

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

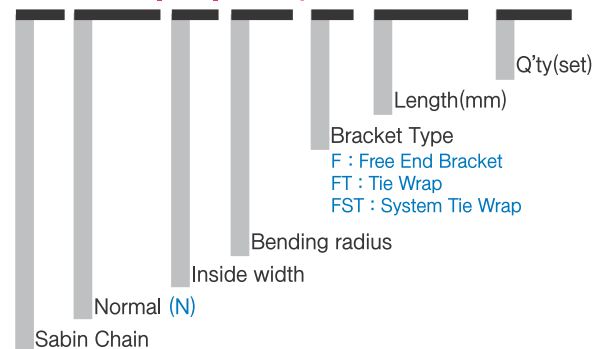
» Dimension table

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																
			0.85																
			0.90																
			0.98																
			1.08																
			1.18																
			1.45																
			1.59																
nsb 035N	35	55, 65, 90, 115, 140, 190	1.10	5	-30 ~ +130	55	35	52	40										
			1.13																
			1.15																
			1.18																
			1.25																
			1.32																
			1.41																
			1.62																
			1.72																
nsb 045N	45	90, 110, 135, 165, 185, 235, 285	2.06	5	-30 ~ +130	80	50	66	45										
			2.14																
			2.22																
			2.32																
			2.33																
			2.42																
			2.47																
			2.51																
			2.72																
			2.86																
			3.09																
			3.15																
3.43																			
nsb 060N	60	125, 135, 150, 180, 230, 270, 340	3.30	5	-30 ~ +130	115	75	82	56										
			3.35																
			3.51																
			3.60																
			3.69																
			3.78																
			3.84																
			4.01																
			4.05																
			4.26																
			4.57																
			4.85																
			nsb 075N			75	160, 180, 230, 280, 330, 380, 480		4.80			5	-30 ~ +130	115	75	108	78		
									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																			

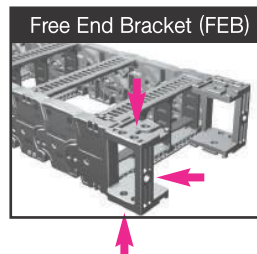
(Dimensions in mm)

» 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.

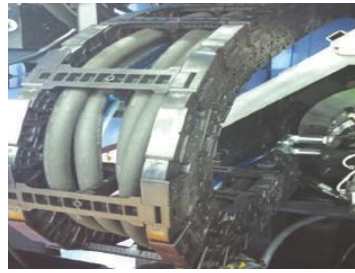
► NSB 045N & 035N

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.

