

nsb Chain - Normal type

» General information

Item	Value
Material	CPS-Amid(PA6+GF), RoHs
Speed	5m/s
Acceleration	15m/s ²
Temperature	-30°C ~ +130°C
Special production	ESD, UV, Customized color
Certificate	CE, ATEX(Ex)

» Calculation table

Item	Value
Length of Cable Chain	$L = \frac{1}{2} \times LS + LP$
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

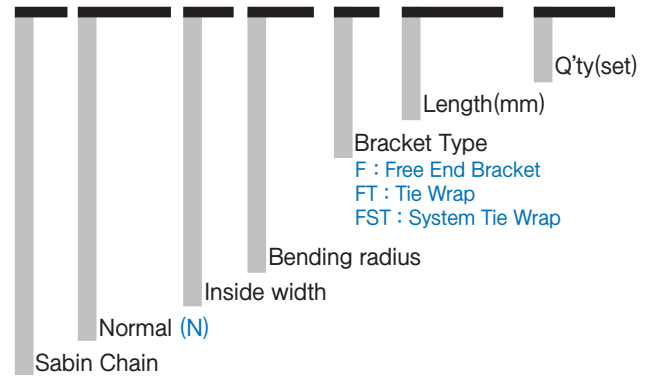
» Dimension table

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

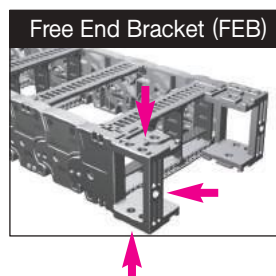
(Dimensions in mm)

» Ordering

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



» Bracket type



» 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

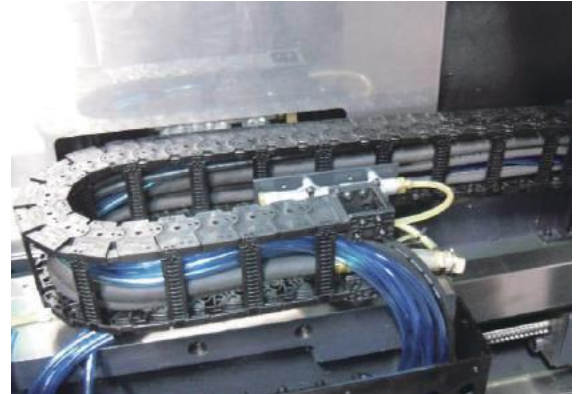
Machine tools

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

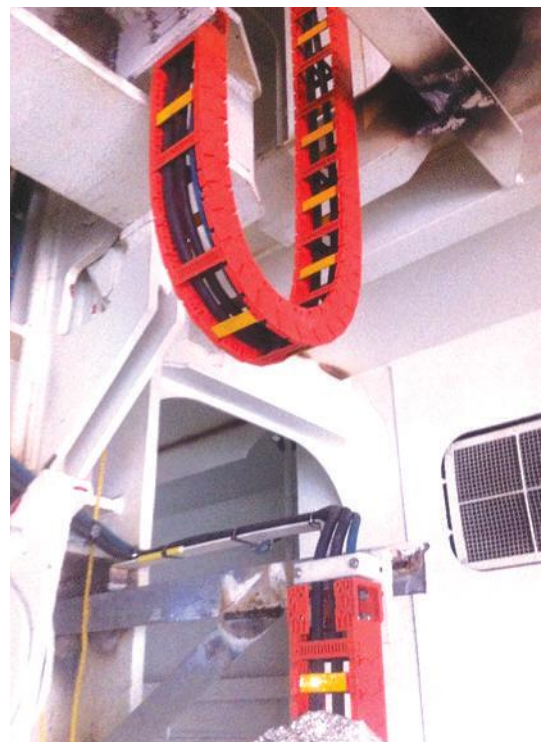
PCTC Ship

Location

Korea (H-heavy industry)

