steel washer for end bracket
	DIVIDER	sb-DV045/M sb-DV045/S sb-DV045/T	Normal divider To fix separstors at the both side section T divider
	SEPARATOR	sb-SP/400.400 SP-PIN045	Separator, 400mm Separator pin to fix
	TIE WRAP	S-TW50 S-TW75 S-TW100 S-TW125 S-TW150	Tie wrap for end bracket to fix cables, 50mm 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 Tie wrap for end bracket to fix cables, 150mm
	SYSTEM TIE WRAP	sb-DV045/W S-TW.EB045	Divider for fixing cables at end bracket System tie wrap to arrange for cables right after moving bracket or fixing bracket

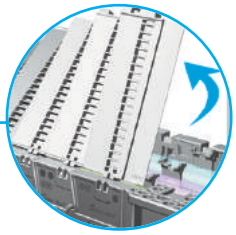
Model	Classification	Part number	Description
nsb060E	SIDE BAND	nsb-SB060E.R*(LH) nsb-SB060E.R*(RH)	Left side band of nsb060E Right side band of nsb060E
	FRAME PIN	S-FP/S1	Frame pin
	FRAME(DOWN) FRAME(UP)	sb-FRU060.100 sb-FRU060.100 sb-FRU060.150 sb-FRU060.150 sb-FRU060.200 sb-FRU060.200	Inside frame, 100mm Outside frame, 100mm Inside frame, 150mm Outside frame, 150mm Inside frame, 200mm Outside frame, 200mm
	FREE END BRACKET	nsb-FEB060E sb-FEB/WH060	End bracket of nsb060E Steel washer for end bracket
	DIVIDER	sb-DV060/M sb-DV060/S sb-DV060/R sb-DV060/T sb-DV060/TP	Normal divider To fix separstors at the both side section Roller divider to reduce friction with cables, Clean room type T divider T divider pin
	SEPARATOR	sb-SP/400.400 SP-PIN060	Separator, 400mm Separator pin to fix
	TIE WRAP	S-TW50 S-TW75 S-TW100 S-TW125 S-TW150	Tie wrap for end bracket to fix cables, 50mm 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 Tie wrap for end bracket to fix cables, 150mm
	SYSTEM TIE WRAP	sb-DV060/W S-TW.EB060	Divider for fixing cables at end bracket System tie wrap to arrange for cables right after moving bracket or fixing bracket

Model	Classification	Part number	Description
nsb075E	SIDE BAND	nsb-SB075E.R*(LH) nsb-SB075E.R*(RH)	Left side band of nsb075E Right side band of nsb075E
	FRAME PIN	S-FP/S2	Frame pin
	FRAME(DOWN) FRAME(UP)	sb-FRU075.150 sb-FRU075.150 sb-FRU075.200 sb-FRU075.200 sb-FRU075.300 sb-FRU075.300	Inside frame, 150mm Outside frame, 150mm Inside frame, 200mm Outside frame, 200mm Inside frame, 300mm Outside frame, 300mm
	FREE END BRACKET	nsb-FEB075E sb-FEB/WH075	End bracket of nsb075E Steel washer for end bracket
	DIVIDER	sb-DV075/M sb-DV075/S sb-DV075/R sb-DV075/T sb-DV075/TP	Normal divider To fix separstors at the both side section Roller divider to reduce friction with cables, Clean room type T divider T divider pin
	SEPARATOR	sb-SP/400.400 SP-PIN075	Separator, 400mm Separator pin to fix
	TIE WRAP	S-TW50 S-TW75 S-TW100 S-TW125 S-TW150	Tie wrap for end bracket to fix cables, 50mm 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 Tie wrap for end bracket to fix cables, 150mm
	SYSTEM TIE WRAP	sb-DV075/W S-TW.EB075	Divider for fixing cables at end bracket System tie wrap to arrange for cables right after moving bracket or fixing bracket

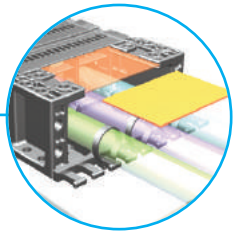
nsb 028E

• Alumnum material for nsb E-Type frame is available on customer request.

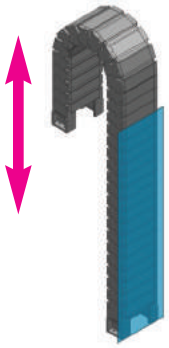




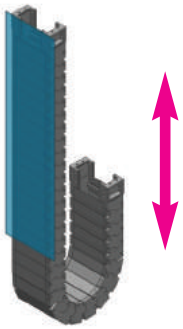
▲ Hinge hook type



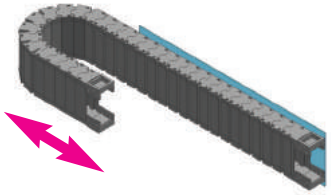
▲ Hinge hook type



Vertical with curve above



Vertical with curve below

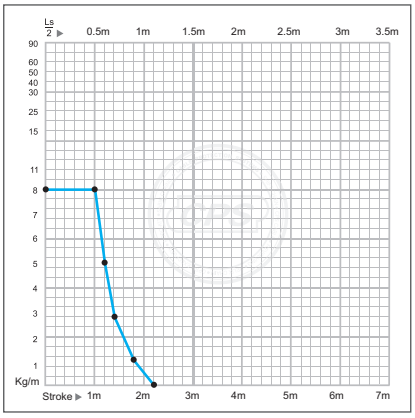


Horizontal application mounted on its side

Calculation of the chain length

$$[\ L = \frac{Ls}{2} + Lp\ ]$$

Load diagrams self-supporting length

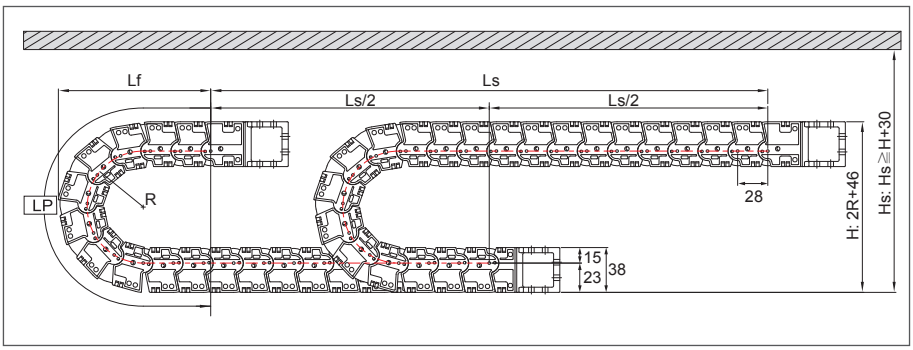


Other installation length

Vertical curve above = max 2.0m
Vertical curve below = max 40m
Side Mounted, Unsupported = max 1.0m

Layout of the chain

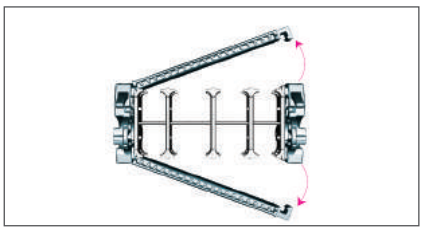
Ls: Stroke Hs: Safe Space

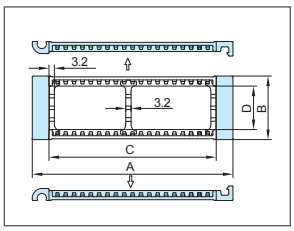


Bending Radius (R)	Lp Loop Length	Lf Loof Projection	H Moving Height
66	376	173	178
86	439	193	218
116	533	223	278
146	627	253	338

(Dimensions in mm)

Chain cross section



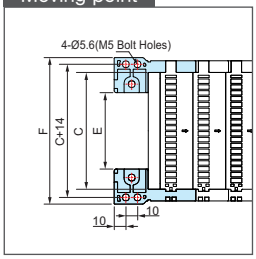


Chain Type	A Width (Outer)	B Height (Outer)	C Frame	D Height (Inner)	Weight kg/m
nsb 028E	55 75 95 120	38	35 55 75 100	26	1.00 1.13 1.30 1.50

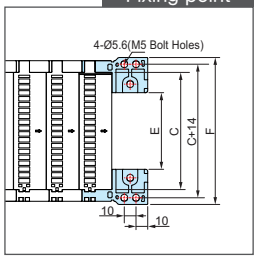
(Dimensions in mm)

Free end bracket

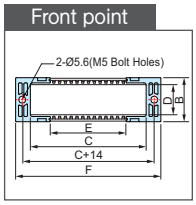
Moving point



Fixing point



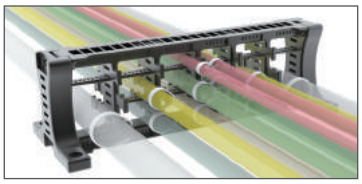
Front point



Chain Type	F Width(Outer)	B Height(Outer)	C Frame	D Height(Inner)	E M.EB Bolt hole width	Hole Type
nsb 028E	60.4 80.4 100.4 125.4	38	35 55 75 100	26	0.4 20.4 40.4 65.4	M5 Bolt Holes

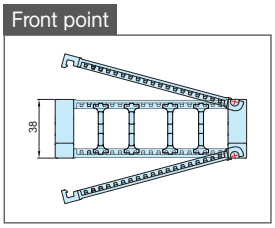
(Dimensions in mm)

System tie wrap (STW)

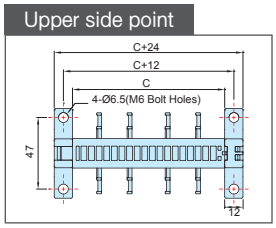


It is a unit to classify each cable for preventing entanglement of cables. It can either be installed to free end bracket or installed separately according its application environment.

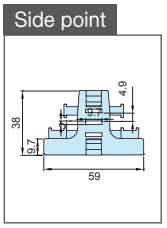
Front point



Upper side point



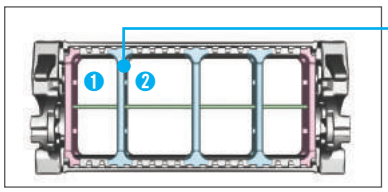
Side point

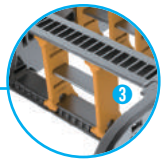


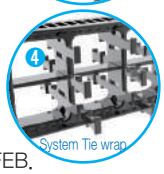
Chain Type	Ordering No.	C Frame	Hole Type
nsb 028E	S-TW.EB028.35 S-TW.EB028.55 S-TW.EB028.75 S-TW.EB028.100	35 55 75 100	M6 Bolt Holes

(Dimensions in mm)

Dividers(DV)

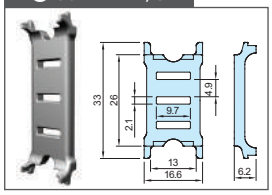




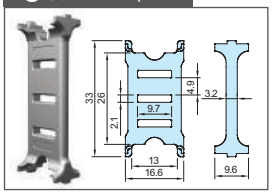


Assemble divider every second frame.
DV.M : Normal divider.
DV.W : Applicable to System Tie Wrap or FEB.

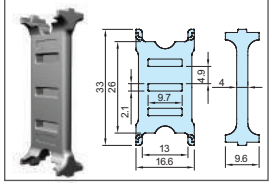
❶ sb-DV028/S



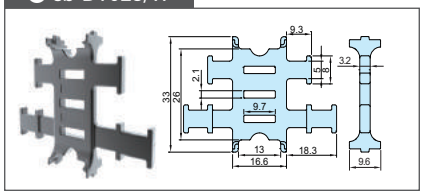
❷ sb-DV028/M1



❸ sb-DV028/M2

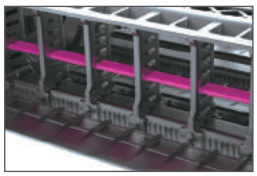


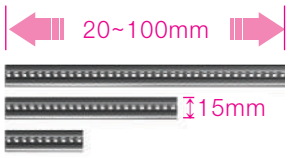
❹ sb-DV028/W



(Dimensions in mm)

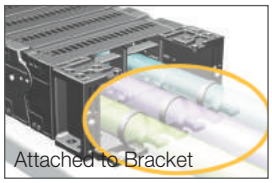
Separators(SP)

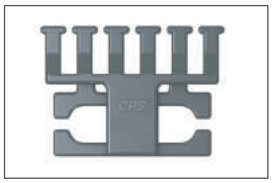


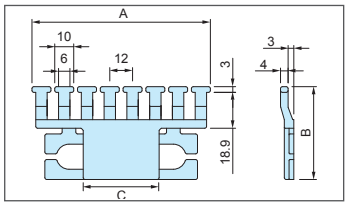


Chain Type	Ordering NO.	Frame
nsb 028E	S-SP/M.35 S-SP/M.55 S-SP/M.75 S-SP/M.100	35 55 75 100

Tie wrap (TW)





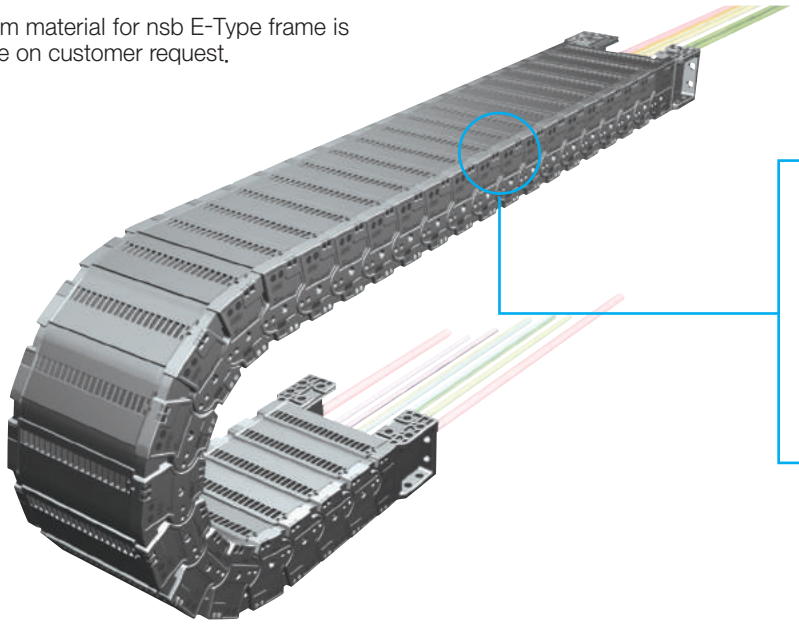


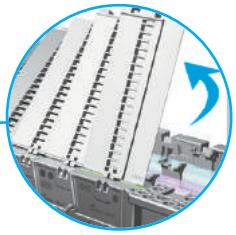
Chain Type	Ordering No.	A	B	C
nsb 028E	S-TW036/025CR.35 S-TW036/025CR.55 S-TW036/025CR.75 S-TW036/025CR.100	46 70 94 118	35.4 48.9 48.9 48.9	- 20 40 65

(Dimensions in mm)

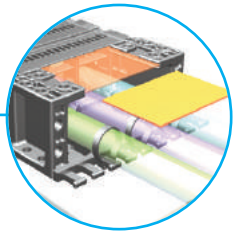
nsb 035E

• Alumnum material for nsb E-Type frame is available on customer request.