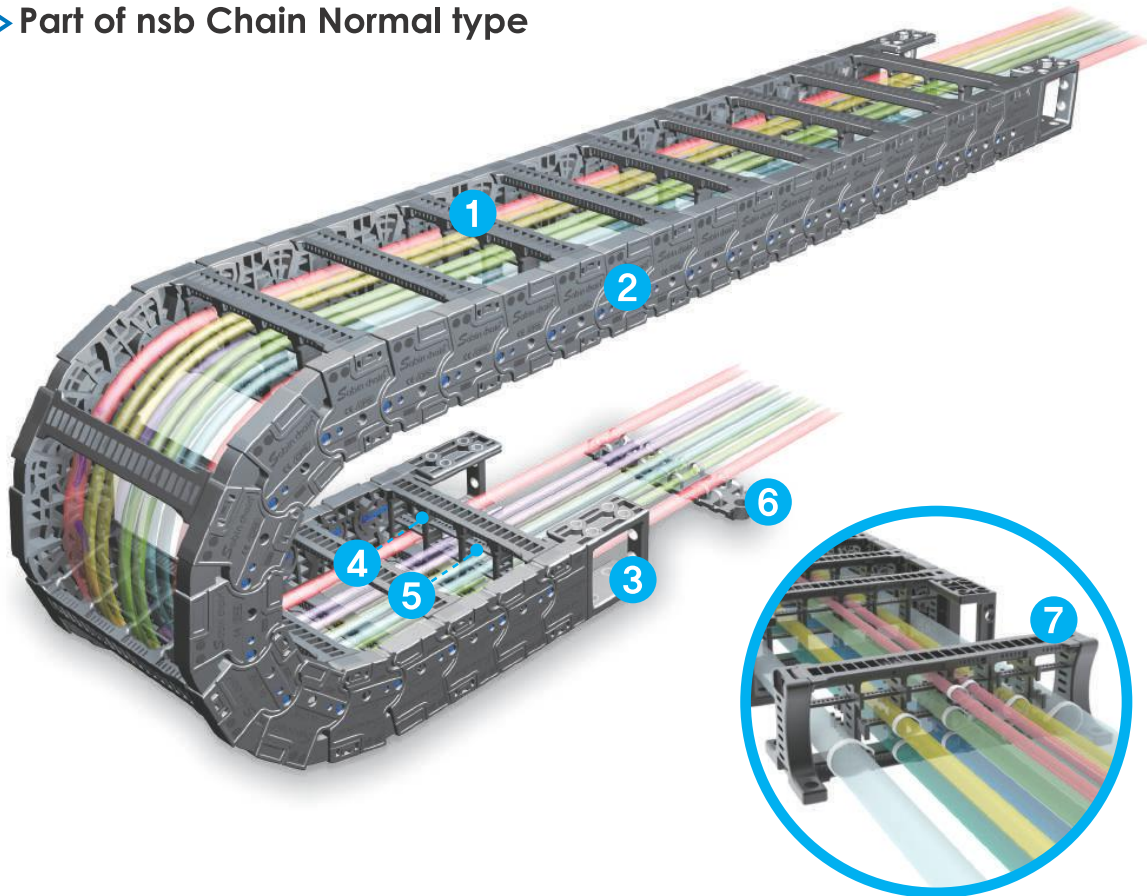
► NSB 035N

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



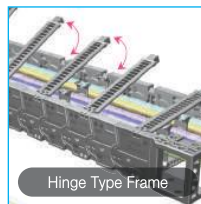
nsb Chain - Normal type

» 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.

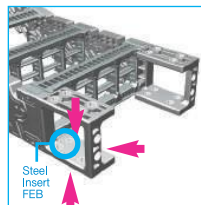


2 Side Band (SB)

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)

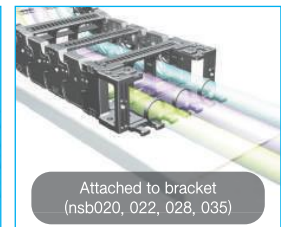
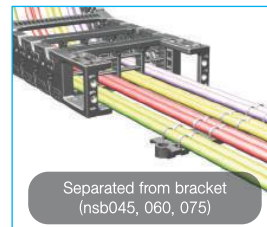
Divider sets the inside of chain vertically to prevent cable from twisting and sheath damage caused by friction. There are S, M, R and T type.

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.



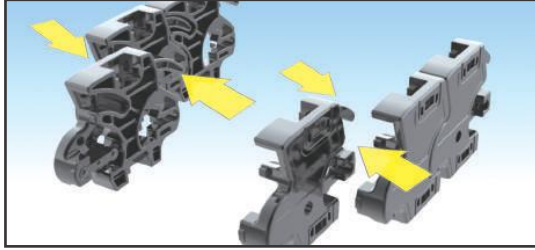
7 System tie wrap (STW)

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.