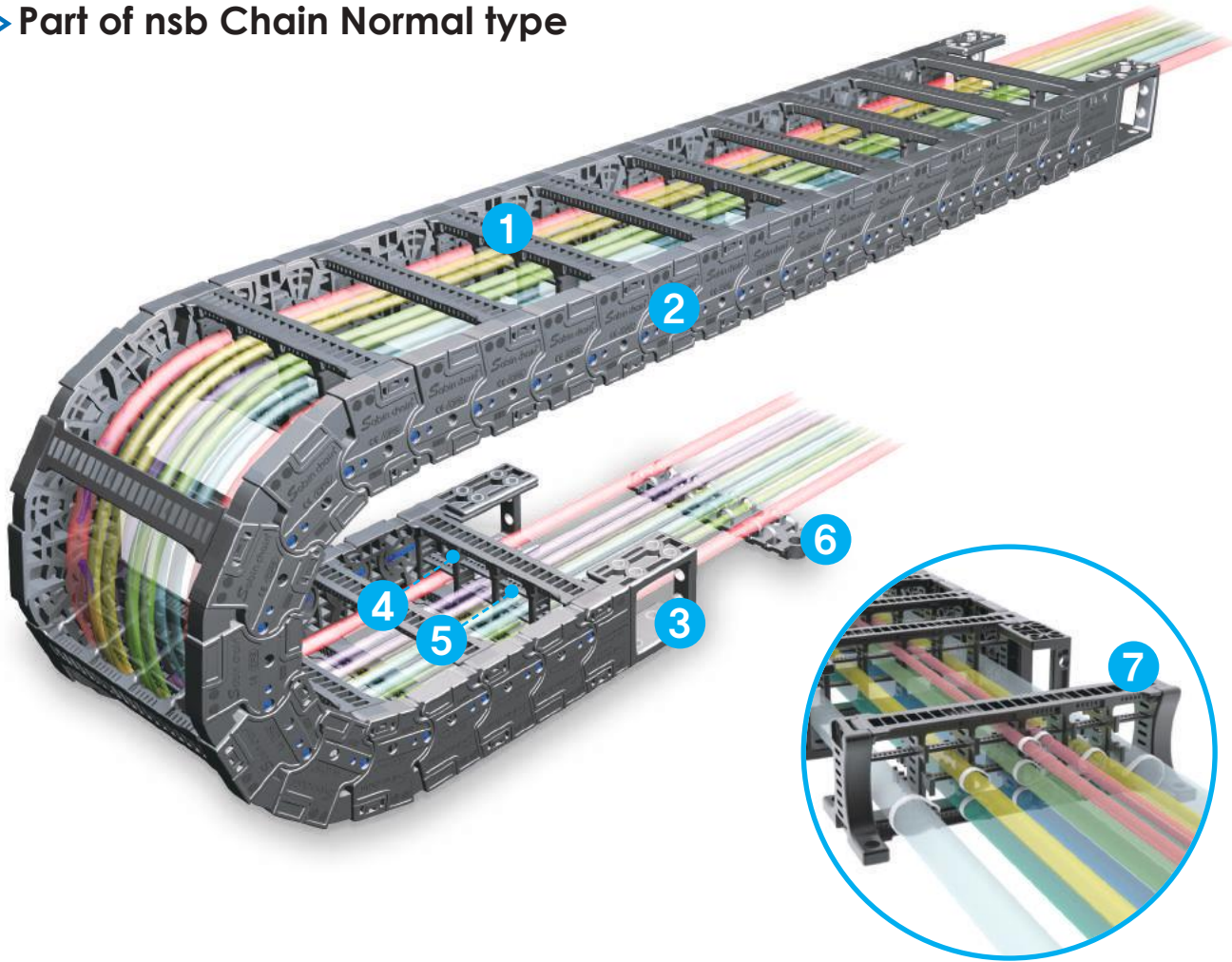
Remark

ESD, Orange color



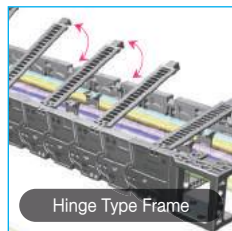
nsb Chain - Normal type

» Part of nsb Chain Normal type



1 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.