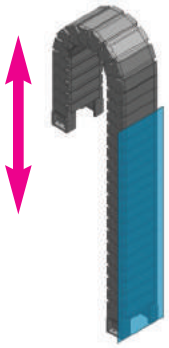




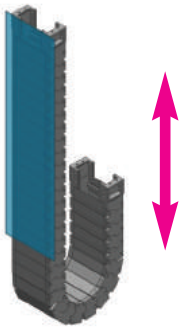
▲ Hinge hook type



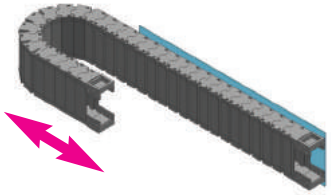
▲ Hinge hook type



Vertical with curve above



Vertical with curve below

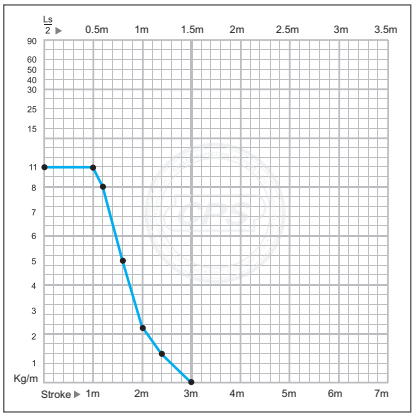


Horizontal application mounted on its side

Calculation of the chain length

$$[\ L = \frac{Ls}{2} + Lp\ ]$$

Load diagrams self-supporting length

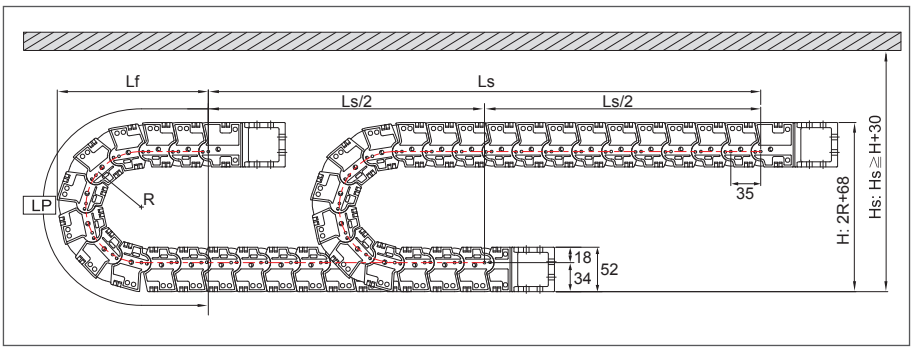


Other installation length

Vertical curve above = max 3.0m
Vertical curve below = max 50m
Side Mounted, Unsupported = max 1.0m

Layout of the chain

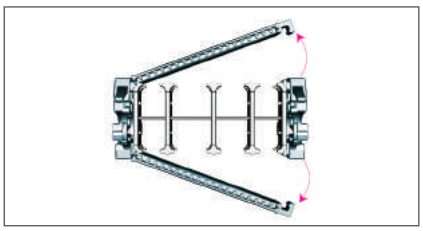
Ls: Stroke Hs: Safe Space

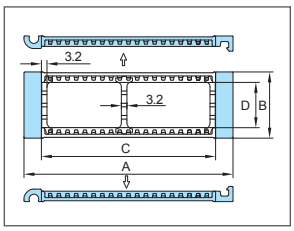


Bending Radius (R)	Lp Loop Length	Lf Loof Projection	H Moving Height
90	493	229	248
115	572	254	298
140	650	279	348
190	807	329	448

(Dimensions in mm)

Chain cross section

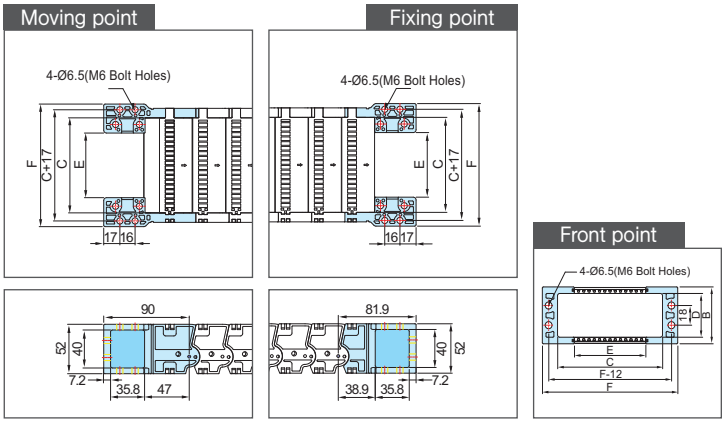




Chain Type	A Width (Outer)	B Height (Outer)	C Frame	D Height (Inner)	Weight kg/m
nsb 035E	70 95 120 145 170	52	50 75 100 125 150	40	1.45 1.64 1.83 2.06 2.28

(Dimensions in mm)

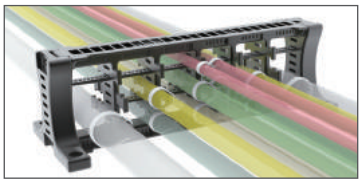
Free end bracket



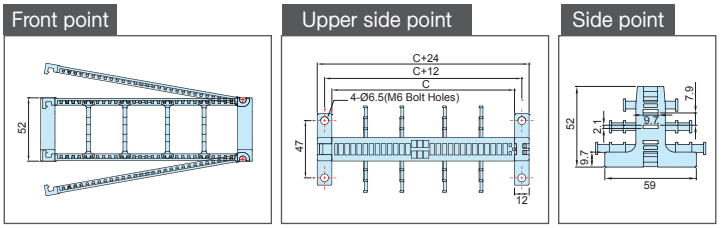
Chain Type	F Width(Outer)	B Height(Outer)	C Frame	D Height(Inner)	E M.EB Bolt hole width	Hole Type
nsb 035E	79 104 129 154 179	52	50 75 100 125 150	40	18 43 68 93 118	M6 Bolt Holes

(Dimensions in mm)

System tie wrap (STW)

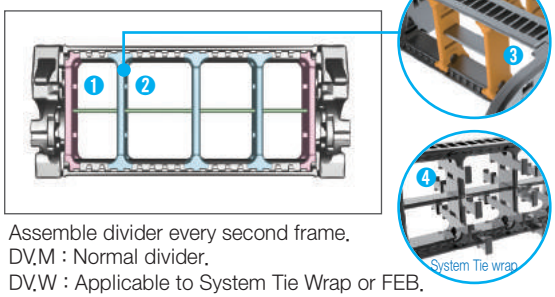


It is a unit to classify each cable for preventing entanglement of cables. It can either be installed to free end bracket or installed separately according its application environment.

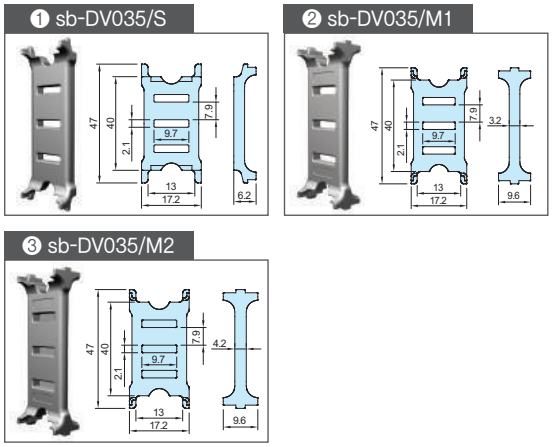


Chain Type	Ordering No.	C Frame	Hole Type
nsb 035E	S-TW.EB035.50 S-TW.EB035.75 S-TW.EB035.100 S-TW.EB035.125 S-TW.EB035.150	50 75 100 125 150	M6 Bolt Holes

Dividers(DV)

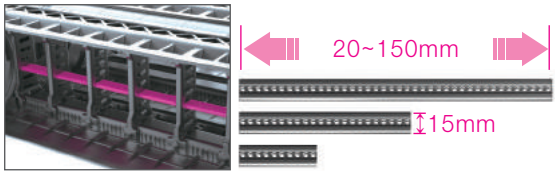


Assemble divider every second frame.
DV.M : Normal divider.
DV.W : Applicable to System Tie Wrap or FEB.



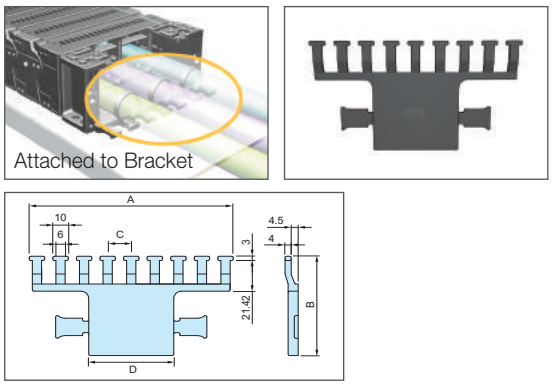
(Dimensions in mm)

Separators(SP)



Chain Type	Ordering NO.	Frame
nsb 035E	S-SP/M.50 S-SP/M.75 S-SP/M.100 S-SP/M.125 S-SP/M.150	50 75 100 125 150

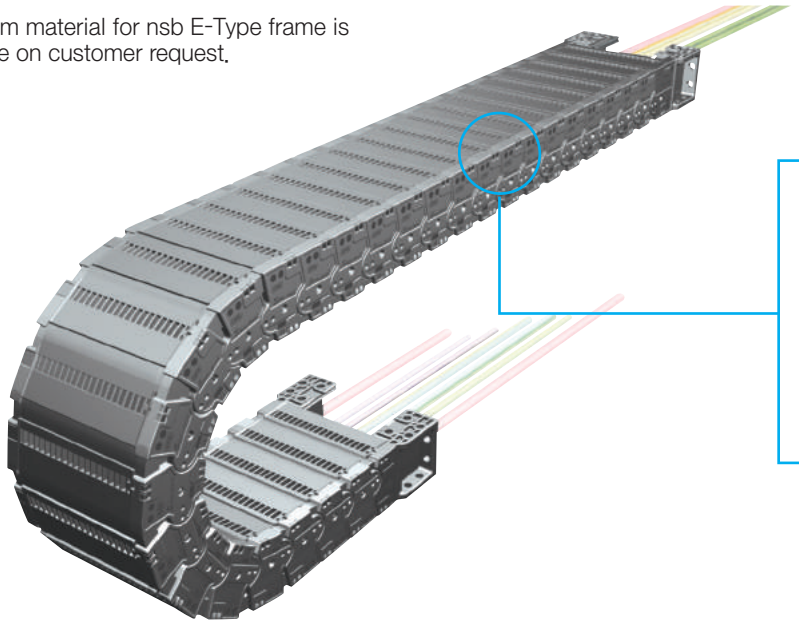
Tie wrap (TW)

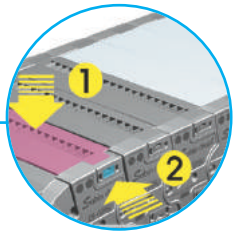


Chain Type	Ordering No.	A	B	C	
nsb 035E	S-TW050/035N.50	82	64.5	12.00	5
	S-TW050/035N.75	107		12.13	30
	S-TW050/035N.100	132		15.25	55
	S-TW050/035N.125	157		14.70	80
	S-TW050/035N.150	182		14.35	105

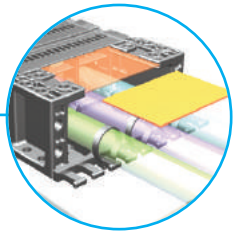
nsb 045E

• Alumnum material for nsb E-Type frame is available on customer request.

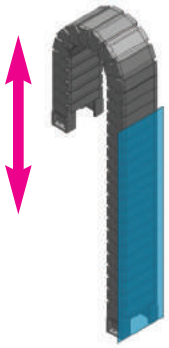




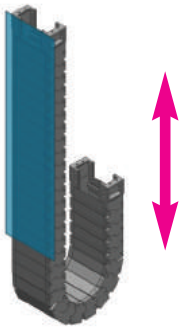
▲ Hinge frame-pin lock type



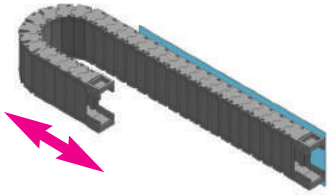
▲ Hinge hook type



Vertical with curve above



Vertical with curve below

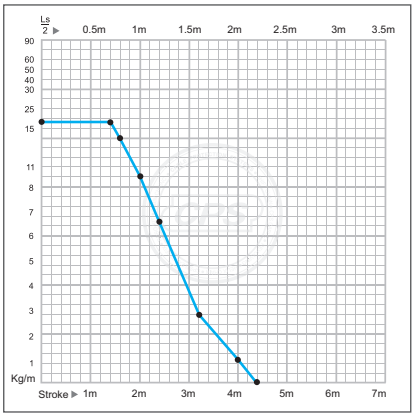


Horizontal application mounted on its side

Calculation of the chain length

$$[\ L = \frac{Ls}{2} + Lp\ ]$$

Load diagrams self-supporting length

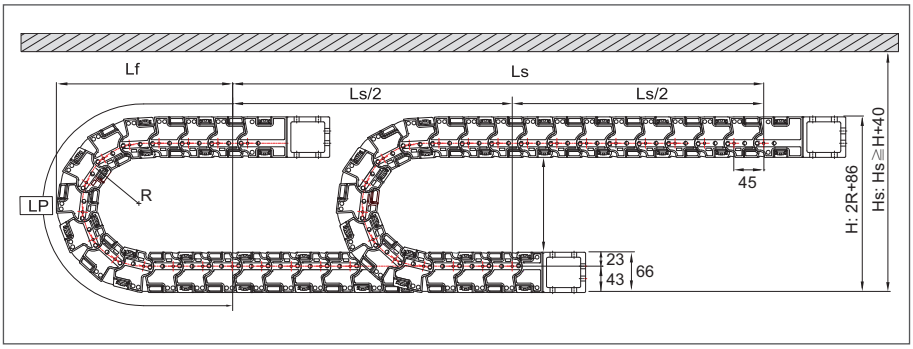


Other installation length

Vertical curve above = max 6.0m
Vertical curve below = max 100m
Side Mounted, Unsupported = max 2.5m

Layout of the chain

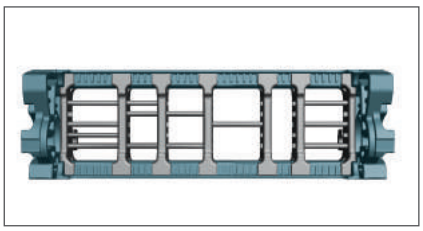
Ls: Stroke Hs: Safe Space

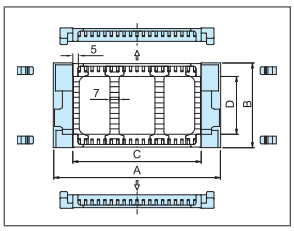


Bending Radius (R)	Lp Loop Length	Lf Loof Projection	H Moving Height
90	633	291	266
110	695	311	306
135	774	336	356
165	868	366	416
185	931	386	456
235	1,088	436	556
285	1,245	486	656