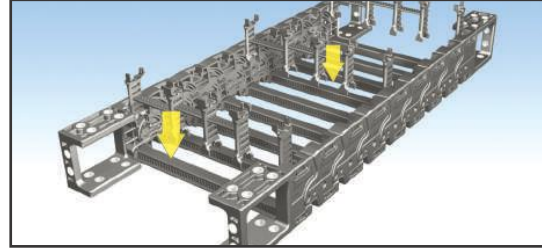


» Assembly procedure of nsb Chain Normal Type

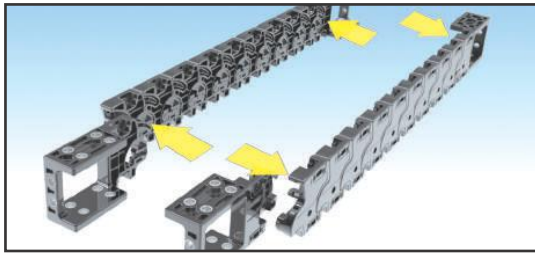
The assembling process of CR-Type of New Sabin Chain is like below and user must use rubber hammer with careful combination of Divider and Separator.



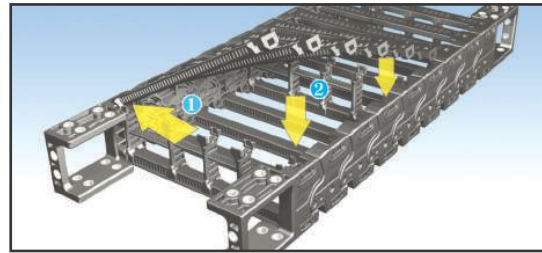
1 Connect each side band as many as you need.



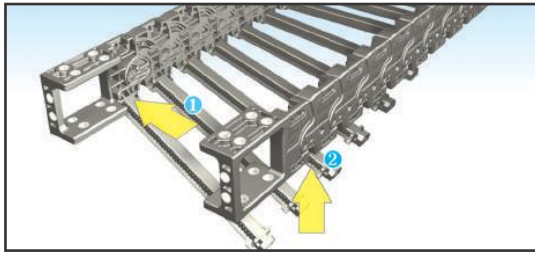
5 Fix the separator and divider patterns to the bottom-side frames as needed.



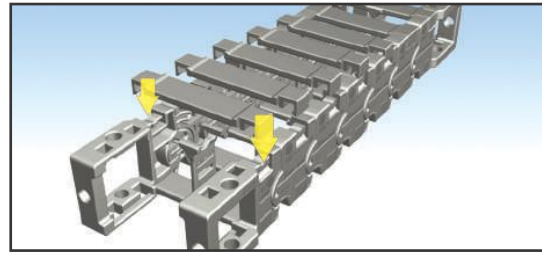
2 Assemble the end brackets on both ends.



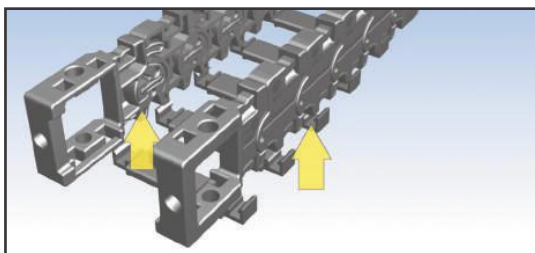
6 Attach frames to one side groove on the frames, then the other side.



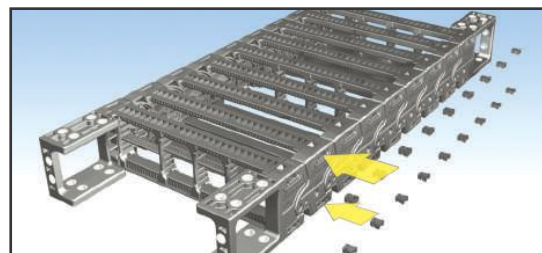
3 Attach frames to one side groove on the frames, then the other side.



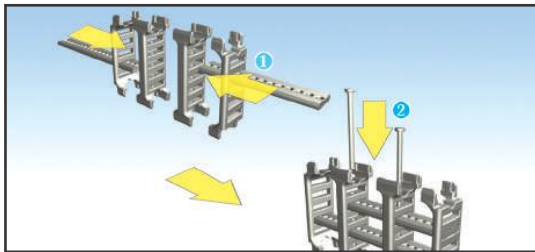
6-1 For nsb020CR and nsb022CR, they are not Hinge Type for method to connect frames, but Hook Type on both sides.