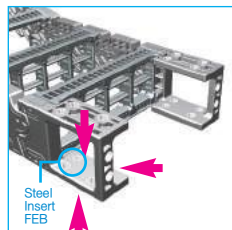


2 Side Band (SB)

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

3 FREE END BRACKET (FEB)

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



4 Dividers (DV)

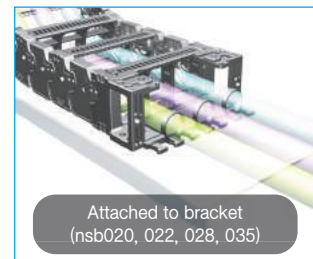
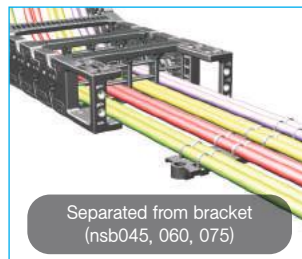
Divider sets the inside of chain vertically to prevent cable from twisting and sheath damage caused by friction. There are S, M, R and T type.

5 Separators (SP)

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

6 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.

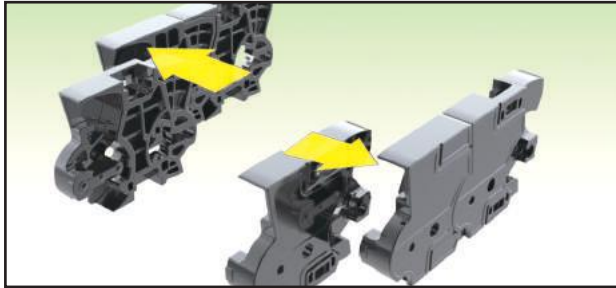


7 System tie wrap (STW)

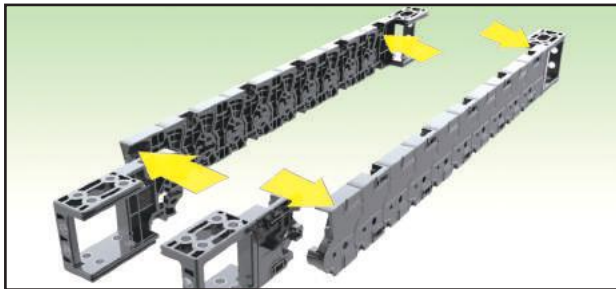
System-Tie Wrap has to be assembled on fixing and moving point of bracket and can be assembled without any tie wrap plate. This tie wrap is used to stay the cables on several floors prevent the cables from being twisting and it can also be assemble without any tools or bolt. This tie wrap has two types,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

» Assembly procedure of nsb Chain Normal Type

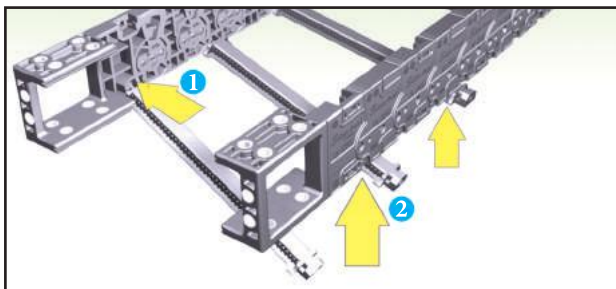
The assembling process of N-Type of New Sabin Chain is like below and user must use rubber hammer with careful combination of Divider and Separator.



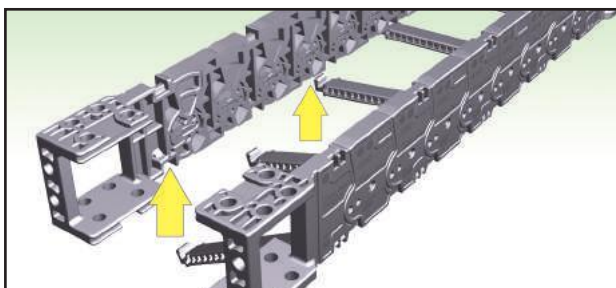
1 Connect each side band as many as you need.