(Dimensions in mm)

Chain cross section

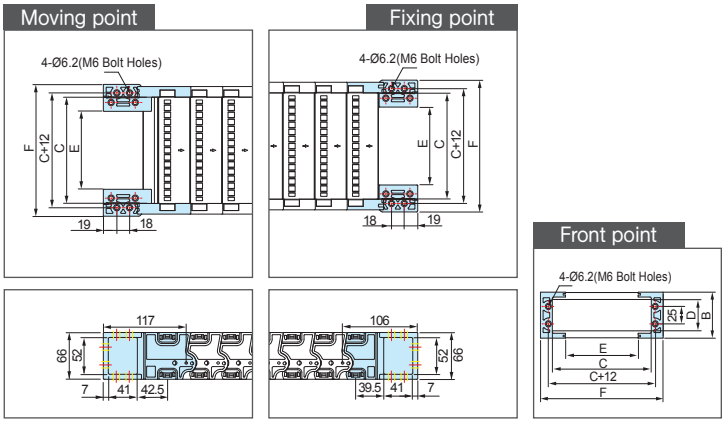




Chain Type	A Width (Outer)	B Height (Outer)	C Frame	D Height (Inner)	Weight kg/m
nsb 045E	105 130 155 180	66	75 100 125 150	45	2.78 3.07 3.35 3.58

(Dimensions in mm)

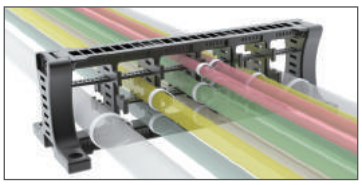
Free end bracket



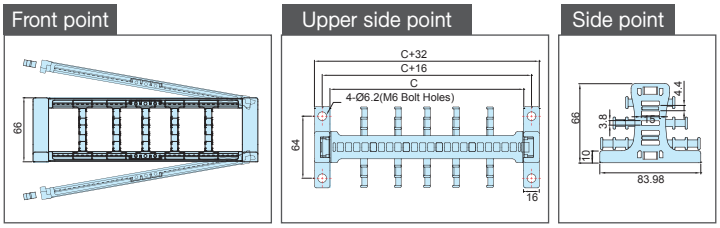
Chain Type	F Width(Outer)	B Height(Outer)	C Frame	D Height(Inner)	E M.EB Bolt hole width	Hole Type
nsb 045E	111 136 161 186	66	75 100 125 150	45	35 60 85 110	M6 Bolt Holes

(Dimensions in mm)

System tie wrap (STW)



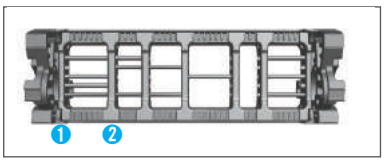
It is a unit to classify each cable for preventing entanglement of cables. It can either be installed to free end bracket or installed separately according its application environment.

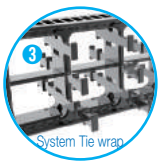


Chain Type	Ordering No.	C Frame	Hole Type
nsb 045E	S-TW.EB045.75 S-TW.EB045.100 S-TW.EB045.125 S-TW.EB045.150	75 100 125 150	M6 Bolt Holes

(Dimensions in mm)

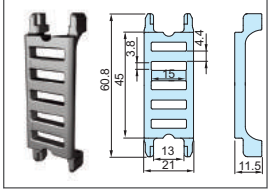
Dividers(DV)



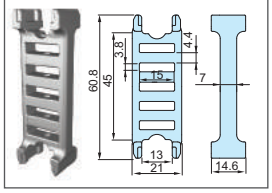


Assemble divider every second frame.
DV.M : Normal divider.
DV.W : Applicable to System Tie Wrap or FEB.

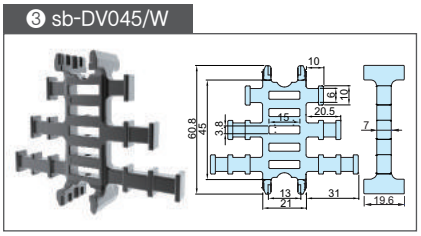
❶ sb-DV045/S



❷ sb-DV045/M

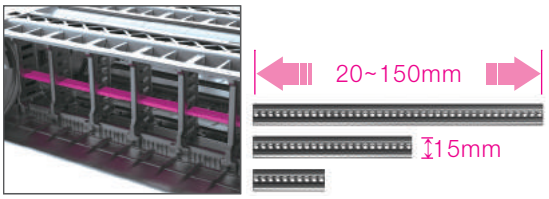


❸ sb-DV045/W



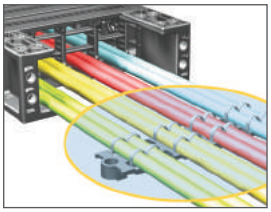
(Dimensions in mm)

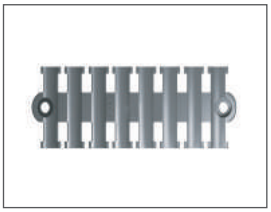
Separators(SP)

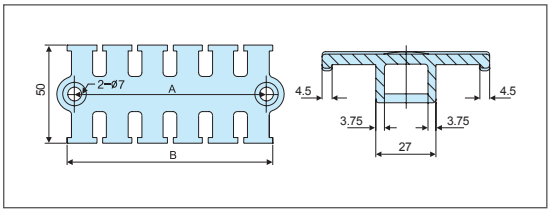


Chain Type	Ordering NO.
nsb 045E	sb-SP/400.400

Tie wrap (TW)





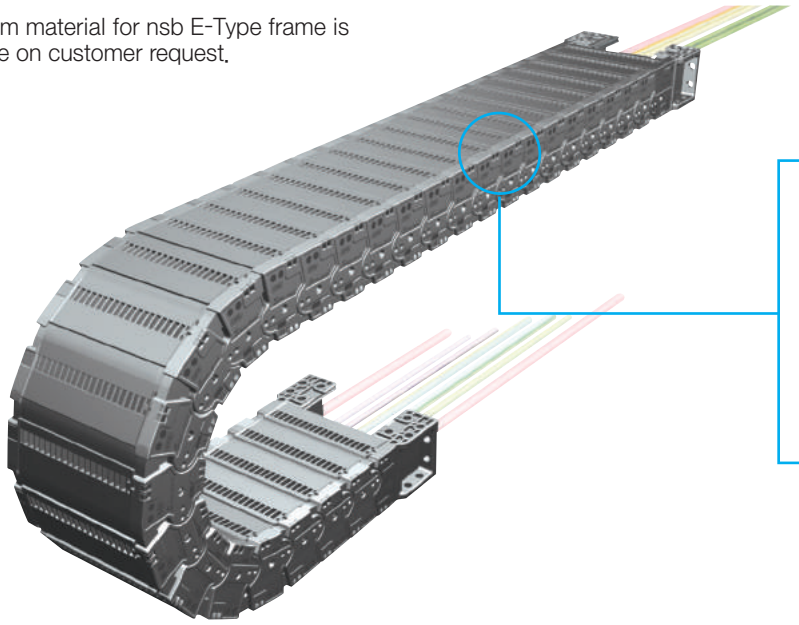


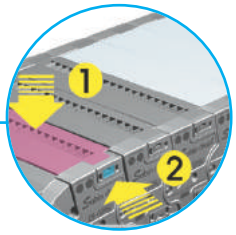
Chain Type	Ordering No.	A	B
nsb 045E	S-TW50 S-TW75 S-TW100 S-TW125 S-TW150	58 75 98 122 141	65 82 105 129 148

(Dimensions in mm)

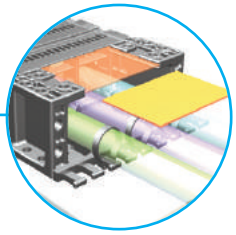
nsb 060E

• Alumnum material for nsb E-Type frame is available on customer request.

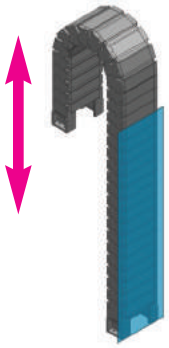




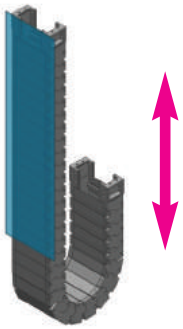
▲ Hinge frame-pin lock type



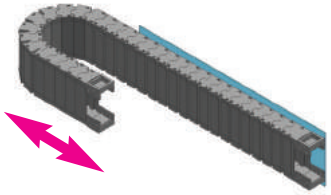
▲ Hinge hook type



Vertical with curve above



Vertical with curve below

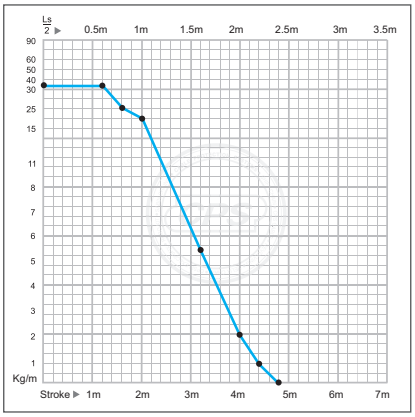


Horizontal application mounted on its side

Calculation of the chain length

$$[\ L = \frac{Ls}{2} + Lp\ ]$$

Load diagrams self-supporting length

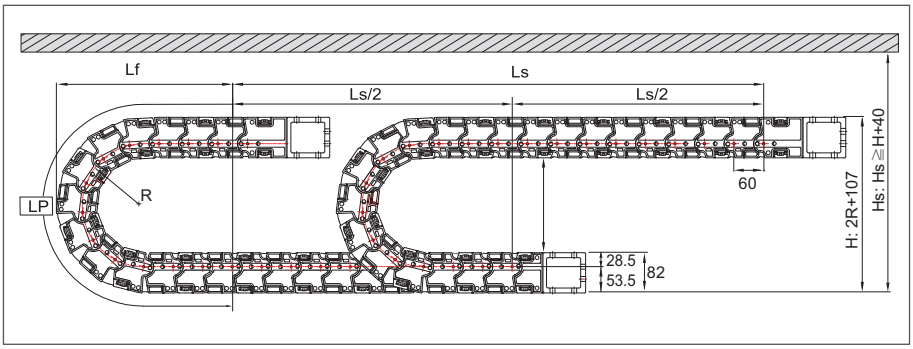


Other installation length

Vertical curve above = max 6.0m
Vertical curve below = max 100m
Side Mounted, Unsupported = max 3.0m

Layout of the chain

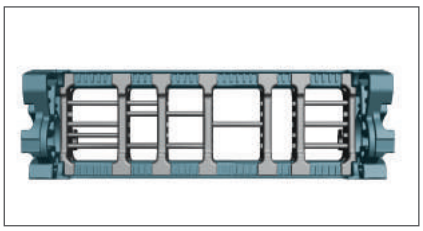
Ls: Stroke Hs: Safe Space

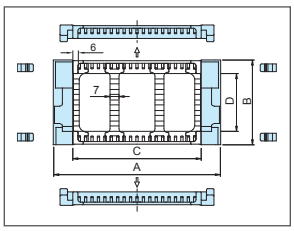


Bending Radius (R)	Lp Loop Length	Lf Loof Projection	H Moving Height
125	854	389	357
135	885	399	377
150	932	414	407
180	1,026	444	467
230	1,183	494	567
270	1,309	534	647
340	1,529	604	787

(Dimensions in mm)

Chain cross section



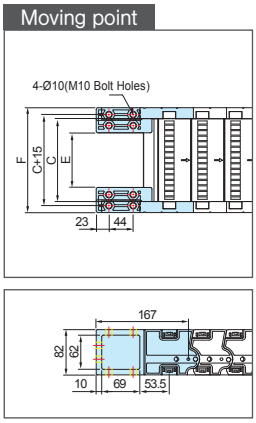


Chain Type	A Width (Outer)	B Height (Outer)	C Frame	D Height (Inner)	Weight kg/m
nsb 060E	140 190 240	82	100 150 200	56	4.32 4.86 5.41

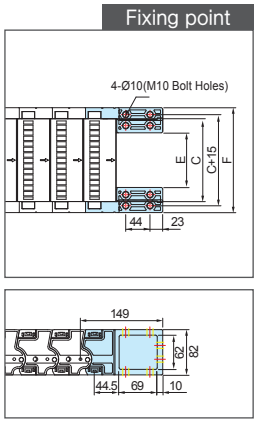
(Dimensions in mm)

Free end bracket

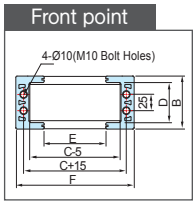
Moving point



Fixing point



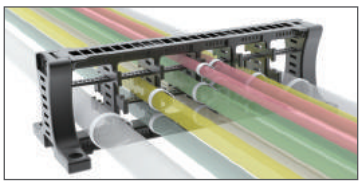
Front point



Chain Type	F Width(Outer)	B Height(Outer)	C Frame	D Height(Inner)	E M.EB Bolt hole width	Hole Type
nsb 060E	140 190 240	82	100 150 200	56	49 99 149	M10 Bolt Holes

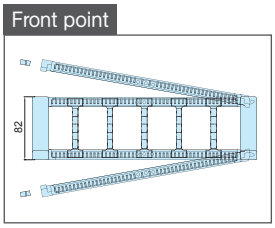
(Dimensions in mm)

System tie wrap (STW)

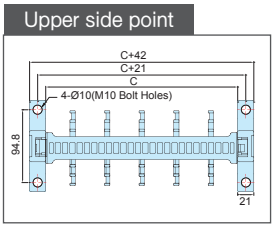


It is a unit to classify each cable for preventing entanglement of cables. It can either be installed to free end bracket or installed separately according its application environment.

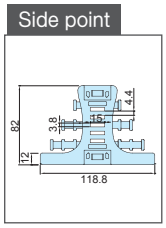
Front point



Upper side point



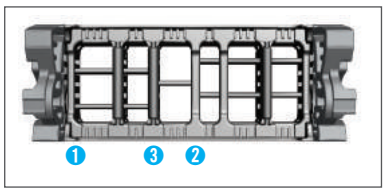
Side point

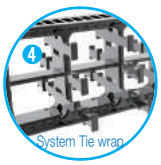


Chain Type	Ordering No.	C Frame	Hole Type
nsb 060E	S-TW.EB060.100 S-TW.EB060.150 S-TW.EB060.200	100 150 200	M10 Bolt Holes

(Dimensions in mm)

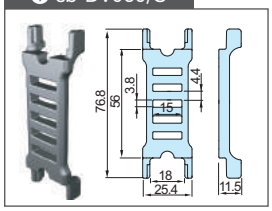
Dividers(DV)



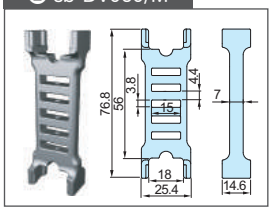


Assemble divider every second frame.
DV.M : Normal divider.
DV.W : Applicable to System Tie Wrap or FEB.