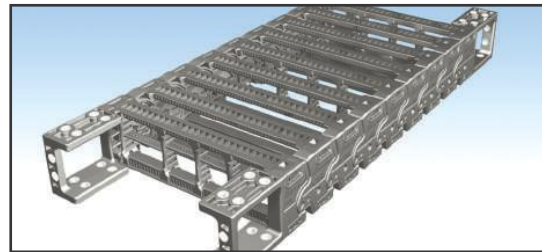
3-1 For nsb020CR and nsb022CR, they are not Hinge Type for method to connect frames, but Hook Type on both sides.



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.)



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.



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



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» 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)	Left side band of nsb028N
		nsb-SB028N,R*(LH)	Right side band of nsb028N
	FRAME	sb-FR/M,35	Frame, 35mm
		sb-FR/M,50	Frame, 50mm
		sb-FR/M,55	Frame, 55mm
		sb-FR/M,75	Frame, 75mm
		sb-FR/M,100	Frame, 100mm
		sb-FR/M,125	Frame, 125mm
		sb-FR/M,150	Frame, 150mm
		sb-FR/M,175	Frame, 175mm
	sb-FR/M,200	Frame, 200mm	
	FREE END BRACKET	nsb-FEB028N	End bracket of nsb028N
	DIVIDER	sb-DV028/M	Normal divider
		sb-DV028/S	To fix separators at the both side section
	SEPARATOR	S-SP/M,35	Separator, 35mm
		S-SP/M,50	Separator, 50mm
		S-SP/M,75	Separator, 75mm
S-SP/M,100		Separator, 100mm	
S-SP/M,125		Separator, 125mm	
S-SP/M,150		Separator, 150mm	
S-SP/M,175		Separator, 175mm	
S-SP/M,200		Separator, 200mm	
TIE WRAP	S-TW036/025CR,35	Tie wrap for end bracket to fix cables, 35mm	
	S-TW036/025CR,55	Tie wrap for end bracket to fix cables, 55mm	
	S-TW036/025CR,75	Tie wrap for end bracket to fix cables, 75mm	
	S-TW036/025CR,100	Tie wrap for end bracket to fix cables, 100mm	
	S-TW036/025CR,125	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)	Left side band of nsb035N
		nsb-SB035N,R*(RH)	Right side band of nsb035N
	FRAME	sb-FR/M,35	Frame, 35mm
		sb-FR/M,50	Frame, 50mm
		sb-FR/M,55	Frame, 55mm
		sb-FR/M,75	Frame, 75mm
		sb-FR/M,100	Frame, 100mm
		sb-FR/M,125	Frame, 125mm
		sb-FR/M,150	Frame, 150mm
		sb-FR/M,175	Frame, 175mm
	sb-FR/M,200	Frame, 200mm	
	FREE END BRACKET	nsb-FEB035N	End bracket of nsb035N
	DIVIDER	sb-DV035/M	Normal divider
		sb-DV035/S	To fix separators at the both side section
	SEPARATOR	S-SP/M,35	Separator, 35mm
		S-SP/M,50	Separator, 50mm
		S-SP/M,75	Separator, 75mm
S-SP/M,100		Separator, 100mm	
S-SP/M,125		Separator, 125mm	
S-SP/M,150		Separator, 150mm	
S-SP/M,175		Separator, 175mm	
S-SP/M,200		Separator, 200mm	
TIE WRAP	S-TW050/035N,50	Tie wrap for end bracket to fix cables, 50mm	
	S-TW050/035N,75	Tie wrap for end bracket to fix cables, 75mm	
	S-TW050/035N,100	Tie wrap for end bracket to fix cables, 100mm	
	S-TW050/035N,125	Tie wrap for end bracket to fix cables, 125mm	
	S-TW050/035N,150	Tie wrap for end bracket to fix cables, 150mm	
	S-TW050/035N,175	Tie wrap for end bracket to fix cables, 175mm	
S-TW050/035N,200	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)	Left side band of nsb045N
		nsb-SB045N,R*(RH)	Right side band of nsb045N
	FRAME PIN	S-FP/S1	Frame pin
	FRAME	sb-FR/M,50	Frame, 50mm
		sb-FR/M,75	Frame, 75mm
		sb-FR/M,100	Frame, 100mm
		sb-FR/M,125	Frame, 125mm
		sb-FR/M,140	Frame, 140mm
		sb-FR/M,150	Frame, 150mm
		sb-FR/M,165	Frame, 165mm
		sb-FR/M,175	Frame, 175mm
		sb-FR/M,190	Frame, 190mm
		sb-FR/M,200	Frame, 200mm
	sb-FR/M,240	Frame, 240mm	
	sb-FR/M,250	Frame, 250mm	
	sb-FR/M,300	Frame, 300mm	
	FREE END BRACKET	nsb-FEB045N sb-FEB/WH045	End bracket of nsb045N Steel washer for end bracket
	DIVIDER	sb-DV045/M	Normal divider
		sb-DV045/S	To fix separators at the both side section
	SEPARATOR	sb-DV045/T	T divider
		sb-SP/400,400 SP-PIN045	Separator, 400mm Separator pin to fix
TIE WRAP	S-TW50	Tie wrap for end bracket to fix cables, 50mm	
	S-TW75	Tie wrap for end bracket to fix cables, 75mm	
	S-TW100	Tie wrap for end bracket to fix cables, 100mm	
	S-TW125	Tie wrap for end bracket to fix cables, 125mm	
	S-TW150	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	