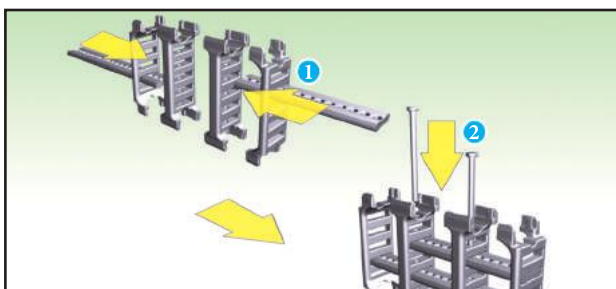
2 Assemble the end brackets on both ends.



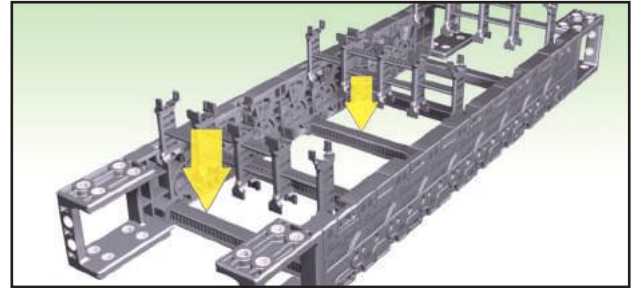
3 Attach frames to one side groove on the frames, then the other side.



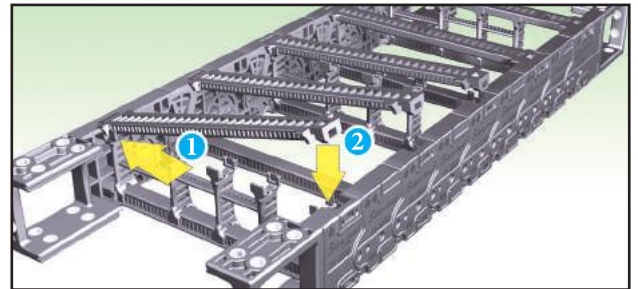
3-1 028N, 035N Type are Hinge Frame Type.



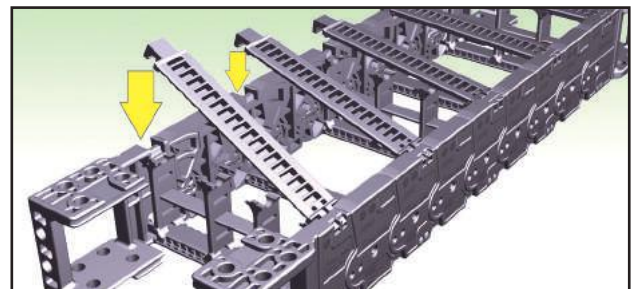
4 For nsb 045, 060, and 075, connect the pin of separator in hole of divider after inserting separator in hole of divider.
For nsb028 and nsb035, separator fixing pins are not used.



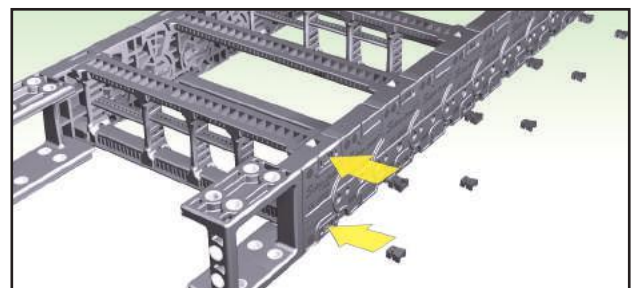
5 Fix the separator and divider patterns to the bottom-side frames as needed.



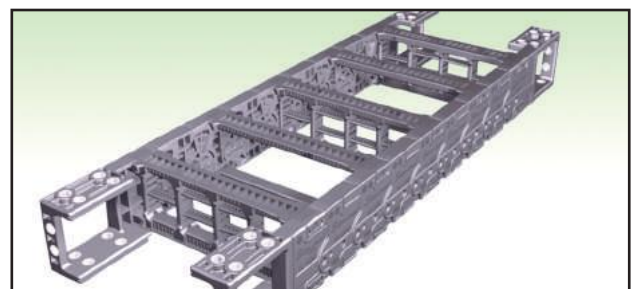
6 Attach frames to one side groove on the frames, then the other side.