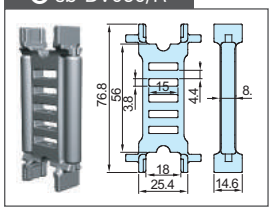
❶ sb-DV060/S



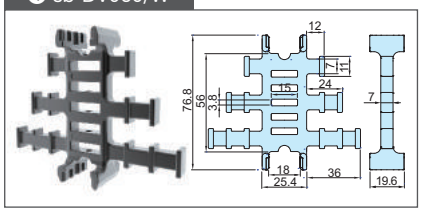
❷ sb-DV060/M



❸ sb-DV060/R

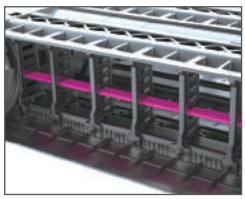


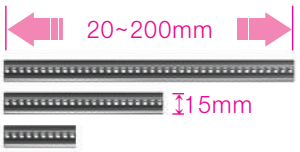
❹ sb-DV060/W



(Dimensions in mm)

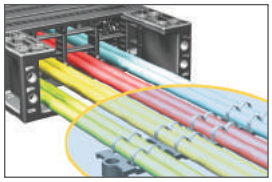
Separators(SP)

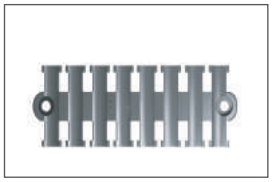


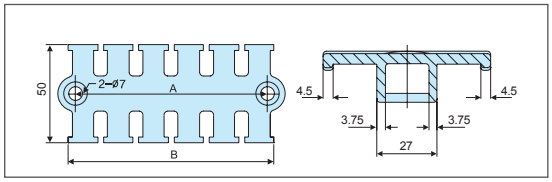


Chain Type	Ordering NO.
nsb 060E	sb-SP/400.400

Tie wrap (TW)



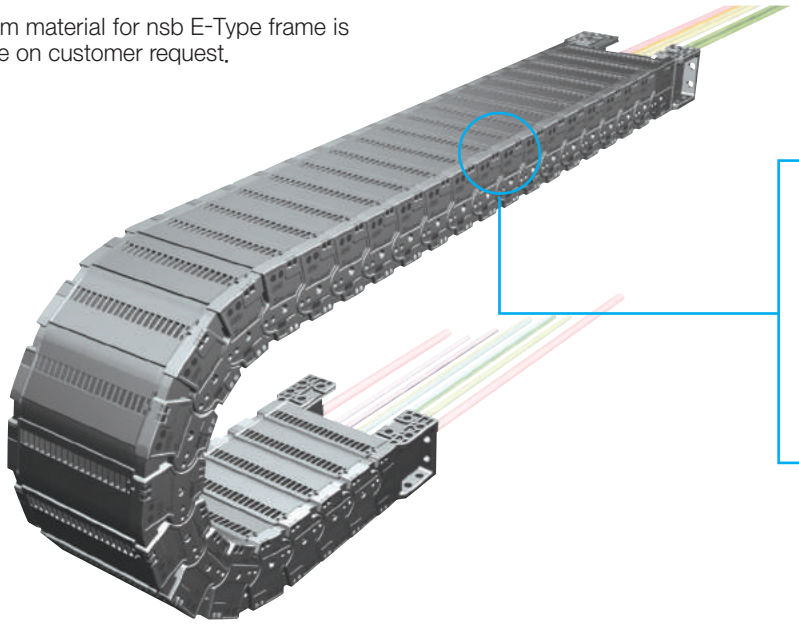


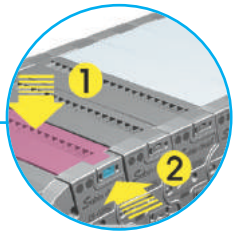


Chain Type	Ordering No.	A	B
nsb 060E	S-TW50 S-TW75 S-TW100 S-TW125 S-TW150	58 75 98 122 141	65 82 105 129 148

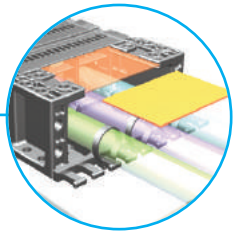
nsb 075E

• Alumnum material for nsb E-Type frame is available on customer request.

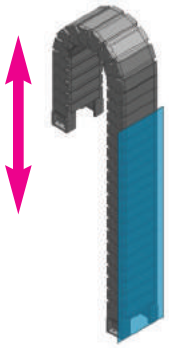




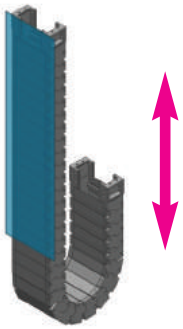
▲ Hinge frame-pin lock type



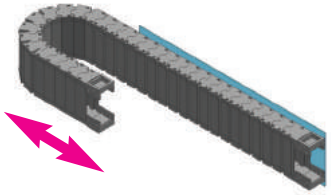
▲ Hinge hook type



Vertical with curve above



Vertical with curve below

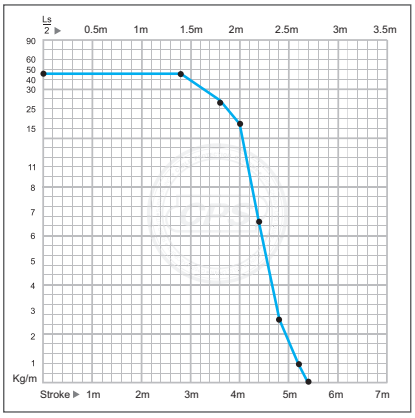


Horizontal application mounted on its side

Calculation of the chain length

$$[\ L = \frac{Ls}{2} + Lp\ ]$$

Load diagrams self-supporting length

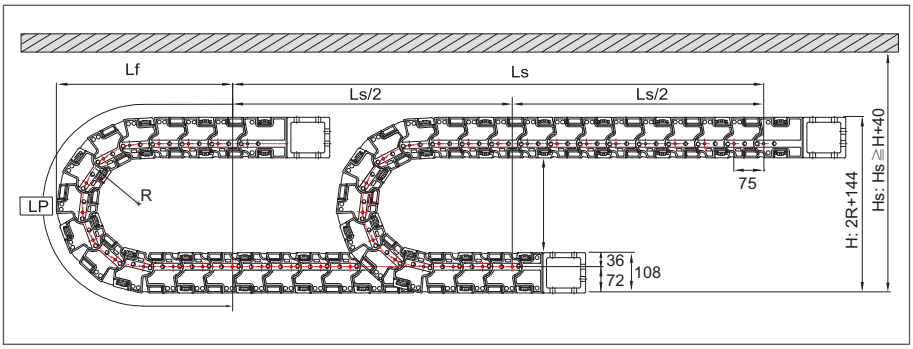


Other installation length

Vertical curve above = max 6.0m
Vertical curve below = max 120m
Side Mounted, Unsupported = max 3.0m

Layout of the chain

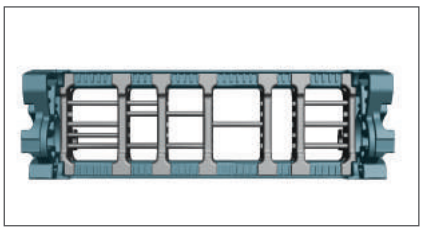
Ls: Stroke Hs: Safe Space

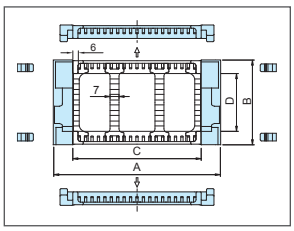


Bending Radius (R)	Lp Loop Length	Lf Loof Projection	H Moving Height
160	1,084	495	464
180	1,147	515	504
230	1,304	565	604
280	1,461	615	704
330	1,618	665	804
380	1,775	715	904
480	2,089	815	1,104

(Dimensions in mm)

Chain cross section



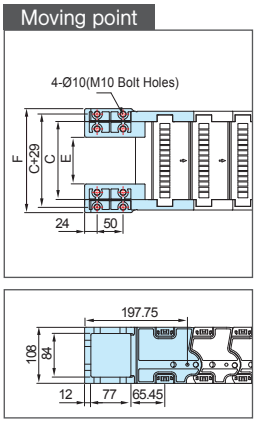


Chain Type	A Width (Outer)	B Height (Outer)	C Frame	D Height (Inner)	Weight kg/m
nsb 075E	190 240 340	108	150 200 300	78	7.01 7.97 9.48

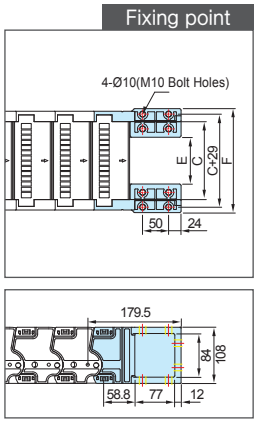
(Dimensions in mm)

Free end bracket

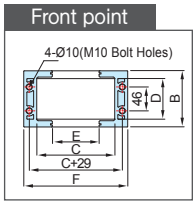
Moving point



Fixing point



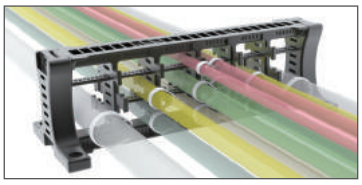
Front point



Chain Type	F Width(Outer)	B Height(Outer)	C Frame	D Height(Inner)	E M.EB Bolt hole width	Hole Type
nsb 075E	200 250 350	108	150 200 300	78	90 140 240	M10 Bolt Holes

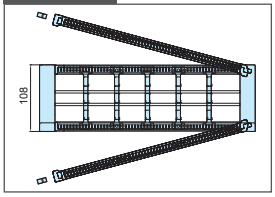
(Dimensions in mm)

System tie wrap (STW)

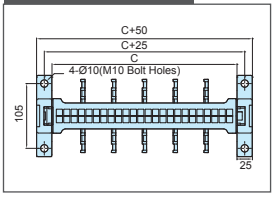


It is a unit to classify each cable for preventing entanglement of cables. It can either be installed to free end bracket or installed separately according its application environment.

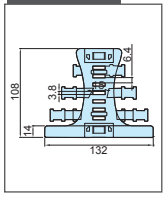
Front point



Upper side point



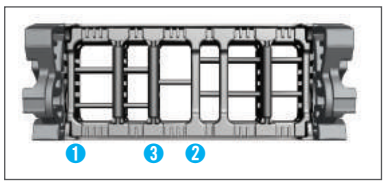
Side point

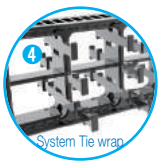


Chain Type	Ordering No.	C Frame	Hole Type
nsb 075E	S-TW.EB075.150 S-TW.EB075.200 S-TW.EB075.300	150 200 300	M10 Bolt Holes

(Dimensions in mm)

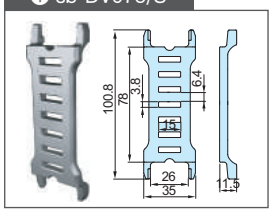
Dividers(DV)



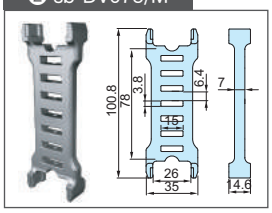


Assemble divider every second frame.
DV.M : Normal divider.
DV.W : Applicable to System Tie Wrap or FEB.

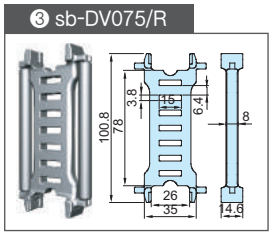
❶ sb-DV075/S



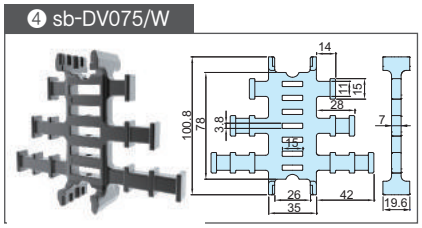
❷ sb-DV075/M



❸ sb-DV075/R

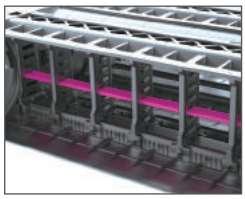


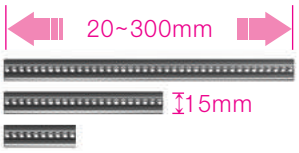
❹ sb-DV075/W



(Dimensions in mm)

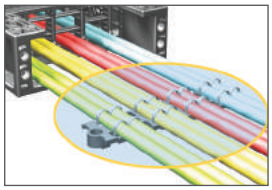
Separators(SP)

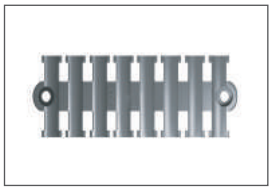


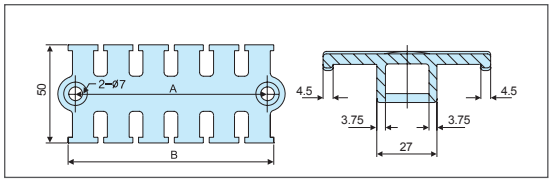


Chain Type	Ordering NO.
nsb 075E	sb-SP/400.400

Tie wrap (TW)







Chain Type	Ordering No.	A	B
nsb 075E	S-TW50 S-TW75 S-TW100 S-TW125 S-TW150	58 75 98 122 141	65 82 105 129 148

nsb Chain - Sliding type

General information

Item	Value
Material	CPS-Amid(PA6+GF), RoHs
Speed	3㎧
Acceleration	10㎧
Temperature	-30℃ ~+130℃
Certificate	CE, ATEX

Calculation table

Item	Value
Length of Cable Chain	L = ½ X LS + LP
Bending Radius	
The biggest Cable inserted	Multiply 8~10 and the biggest cable
The biggest Hydraulic Hose inserted	Multiply 15~20 and the biggest hose

Dimension table

nsb Chain **S Type**	Pitch	Bending Radius (R)	Weight kg/m	Speed m/s	Temperature ℃	Size A	Size B	Size C	Size D	Frame style	Section - composition
nsb 050S	50	110, 135, 165, 185, 235, 285	2.38 2.44 2.51 2.61 2.67 2.71 2.76 2.80 2.97 3.09 3.32 3.38 3.63	3	-30 ~ +130	104 129 154 179 194 204 219 229 244 254 294 304 354	71.5	50 75 100 125 140 150 165 175 190 200 240 250 300	45		
nsb 065S	65	140, 190, 220, 270, 390	3.29 3.34 3.49 3.58 3.68 3.76 3.82 3.99 4.03 4.24 4.53 4.85	3	-30 ~ +130	137 162 187 212 237 252 262 302 312 362 412 462	89	75 100 125 150 175 190 200 240 250 300 350 400	56		
nsb 080S	80	180, 200, 250, 300, 350, 400, 500	4.27 4.36 4.43 4.47 4.57 4.67 4.85 5.03 5.07 5.33 5.40 5.71 6.09 6.28 6.45 7.08 7.20	3	-30 ~ +130	143 168 183 193 218 243 268 308 318 358 368 418 468 518 568 618 668	115	75 100 115 125 150 175 200 240 250 290 300 350 400 450 500 550 600	78		

(Dimensions in mm)

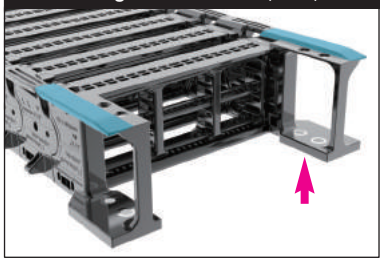
Ordering

nsb 050S. 175. R185 / B1 - 10000L : 10ST

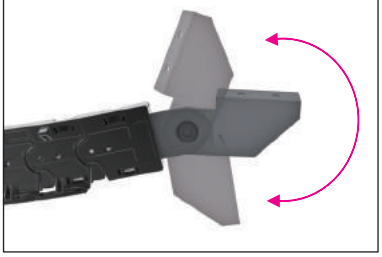
- Sabin Chain
- Sliding (S)
- Inside width
- Bending radius
- Bracket Type : B1,B2
  - FT : Tie Wrap
  - FST : System Tie Wrap
- Length(mm)
- Q'ty(set)

Bracket type

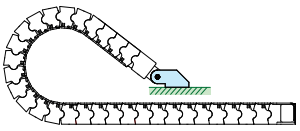
Fixing End Bracket (FEB)



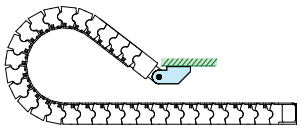
Moving End Bracket (M.EB)



The moving bracket is designed to move up and down according to movement of cable chain, or application requires. Fixing holes are formed widely for its convenience to be applied to other brand of cable chain. There are 2 tpye of bracket; B1,B2.