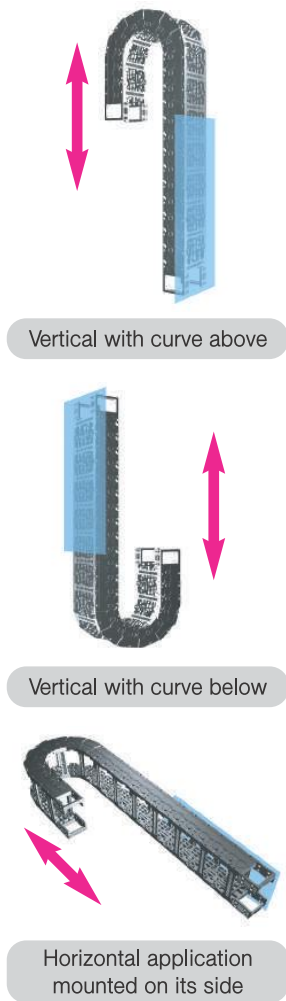
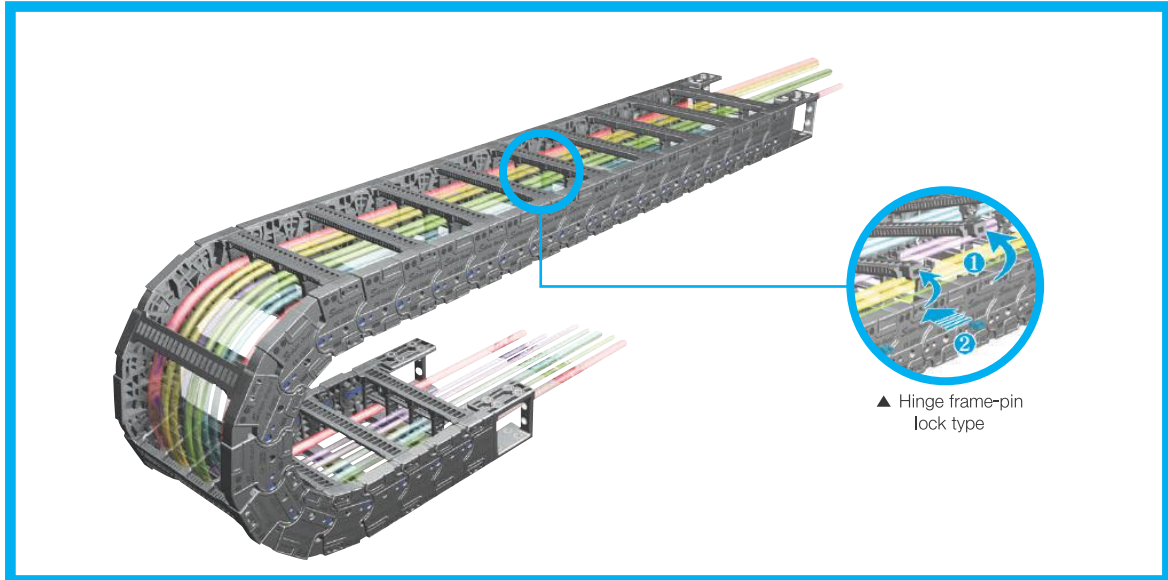