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-TWEB028	Divider for fixing cables at end bracket System tie wrap to arrange for cables right after moving bracket or fixing bracket

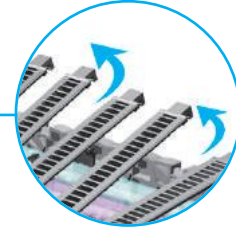
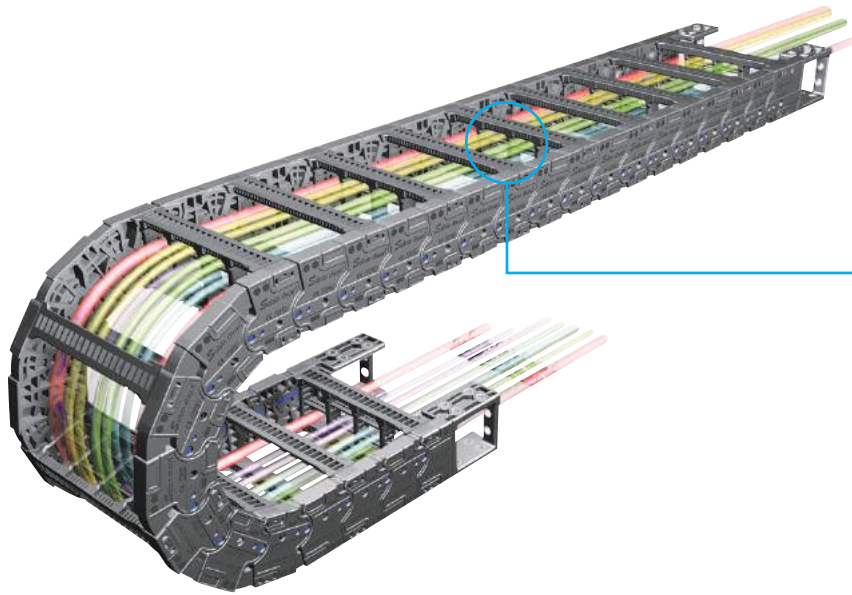
Model	Classification	Part number	Description
nsb035N	SIDE BAND	nsb-SB035N,R*(LH) nsb-SB035N,R*(RH)	Left side band of nsb035N Right side band of nsb035N
	FRAME	sb-FR/M,35 sb-FR/M,50 sb-FR/M,55 sb-FR/M,75 sb-FR/M,100 sb-FR/M,125 sb-FR/M,150 sb-FR/M,175 sb-FR/M,200	Frame, 35mm Frame, 50mm Frame, 55mm Frame, 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-TWEB035	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-TWEB045	Divider for fixing cables at end bracket System tie wrap to arrange for cables right after moving bracket or fixing bracket

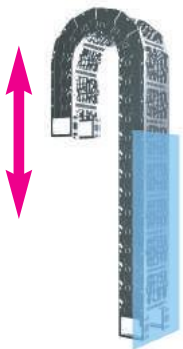
Model	Classification	Part number	Description
nsb060N	SIDE BAND	nsb-SB060N,R*(LH) nsb-SB060N,R*(RH)	Left side band of nsb060N Right side band of nsb060N
	FRAME PIN	S-FP/S1	Frame pin
	FRAME	sb-FR/M.75 sb-FR/M.100 sb-FR/M.125 sb-FR/M.150 sb-FR/M.175 sb-FR/M.190 sb-FR/M.200 sb-FR/M.230 sb-FR/M.250 sb-FR/M.300 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-TWEB060	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-TWEB075	Divider for fixing cables at end bracket System tie wrap to arrange for cables right after moving bracket or fixing bracket