B1

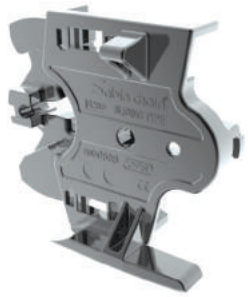


B2

nsb Chain - Sliding type

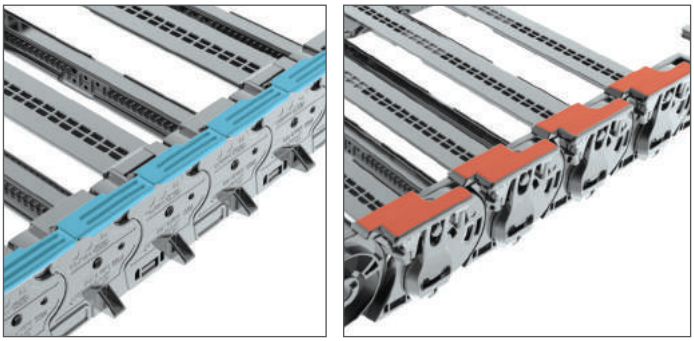
≫ Characteristics of nsb chain Sliding Type

1 Minimized noise level!



▶ nsb sliding chain is also Holding band structure.

〈Feature-1〉

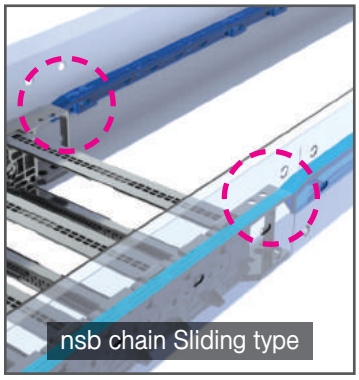


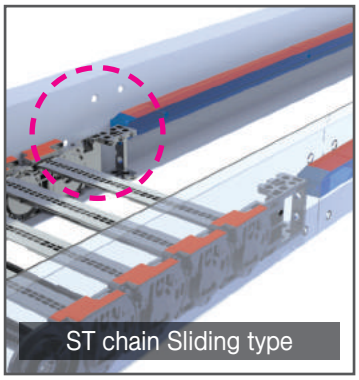
〈Feature-2〉

There are 3 factors for minimizing noise level of nsb sliding chain.

Firstly, it can minimize noise level than other sliding types including other brand due to Holding band inserted structure. You can refer "feature-1".

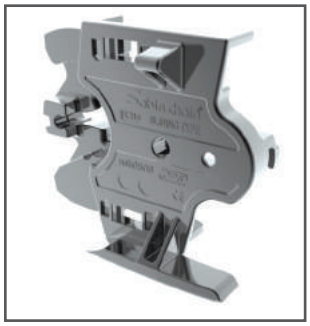
Secondly, by reducing interval between skid to skid of side band. If you refer "feature-2", you can find out that it's minimum gap between each side band which makes low noise when sliding part is moving on fixing part. If creates some interval, it makes noise.

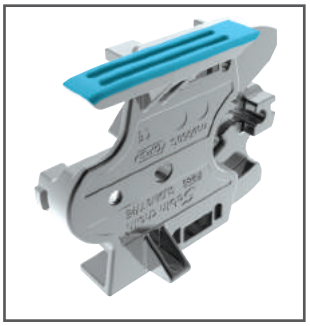


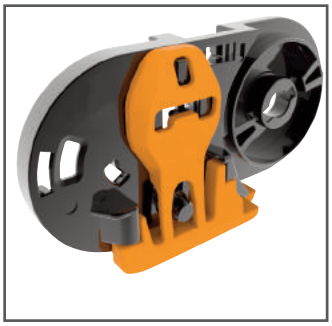


In third, by making it equal height between height of FEB and height of Nylon bar installed for chain movement.

2 Easy to assemble and disassemble!



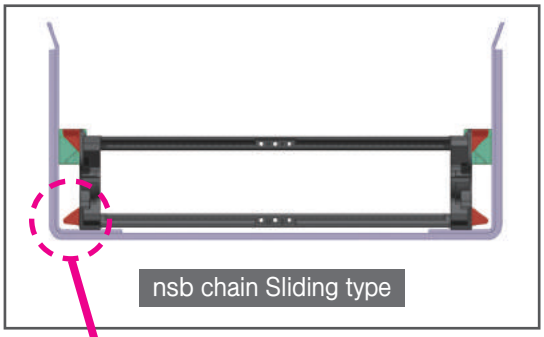


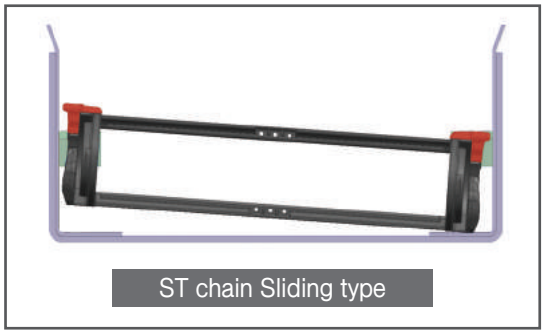


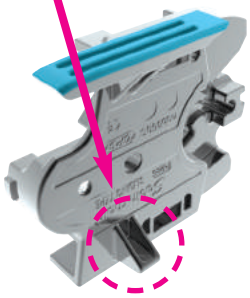
Easy to assemble and disassemble

By united skid and side band, it means that we designed it integral side band as sliding type, it is very easy to assemble and disassemble. Actually, on-site technicians and maintenance workers prefer nsb sliding type as it is easy to assemble and disassemble, they simply remove only frame-pin and frame without removing skid to get rid of frame-pin and frame. It makes them save time for assembling and disassembling work, which is the reason they prefer this model.

3 Stable operation and Suitable for high speed!



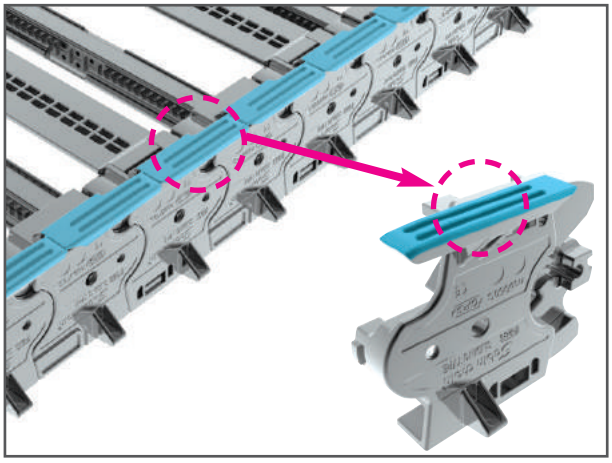




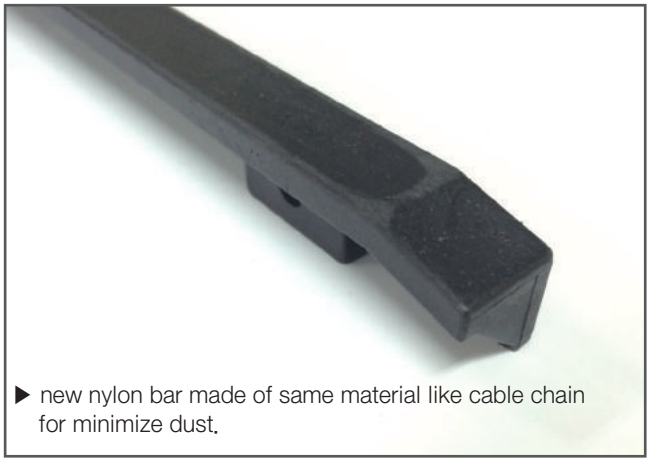
Stable operation and Suitable for high speed

Supporting fixture has been added to keep stable operation inside Guide channel.
This type is designed for gantry loader application which has fast movement with lower friction. Moreover, our previous model, our Shift chain sliding type, have risk to be detached between side band and skid. Thus, detached skid would be inside guide channel or cable chain it means that it disturbs stable and smooth movement. But, nsb sliding type has been designed integral type sideband with skid, there's no risk for this issue.

4 Minimized Dust!



〈Feature-1〉



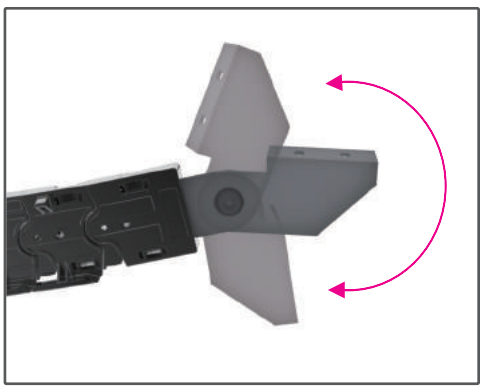
▶ new nylon bar made of same material like cable chain for minimize dust.

〈Feature-2〉

There are 2 factors for low dust of nsb sliding chain.

Firstly, by forming the groove on skid surface, it can minimize dust.
Secondly, by using nylon bar made of same material like cable chain, it minimizes dust.
(Cable chain reaches on nylon bar section after passing FEB section.)

5 Can be substituted for other Brand of Cable Chain!



Can be substituted for other Brand

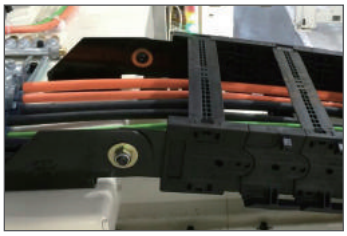
The moving bracket is designed to move up and down according to movement of cabel chain. Or application requires. Fixing holes are form widely for its convenience to be applied to other brand of cable chain. There are 2 tpye of bracket; B1, B2.

nsb Chain - Sliding type

≫ Application of nsb Chain Sliding type

▶ nsb 050S

Application:
Gantry Loader
Location:
Korea, China, USA and India

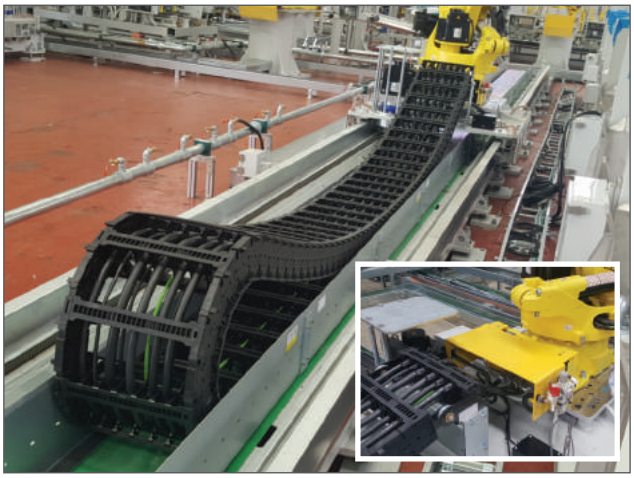


▶ nsb 065S

Application:
Crane(54m/Stroke)
Location:
Korea
Remark:
Section composition with dividers and sperators
System tie-wrap dividers(DV/W) at fixing end brackets

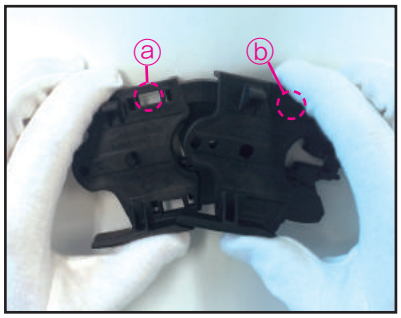
▶ nsb 080S

Application :
Robot carriage
Location :
Korea, China, Mexico, Brazil



≫ Assembly procedure of nsb Chain Sliding type

The assembling process of S-Type of New Sabin Chain is like below and user must use rubber hammer with careful combination of Divider and Separator.

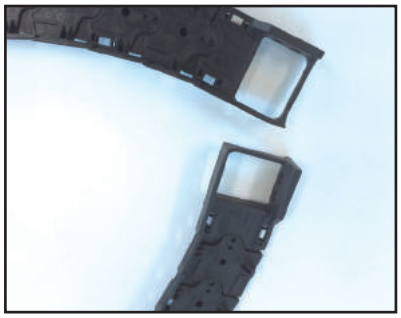


1

Classify LH and RH first, then assemble the Side band.
(Assemble from ⓐ to ⓑ according to priority)

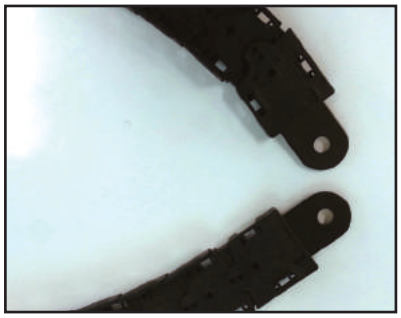
2

Connect the Side Band according to required length.



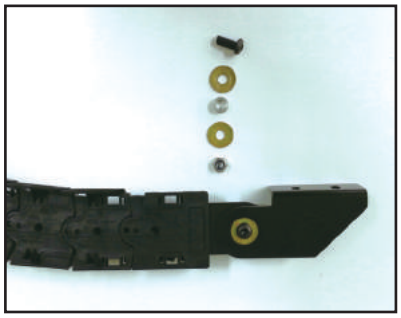
3

Install F.EB to the right and left direction.