Model	Classification	Part number	Description	
nsb060N	SIDE BAND	nsb-SB060N,R*(LH) nsb-SB060N,R*(RH)	Left side band of nsb060N Right side band of nsb060N	
	FRAME PIN	S-FP/S1	Frame pin	
	FRAME		sb-FR/M,75	Frame, 75mm
			sb-FR/M,100	Frame, 100mm
			sb-FR/M,125	Frame, 125mm
			sb-FR/M,150	Frame, 150mm
			sb-FR/M,175	Frame, 175mm
			sb-FR/M,190	Frame, 190mm
			sb-FR/M,200	Frame, 200mm
			sb-FR/M,230	Frame, 230mm
sb-FR/M,250			Frame, 250mm	
sb-FR/M,300			Frame, 300mm	
sb-FR/M,350	Frame, 350mm			
sb-FR/M,400	Frame, 400mm			
FREE END BRACKET	nsb-FEB060N sb-FEB/WH060	End bracket of nsb060N Steel washer for end bracket		
DIVIDER		sb-DV060/M	Normal divider	
		sb-DV060/S	To fix separstors at the both side section	
		sb-DV060/R	Roller divider to reduce friction with cables, Clean room type	
		sb-DV060/T	T divider	
		sb-DV060/TP	T divider pin	
SEPARATOR		sb-SP/400,400	Separator, 400mm	
		SP-PIN060	Separator pin to fix	
TIE WRAP		S-TW50	Tie wrap for end bracket to fix cables, 50mm	
		S-TW75	Tie wrap for end bracket to fix cables, 75mm	
		S-TW100	Tie wrap for end bracket to fix cables, 100mm	
		S-TW125	Tie wrap for end bracket to fix cables, 125mm	
		S-TW150	Tie wrap for end bracket to fix cables, 150mm	
SYSTEM TIE WRAP		sb-DV060/W	Divider for fixing cables at end bracket	
		S-TW,EB060	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	Frame, 75mm
			sb-FR075/100,100	Frame, 100mm
			sb-FR075/100,115	Frame, 115mm
			sb-FR075/100,125	Frame, 125mm
			sb-FR075/100,150	Frame, 150mm
			sb-FR075/100,175	Frame, 175mm
			sb-FR075/100,200	Frame, 200mm
			sb-FR075/100,240	Frame, 240mm
sb-FR075/100,250			Frame, 250mm	
sb-FR075/100,290			Frame, 290mm	
sb-FR075/100,300	Frame, 300mm			
sb-FR075/100,350	Frame, 350mm			
sb-FR075/100,400	Frame, 400mm			
sb-FR075/100,450	Frame, 450mm			
sb-FR075/100,500	Frame, 500mm			
sb-FR075/100,550	Frame, 550mm			
sb-FR075/100,600	Frame, 600mm			
FREE END BRACKET	nsb-FEB075N sb-FEB/WH075	End bracket of nsb075N Steel washer for end bracket		
DIVIDER		sb-DV075/M	Normal divider	
		sb-DV075/S	To fix separstors at the both side section	
		sb-DV075/R	Roller divider to reduce friction with cables, Clean room type	
		sb-DV075/T	T divider	
		sb-DV075/TP	T divider pin	
SEPARATOR		sb-SP/400,400	Separator, 400mm	
		SP-PIN075	Separator pin to fix	
TIE WRAP		S-TW50	Tie wrap for end bracket to fix cables, 50mm	
		S-TW75	Tie wrap for end bracket to fix cables, 75mm	
		S-TW100	Tie wrap for end bracket to fix cables, 100mm	
		S-TW125	Tie wrap for end bracket to fix cables, 125mm	
		S-TW150	Tie wrap for end bracket to fix cables, 150mm	
SYSTEM TIE WRAP		sb-DV075/W	Divider for fixing cables at end bracket	
		S-TW,EB075	System tie wrap to arrange for cables right after moving bracket or fixing bracket	