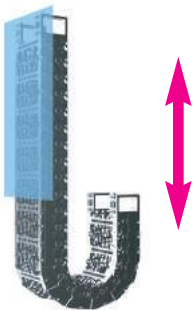
nsb 028N



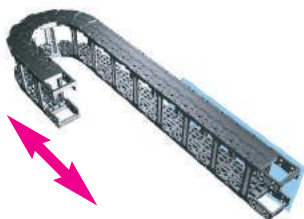
▲ Hinge hook type



Vertical with curve above



Vertical with curve below



Horizontal application mounted on its side

» Calculation of the chain length

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

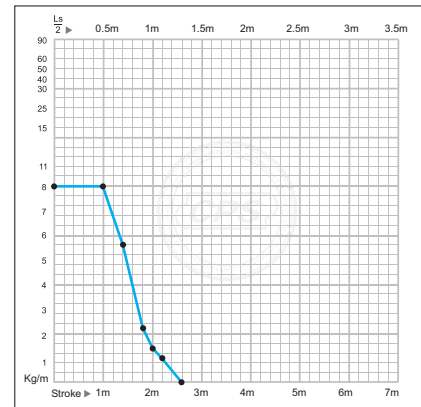
» Other installation length

Vertical curve above = max 2.0m

Vertical curve below = max 40m

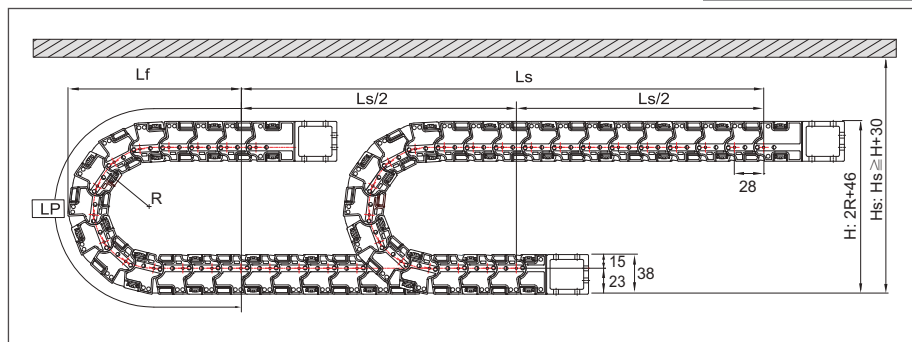
Side Mounted, Unsupported = max 1.0m

» Load diagrams self-supporting length



» Layout of the chain

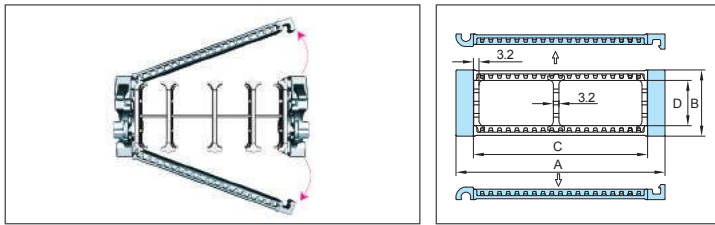
Ls: Stroke Hs: Safe Space



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)

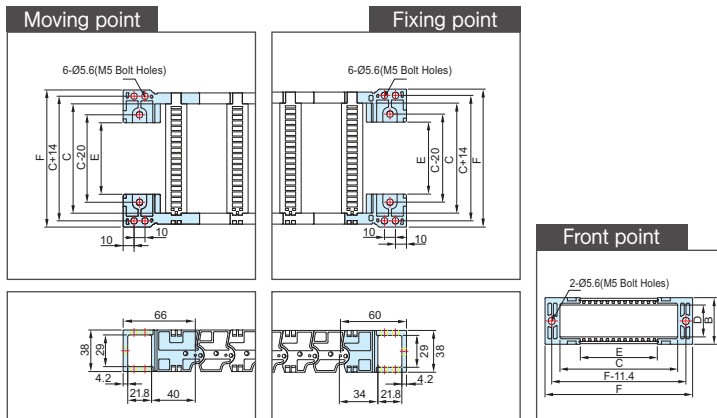
» Chain cross section



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)

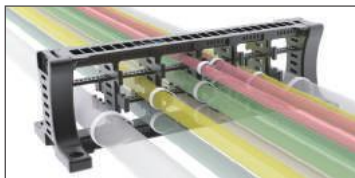
» Free end bracket



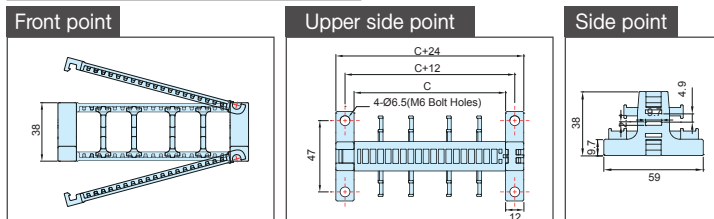
Chain Type	F Width(Outer)	B Height(Outer)	C Frame	D Height(Inner)	E M,EB Bolt hole width	Hole Type
nsb 028N	60.4	38	35	26	0.4	M5 Bolt Holes
	75.4		50		15.4	
	80.4		55		20.4	
	100.4		75		40.4	
	125.4		100		65.4	
	150.4		125		90.4	
	175.4		150		115.4	
	200.4		175		140.4	
225.4	200	165.4				