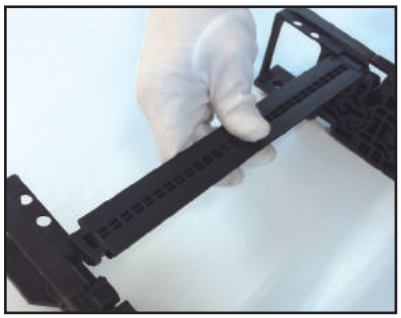
4

Install M.EB to the right and left direction.



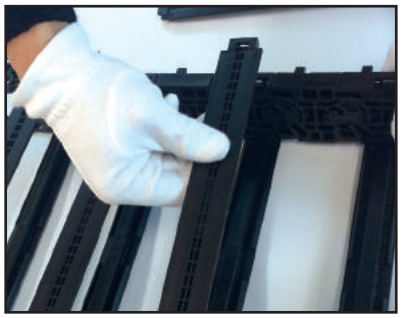
5

Assemble the Steel Bracket on the M.EB by tightening bolt and nut.
(Bolt → flat washer → insert steel → flat washer → Nut)



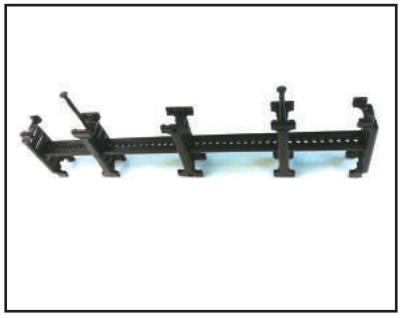
6

Assemble the left and right Side Band with specified frame.



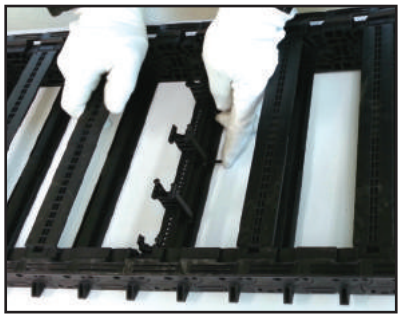
7

Frame of the opposite side also assemble in the same manner.



8

Assemble dividers and spearators considering inserted number of cables.



9

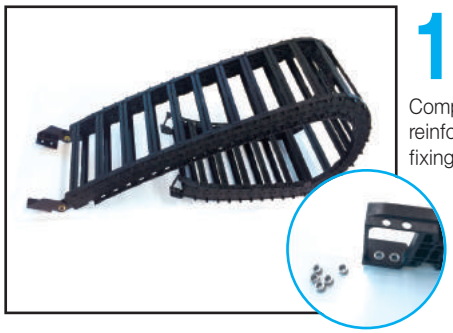
Fix the dividers on lower frame.
(Assemble divider every Four links)

10

Combine the upper frame exactly on the groove of sideband and divider.

11

Fix the frame with side band by using the frame pin.



12

Complete by inserting the reinforce washer to fit in fixing hole of F.EB.

nsb Chain - Sliding type

≫ Part list of nsb Chain Sliding type

- Composition of Cable chain(Standard)
  = Side band(RH) + Frame + Side band(LH) + Bending radius Unit + Free end bracket
- M divider(normal divider) should be applied every second frames to make a section composition.

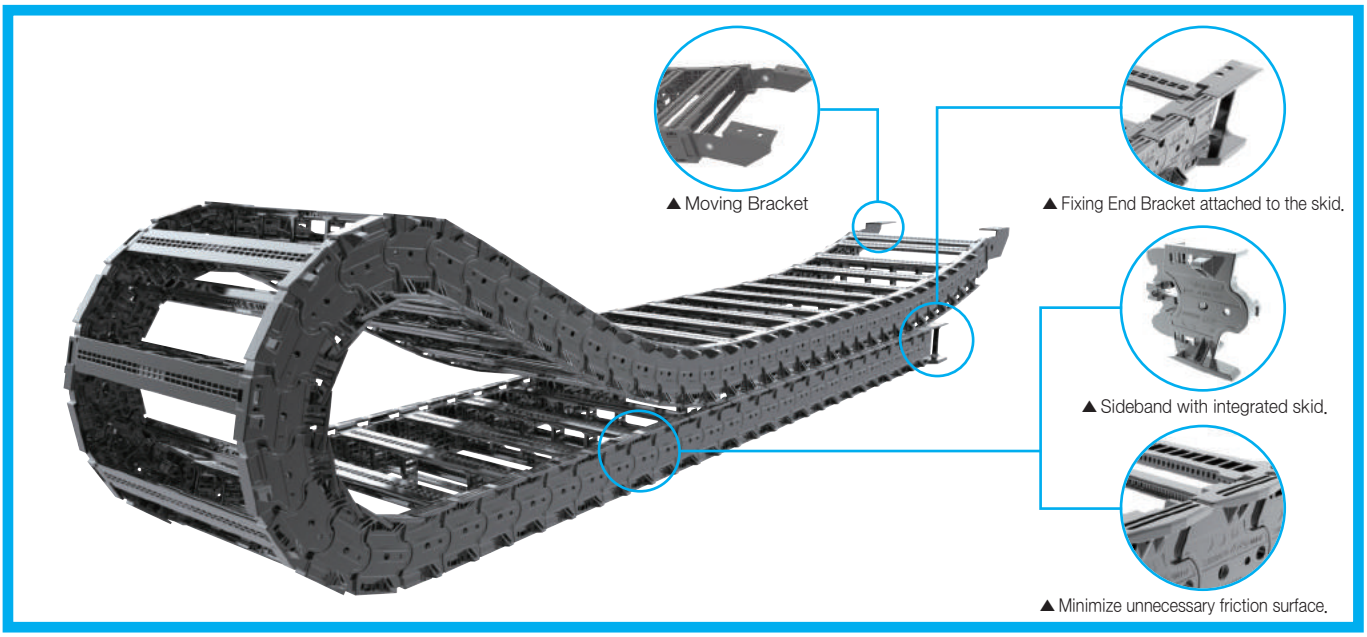
※ Please refer to below part list and description to understand composition of cable chain.

Model	Classification	Part number	Description
nsb050S	SIDE BAND	nsb-SB050S.R*(LH) nsb-SB050S.R*(RH)	Left side band of nsb050S Right side band of nsb050S
	FRAME PIN	S-FP/S1	Frame pin
	FRAME	sb-FR045.50 sb-FR045.75 sb-FR045.100 sb-FR045.125 sb-FR045.140 sb-FR045.150 sb-FR045.165 sb-FR045.175 sb-FR045.190 sb-FR045.200 sb-FR045.240 sb-FR045.250 sb-FR045.300	Frame, 50mm Frame, 75mm Frame, 100mm Frame, 125mm Frame, 140mm Frame, 150mm Frame, 165mm Frame, 175mm Frame, 190mm Frame, 200mm Frame, 240mm Frame, 250mm Frame, 300mm
	FREE END BRACKET	NSB-FEB050S /F NSB-FEB050S /M(SEB) nsb-FEB/WH050	Free end bracket of nsb050S, Fixing Steel end bracket of nsb050S, Moving Steel washer for end bracket
	DIVIDER	sb-DV045/M sb-DV045/S sb-DV045/T sb-DV045/TP	Normal divider To fix separstors at the both side section T divider T divider pin
	SEPARATOR	sb-SP/400.400 SP-PIN045	Separator, 400mm Separator pin to fix
	TIE WRAP	S-TW50 S-TW75 S-TW100 S-TW125 S-TW150	Tie wrap for end bracket to fix cables, 50mm 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 Tie wrap for end bracket to fix cables, 150mm
	SYSTEM TIE WRAP	sb-DV045/W S-TW.EB045	Divider for fixing cables at end bracket System tie wrap to arrange for cables right after moving bracket or fixing bracket

Model	Classification	Part number	Description
nsb065S	SIDE BAND	nsb-SB065S.R*(LH) nsb-SB065S.R*(RH)	Left side band of nsb050S Right side band of nsb050S
	FRAME PIN	S-FP/S1	Frame pin
	FRAME	sb-FR060.75 sb-FR060.100 sb-FR060.125 sb-FR060.150 sb-FR060.175 sb-FR060.190 sb-FR060.200 sb-FR060.230 sb-FR060.250 sb-FR060.300 sb-FR060.350 sb-FR060.400	Frame, 75mm Frame, 100mm Frame, 125mm Frame, 150mm Frame, 175mm Frame, 190mm Frame, 200mm Frame, 230mm Frame, 250mm Frame, 300mm Frame, 350mm Frame, 400mm
	FREE END BRACKET	NSB-FEB065S /F NSB-FEB065S /M(SEB) nsb-FEB/WH065	Free end bracket of nsb050S, Fixing Steel end bracket of nsb050S, Moving Steel washer for end bracket
	DIVIDER	sb-DV060/M sb-DV060/S sb-DV060/R sb-DV060/T sb-DV060/TP	Normal divider To fix separstors at the both side section Roller divider to reduce friction with cables T divider T divider pin
	SEPARATOR	sb-SP/400.400 SP-PIN060	Separator, 400mm Separator pin to fix
	TIE WRAP	S-TW50 S-TW75 S-TW100 S-TW125 S-TW150	Tie wrap for end bracket to fix cables, 50mm 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 Tie wrap for end bracket to fix cables, 150mm
	SYSTEM TIE WRAP	sb-DV060/W S-TW.EB060	Divider for fixing cables at end bracket System tie wrap to arrange for cables right after moving bracket or fixing bracket

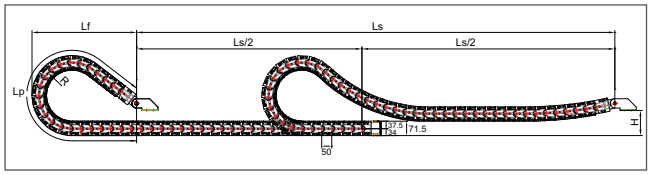
Model	Classification	Part number	Description
nsb080S	SIDE BAND	nsb-SB080S,R*(LH) nsb-SB080S,R*(RH)	Left side band of nsb080S Right side band of nsb080S
	FRAME PIN	S-FP/S2	Frame pin
	FRAME	sb-FR075/100,75 sb-FR075/100,100 sb-FR075/100,115 sb-FR075/100,125 sb-FR075/100,150 sb-FR075/100,175 sb-FR075/100,200 sb-FR075/100,240 sb-FR075/100,250 sb-FR075/100,290 sb-FR075/100,300 sb-FR075/100,350 sb-FR075/100,400 sb-FR075/100,450 sb-FR075/100,500 sb-FR075/100,550 sb-FR075/100,600	Frame, 75mm Frame, 100mm Frame, 115mm Frame, 125mm Frame, 150mm Frame, 175mm Frame, 200mm Frame, 240mm Frame, 250mm Frame, 290mm Frame, 300mm Frame, 350mm Frame, 400mm Frame, 450mm Frame, 500mm Frame, 550mm Frame, 600mm
	FREE END BRACKET	NSB-FEB080S /F NSB-FEB080S /M(SEB) nsb-FEB/WH080	Free end bracket of nsb080S, Fixing Steel end bracket of nsb080S, Moving Steel washer for end bracket
	DIVIDER	sb-DV075/M sb-DV075/S sb-DV075/R sb-DV075/T sb-DV075/TP	Normal divider To fix separstors at the both side section Roller divider to reduce friction with cables T divider T divider pin
	SEPARATOR	sb-SP/400,400 SP-PIN075	Separator, 400mm Separator pin to fix
	TIE WRAP	S-TW50 S-TW75 S-TW100 S-TW125 S-TW150	Tie wrap for end bracket to fix cables, 50mm 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 Tie wrap for end bracket to fix cables, 150mm
	SYSTEM TIE WRAP	sb-DV075/W S-TW,EB075	Divider for fixing cables at end bracket System tie wrap to arrange for cables right after moving bracket or fixing bracket

nsb 050S



Layout of the chain

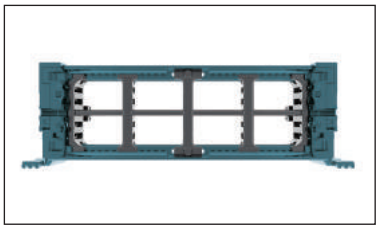
Ls: Stroke

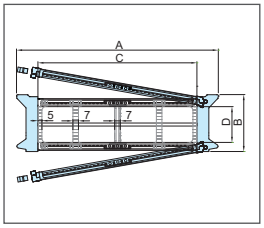


Bending Radius (R)	Lp Loop Length	Lf Loof Projection	H Moving Height
110	916	380	180
135	1,068	430	
165	1,255	490	
185	1,382	530	
235	1,703	630	
285	2,029	730	

(Dimensions in mm)

Chain cross section

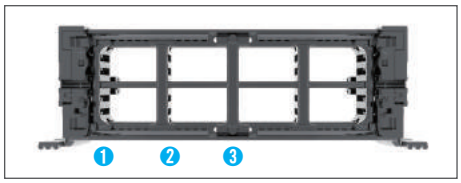


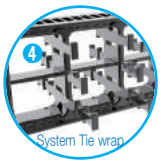


Chain Type	A Width(Outer)	B Height(Outer)	C Frame	D Height(Inner)	Weight kg/m
nsb 050S	104	71.5	50	45	2.38
	129		75		2.44
	154		100		2.51
	179		125		2.61
	194		140		2.67
	204		150		2.71
	219		165		2.76
	229		175		2.80
	244		190		2.97
	254		200		3.09
	294		240		3.32
	304		250		3.38
	354		300		3.63

(Dimensions in mm)

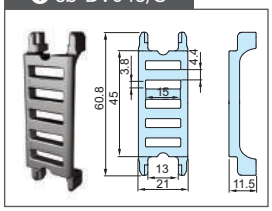
Dividers(DV)



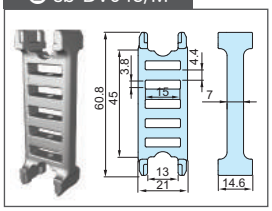


Assemble divider every second frame.
DV.T : Applied to Frame 200~300.
DV.M : Normal divider.
DV.W : Applicable to System Tie Wrap or FEB.