nsb 060N



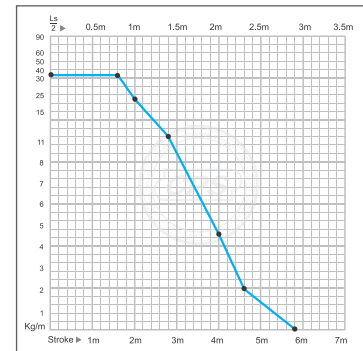
» Calculation of the chain length

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

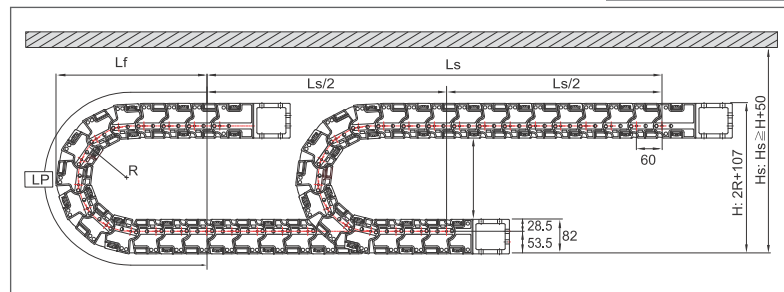
» Other installation length

Vertical curve above = max 6,0m
 Vertical curve below = max 100m
 Side Mounted, Unsupported = max 3,0m

» Load diagrams self-supporting length



» Layout of the chain

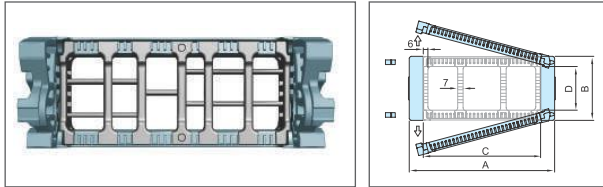


Bending Radius (R)	Lp Loop Length	Lf Loop Projection	H Moving Height
125	854	389	357
135	885	399	377
150	932	414	407
180	1,026	444	467
230	1,183	494	567
270	1,309	534	647
340	1,529	604	787

(Dimensions in mm)



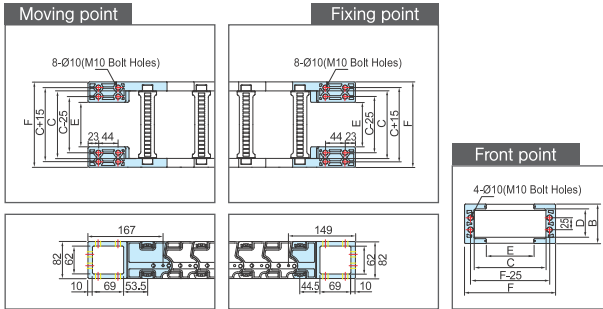
» Chain cross section



Chain Type	A Width (Outer)	B Height (Outer)	C Frame	D Height (Inner)	Weight kg/m
nsb 060N	115	82	75	55	3,30
	140		100		3,35
	165		125		3,51
	190		150		3,60
	215		175		3,69
	230		190		3,78
	240		200		3,84
	270		230		3,97
	280		240		4,01
	290		250		4,05
	340		300		4,26
	390		350		4,57
	440		400		4,86