(Dimensions in mm)

» System tie wrap (STW)



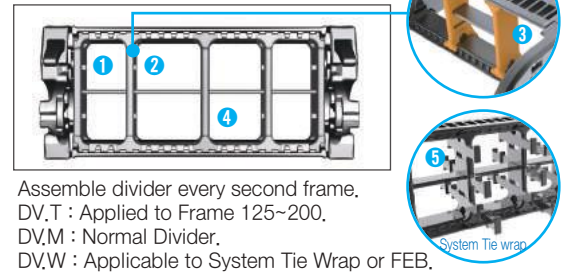
It is a unit to classify each cable for preventing entanglement of cables. It can either be installed to free end bracket or installed separately according its application environment.



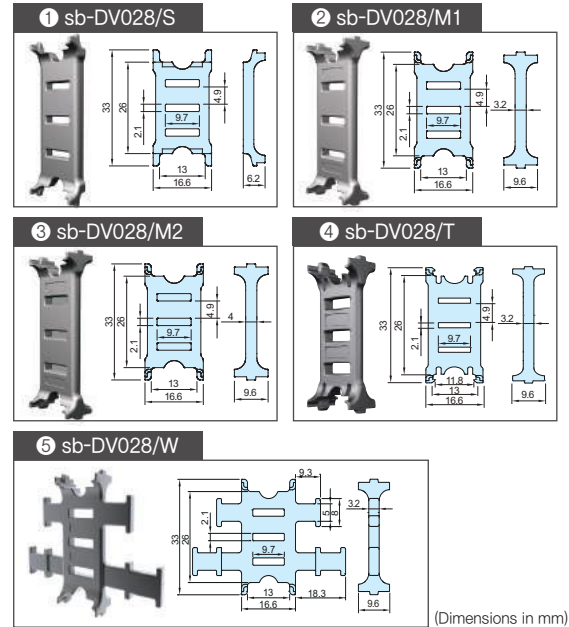
Chain Type	Ordering No.	C Frame	Hole Type
nsb 028N	S-TW,EB028,35	35	M6 Bolt Holes
	S-TW,EB028,50	50	
	S-TW,EB028,55	55	
	S-TW,EB028,75	75	
	S-TW,EB028,100	100	
	S-TW,EB028,125	125	
	S-TW,EB028,150	150	
	S-TW,EB028,175	175	
S-TW,EB028,200	200		

(Dimensions in mm)

» Dividers(DV)

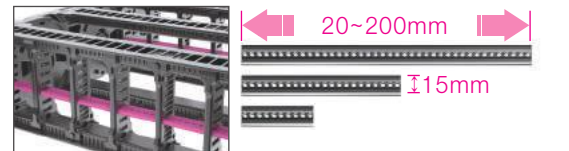


Assemble divider every second frame.
DV,T : Applied to Frame 125~200.
DV,M : Normal Divider.
DV,W : Applicable to System Tie Wrap or FEB.



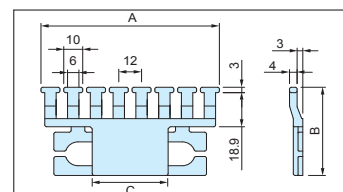
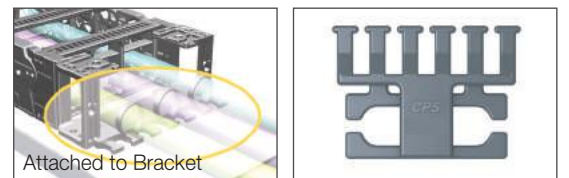
(Dimensions in mm)

» 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