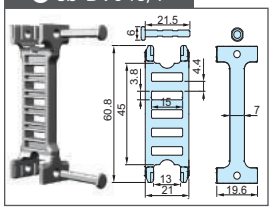
❶ sb-DV045/S



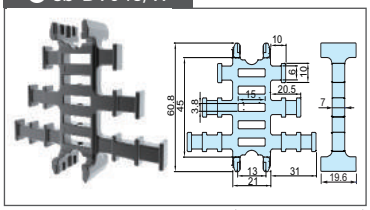
❷ sb-DV045/M



❸ sb-DV045/T

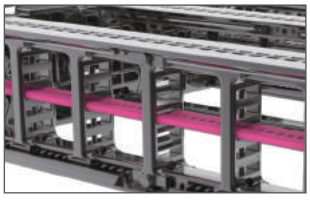


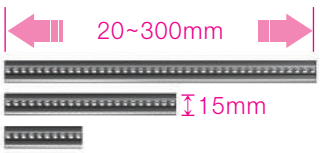
❹ sb-DV045/W



(Dimensions in mm)

Separators(SP)



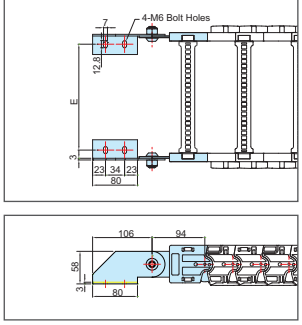


Chain Type	Ordering NO.
nsb 050S	sb-SP/400.400

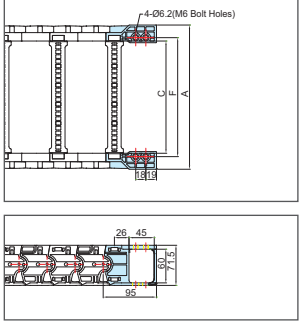
(Dimensions in mm)

Free end bracket

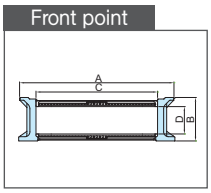
Moving point



Fixing point



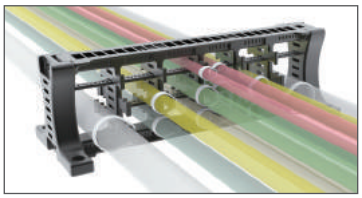
Front point



Chain Type	A Width(Outer)	B Height(Outer)	C Frame	D Height(Inner)	E M.EB Bolt hole width	F F.EB Bolt hole width
nsb 050S	104	71.5	50	45	38.7	62
	129		75		63.7	87
	154		100		88.7	112
	179		125		113.7	137
	194		140		128.7	152
	204		150		138.7	162
	219		165		153.7	177
	229		175		163.7	187
	244		190		178.7	202
	254		200		188.7	212
	294		240		228.7	252
	304		250		238.7	262
	354		300		288.7	312

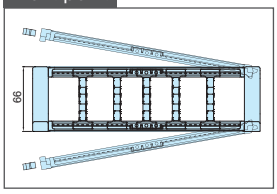
(Dimensions in mm)

System tie wrap (STW)

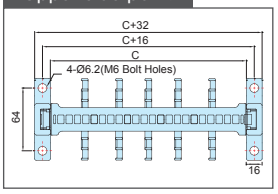


It is a unit to classify each cable for preventing entanglement of cables. It can either be installed to free end bracket or installed separately according its application environment.

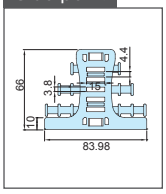
Front point



Upper side point



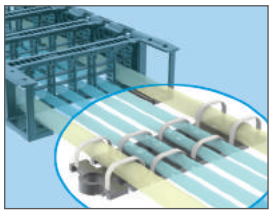
Side point

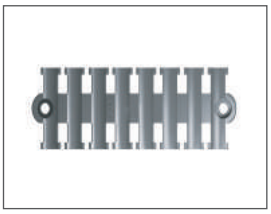


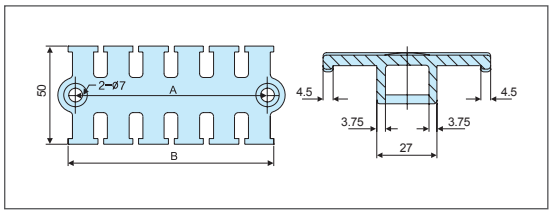
Chain Type	Ordering No.	C Frame	Hole Type
nsb 050S	S-TW.EB045.50	50	M6 Bolt Holes
	S-TW.EB045.75	75	
	S-TW.EB045.100	100	
	S-TW.EB045.125	125	
	S-TW.EB045.140	140	
	S-TW.EB045.150	150	
	S-TW.EB045.165	165	
	S-TW.EB045.175	175	
	S-TW.EB045.190	190	
	S-TW.EB045.200	200	
	S-TW.EB045.240	240	
	S-TW.EB045.250	250	
	S-TW.EB045.300	300	

(Dimensions in mm)

Tie wrap (TW)





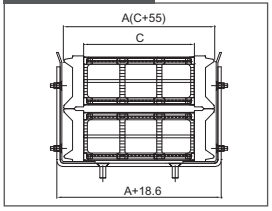


Chain Type	Ordering No.	A	B
nsb 050S	S-TW50	58	65
	S-TW75	75	82
	S-TW100	98	105
	S-TW125	122	129
	S-TW150	141	148

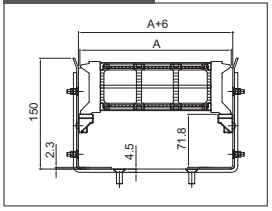
(Dimensions in mm)

Guide channel

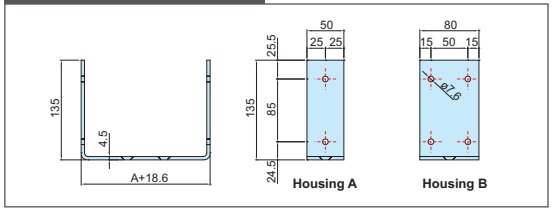
A - Zone



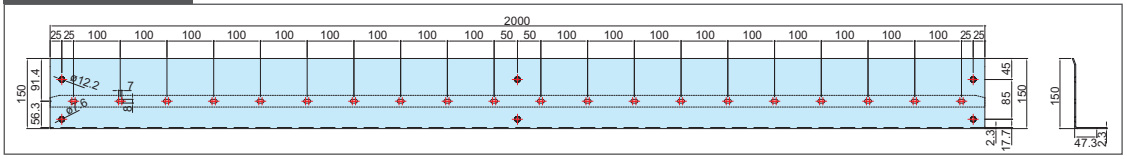
C - Zone



Housing (U-Shape)

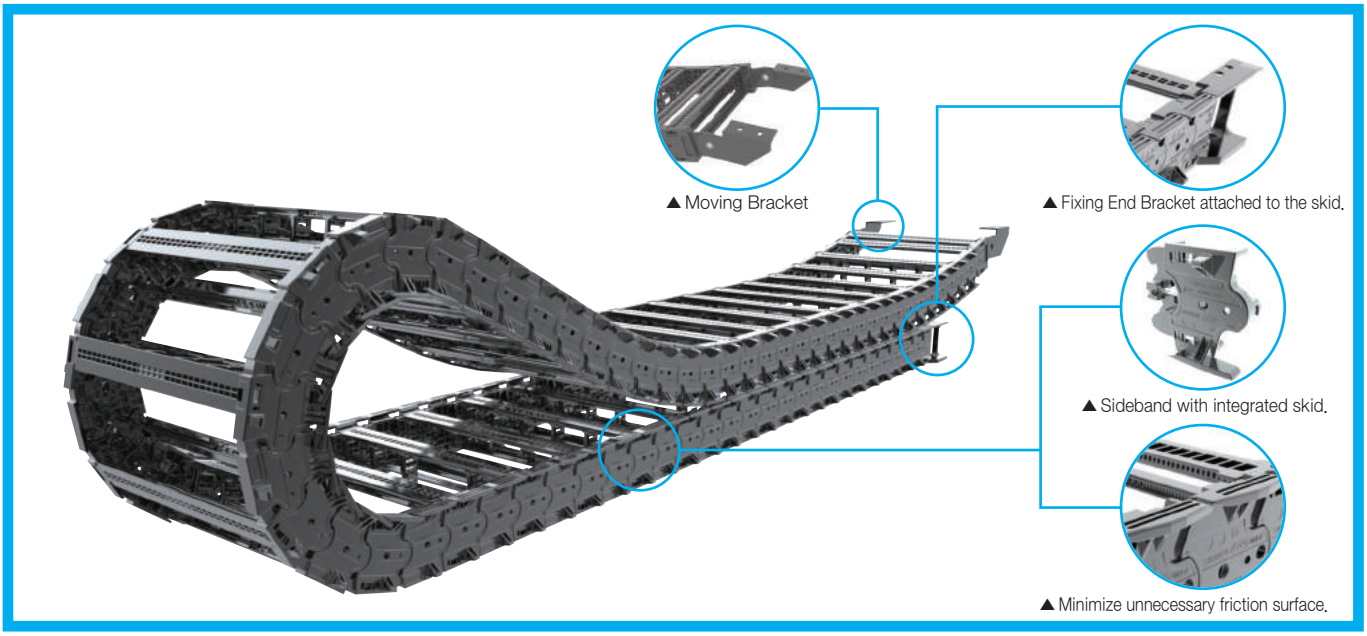


Side Panel



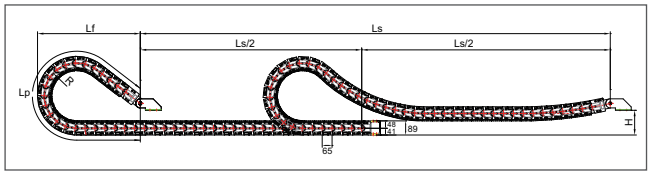
(Dimensions in mm)

nsb 065S



Layout of the chain

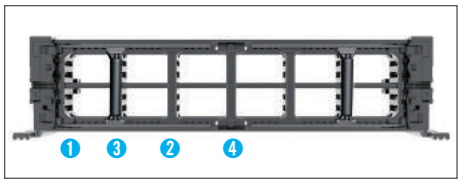
Ls: Stroke

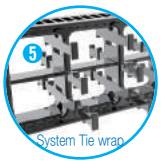


Bending Radius (R)	Lp Loop Length	Lf Loof Projection	H Moving Height
140	1,225	615	210
190	1,543	715	
220	1,734	775	
270	2,052	875	
390	2,814	1,115	

(Dimensions in mm)

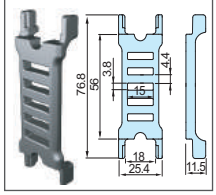
Dividers(DV)



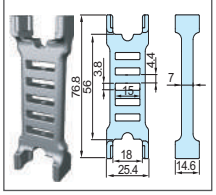


Assemble divider every second frame.
DV.T : Applied to Frame 250~400.
DV.M : Normal divider.
DV.W : Applicable to System Tie Wrap or FEB.

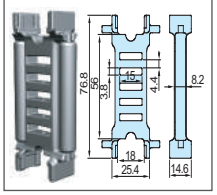
❶ sb-DV060/S



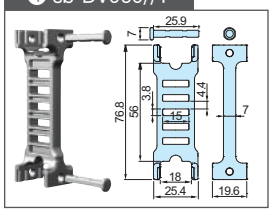
❷ sb-DV060/M



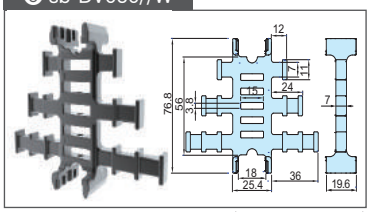
❸ sb-DV060/R



❹ sb-DV060//T

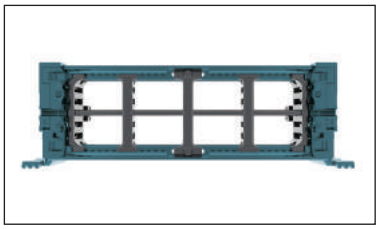


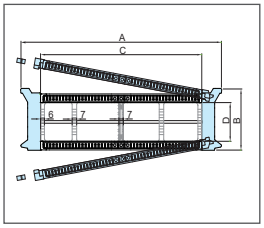
❺ sb-DV060//W



(Dimensions in mm)

Chain cross section

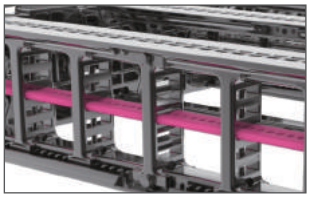


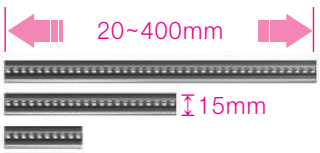


Chain Type	A Width(Outer)	B Height(Outer)	C Frame	D Height(Inner)	Weight kg/m
nsb 065S	137	89	75	56	3.29
	162		100		3.34
	187		125		3.49
	212		150		3.58
	237		175		3.68
	252		190		3.76
	262		200		3.82
	292		230		3.94
	302		240		3.99
	312		250		4.03
	362		300		4.24
	412		350		4.53
	462		400		4.85

(Dimensions in mm)

Separators(SP)



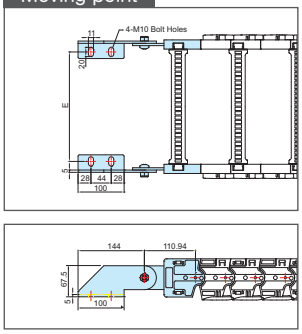


Chain Type	Ordering NO.
nsb 065S	sb-SP/400.400

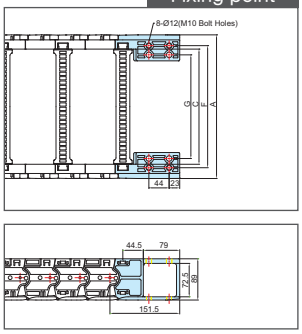
(Dimensions in mm)

Free end bracket

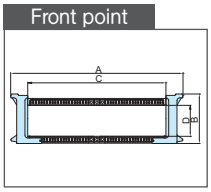
Moving point



Fixing point



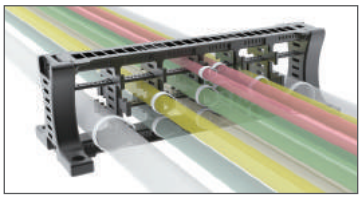
Front point



Chain Type	A Width(Outer)	B Height(Outer)	C Frame	D Height(Inner)	E M,EB Bolt hole width	F F,EB Bolt hole width	G F,EB Bolt width
nsb 065S	137 162 187 212 237 252 262 292 302 312 362 412 462	89	75 100 125 150 175 190 200 230 240 250 300 350 400	56	62.6 87.6 112.6 137.6 162.6 177.6 187.6 217.6 227.6 237.6 287.6 337.6 387.6	90 115 140 165 190 205 215 245 255 265 315 365 415	50 75 100 125 150 165 175 205 215 225 275 325 375

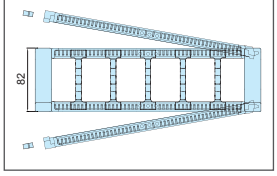
(Dimensions in mm)

System tie wrap (STW)

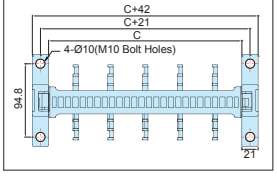


It is a unit to classify each cable for preventing entanglement of cables. It can either be installed to free end bracket or installed separately according its application environment.