(Dimensions in mm)

» Free end bracket



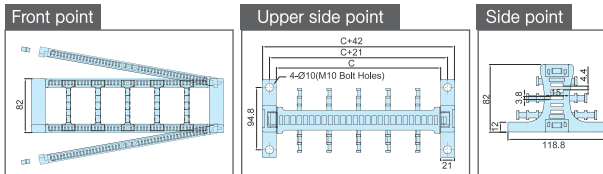
Chain Type	F Width(Outer)	B Height(Outer)	C Frame	D Height(Inner)	E M,EB Bolt hole width	Hole Type
nsb 060N	115	82	75	55	24	M10 Bolt Holes
	140		100		49	
	165		125		74	
	190		150		99	
	215		175		124	
	230		190		139	
	240		200		149	
	270		230		179	
	280		240		189	
	290		250		199	
	340		300		249	
	390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

(Dimensions in mm)

» System tie wrap (STW)

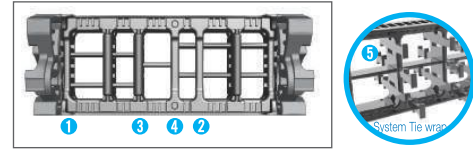


It is a unit to classify each cable for preventing entanglement of cables. It can either be installed to free end bracket or installed separately according its application environment.

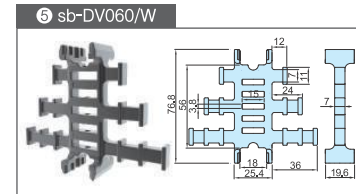
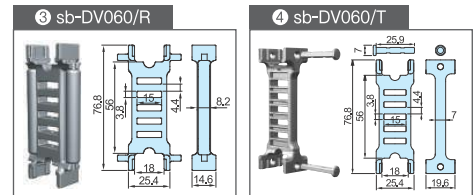
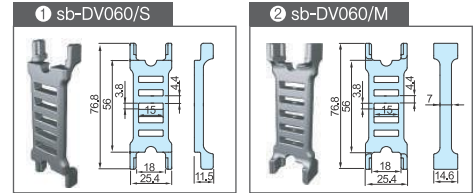


Chain Type	Ordering No.	C Frame	Hole Type
nsb 060N	S-TWEB060.75	75	M10 Bolt Holes
	S-TWEB060.100	100	
	S-TWEB060.125	125	
	S-TWEB060.150	150	
	S-TWEB060.175	175	
	S-TWEB060.190	190	
	S-TWEB060.200	200	
	S-TWEB060.230	230	
	S-TWEB060.240	240	
	S-TWEB060.250	250	
	S-TWEB060.300	300	
	S-TWEB060.350	350	
	S-TWEB060.400	400	

» Dividers(DV)

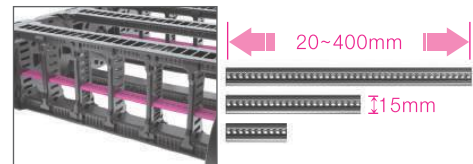


Assemble divider every second frame.
DV,T : Applied to Frame 250~400.
DV,M : Normal Divider.
DV,W : Applicable to System Tie Wrap or FEB.



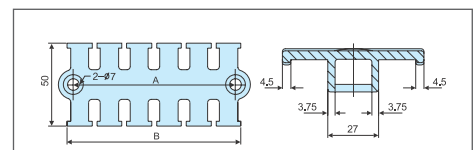
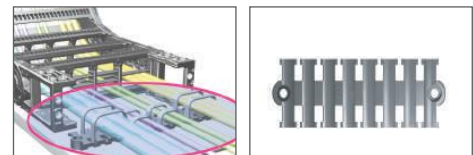
(Dimensions in mm)

» 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	58	65
	S-TW75	75	82
	S-TW100	98	105
	S-TW125	122	129
	S-TW150	141	148