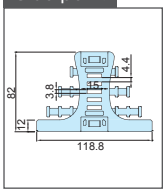
Front point



Upper side point



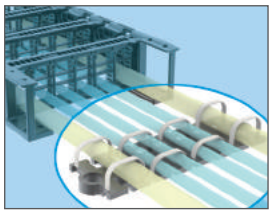
Side point

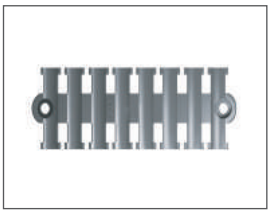


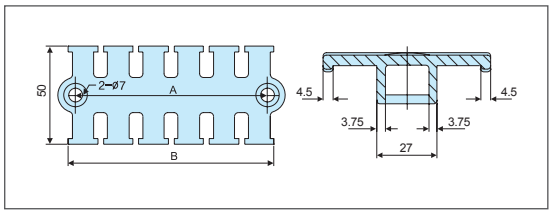
Chain Type	Ordering No.	C Frame	Hole Type
nsb 065S	S-TW,EB060.75 S-TW,EB060.100 S-TW,EB060.125 S-TW,EB060.150 S-TW,EB060.175 S-TW,EB060.190 S-TW,EB060.200 S-TW,EB060.230 S-TW,EB060.240 S-TW,EB060.250 S-TW,EB060.300 S-TW,EB060.350 S-TW,EB060.400	75 100 125 150 175 190 200 230 240 250 300 350 400	M10 Bolt Holes

(Dimensions in mm)

Tie wrap (TW)





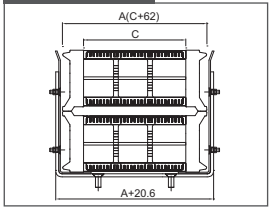


Chain Type	Ordering No.	A	B
nsb 065S	S-TW50	58	65
	S-TW75	75	82
	S-TW100	98	105
	S-TW125	122	129
	S-TW150	141	148

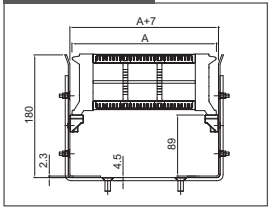
(Dimensions in mm)

Guide channel

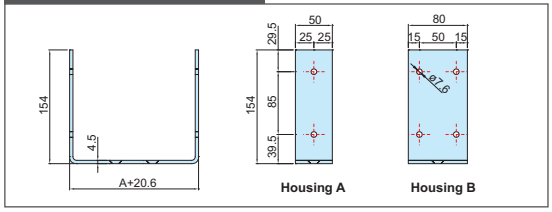
A - Zone



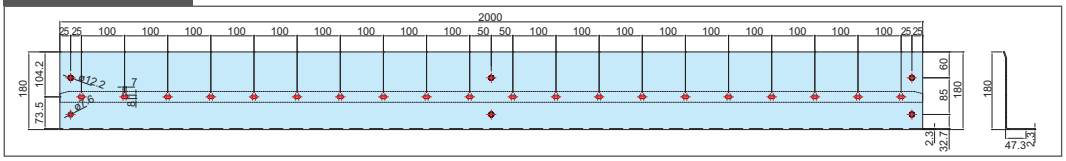
C - Zone



Housing (U-Shape)

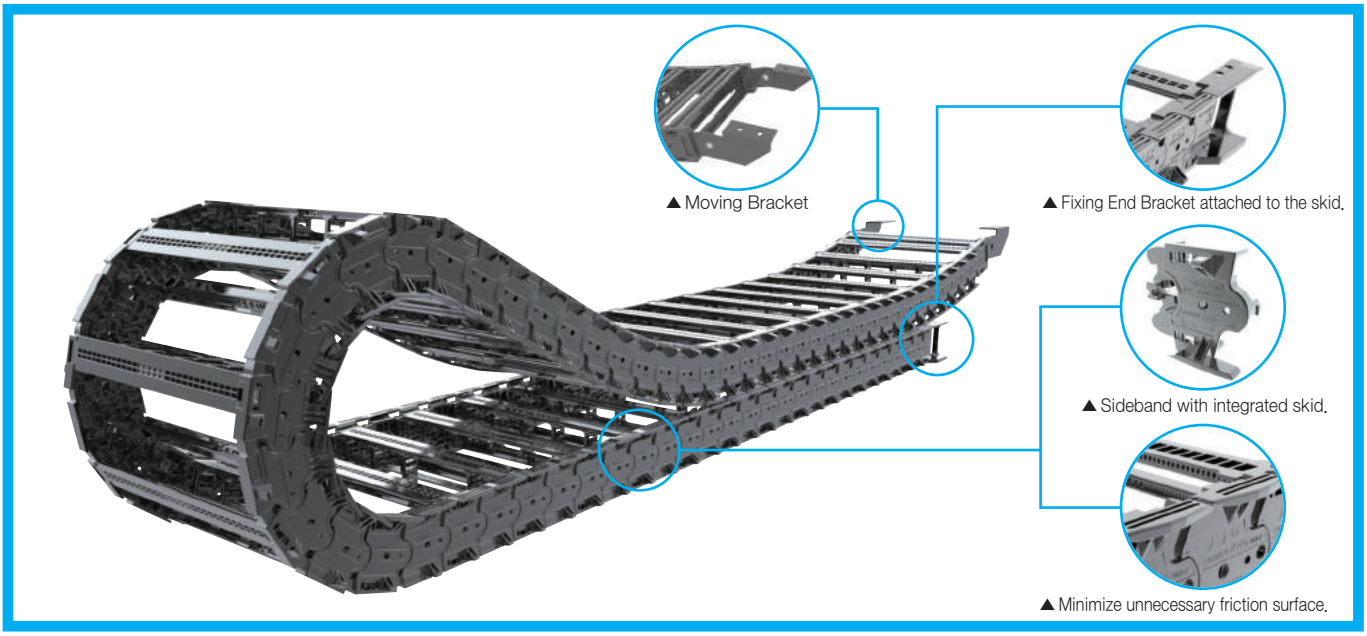


Side Panel



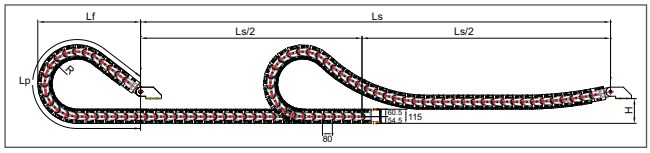
(Dimensions in mm)

nsb 080S



» Layout of the chain

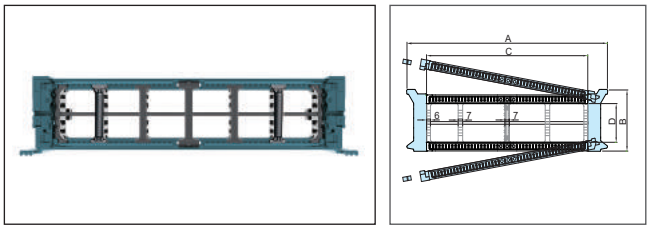
Ls: Stroke



Bending Radius (R)	Lp Loop Length	Lf Loof Projection	H Moving Height
180	1,490	690	260
200	1,617	730	
250	1,935	830	
300	2,253	930	
350	2,571	1,030	
400	2,889	1,130	
500	3,524	1,330	

(Dimensions in mm)

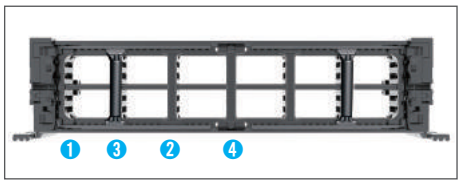
» Chain cross section

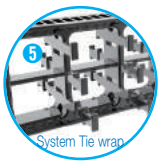


Chain Type	A Width(Outer)	B Height(Outer)	C Frame	D Height(Inner)	Weight kg/m
nsb 080S	143	115	75	78	4.27
	168		100		4.36
	183		115		4.43
	193		125		4.47
	218		150		4.57
	243		175		4.67
	268		200		4.85
	308		240		5.03
	318		250		5.07
	358		290		5.33
	368		300		5.40
	418		350		5.71
	468		400		6.09
	518		450		6.28
	568		500		6.45
	618		550		7.08
	668		600		7.20

(Dimensions in mm)

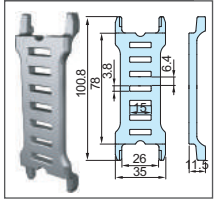
» Dividers(DV)



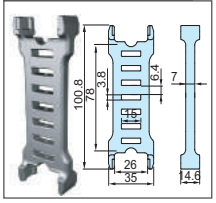


Assemble divider every second frame.
DV.T : Applied to Frame 300~600.
DV.M : Normal divider.
DV.W : Applicable to System Tie Wrap or FEB.

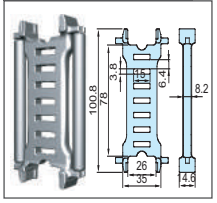
❶ sb-DV075/S



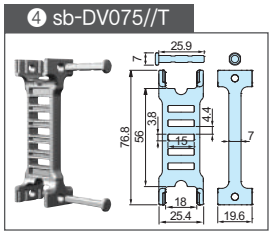
❷ sb-DV075/M



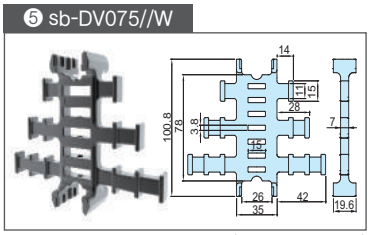
❸ sb-DV075/R



❹ sb-DV075//T

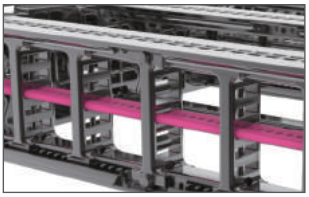


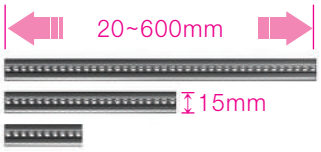
❺ sb-DV075//W



(Dimensions in mm)

» Separators(SP)



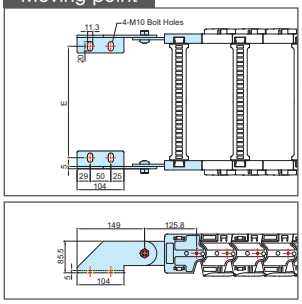


Chain Type	Ordering NO.
nsb 080S	sb-SP/600,600

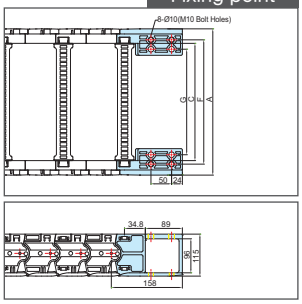
(Dimensions in mm)

Free end bracket

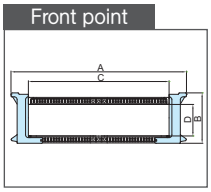
Moving point



Fixing point



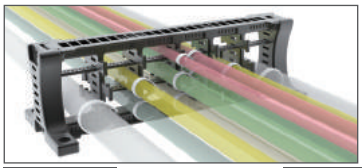
Front point



Chain Type	A Width(Outer)	B Height(Outer)	C Frame	D Height(Inner)	E M.EB Bolt hole width	F F.EB Bolt hole width	G F.EB Bolt width
nsb 080S	143	115	75	78	63	104	47
	168		100		88	129	72
	183		115		103	144	87
	193		125		113	154	97
	218		150		138	179	122
	243		175		163	204	147
	268		200		188	229	172
	308		240		228	269	212
	318		250		238	279	222
	358		290		278	319	262
	368		300		288	329	272
	418		350		338	379	322
	468		400		388	429	372
	518		450		438	479	422
	568		500		488	529	472
	618		550		538	579	522
	668		600		588	629	572

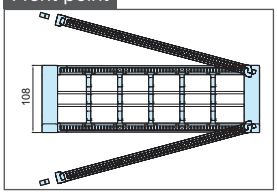
(Dimensions in mm)

System tie wrap (STW)

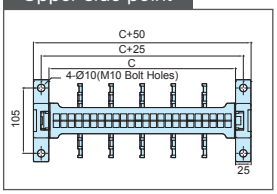


It is a unit to classify each cable for preventing entanglement of cables. It can either be installed to free end bracket or installed separately according its application environment.

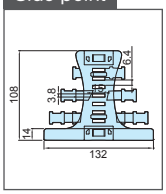
Front point



Upper side point



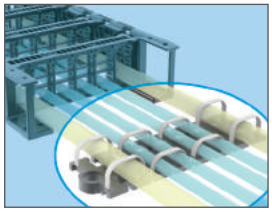
Side point

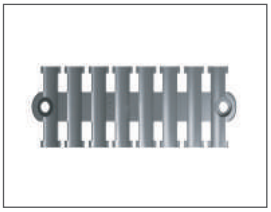


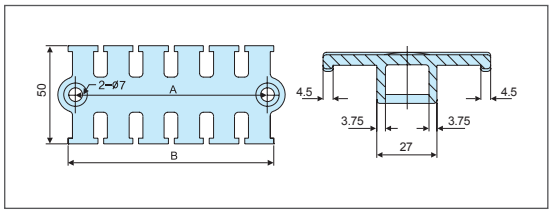
Chain Type	Ordering No.	C Frame	Hole Type
nsb 080S	S-TW.EB075.75	75	M10 Bolt Holes
	S-TW.EB075.100	100	
	S-TW.EB075.115	115	
	S-TW.EB075.125	125	
	S-TW.EB075.150	150	
	S-TW.EB075.175	175	
	S-TW.EB075.200	200	
	S-TW.EB075.240	240	
	S-TW.EB075.250	250	
	S-TW.EB075.290	290	
	S-TW.EB075.300	300	
	S-TW.EB075.350	350	
	S-TW.EB075.400	400	
	S-TW.EB075.450	450	
	S-TW.EB075.500	500	
	S-TW.EB075.550	550	
	S-TW.EB075.600	600	

(Dimensions in mm)

Tie wrap (TW)





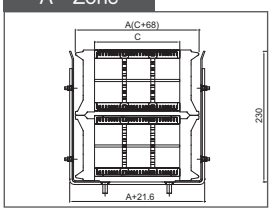


Chain Type	Ordering No.	A	B
nsb 080S	S-TW50	58	65
	S-TW75	75	82
	S-TW100	98	105
	S-TW125	122	129
	S-TW150	141	148

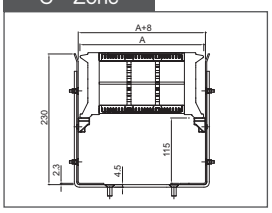
(Dimensions in mm)

Guide channel

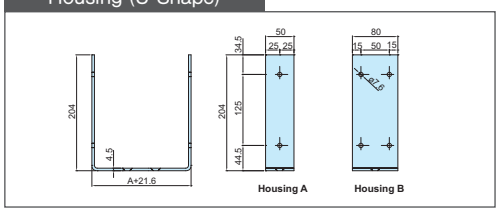
A - Zone



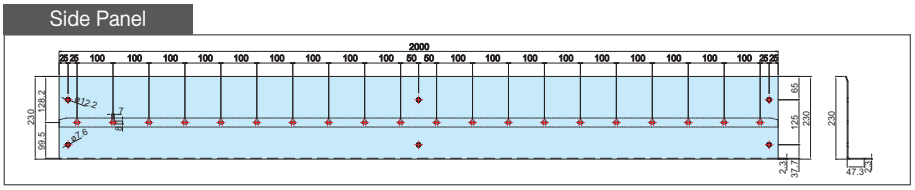
C - Zone



Housing (U-Shape)



Side Panel



(Dimensions in mm)