

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

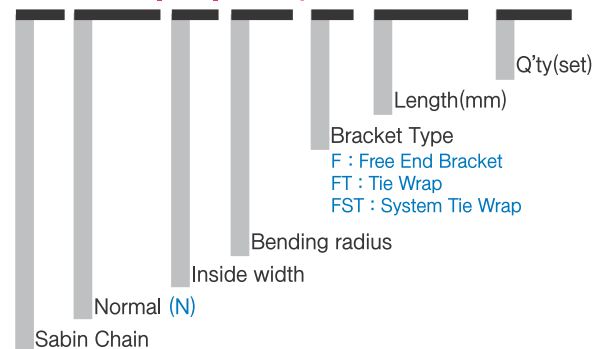
» Dimension table

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	38	35	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	52	35	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	66	50	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	82	75	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	108	75	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)

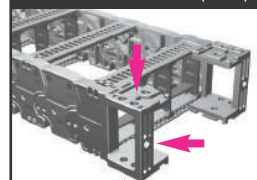
» Ordering

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



» Bracket type

Free End Bracket (FEB)



» Application of nsb Chain Normal type

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

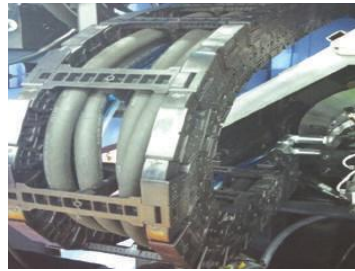
► NSB 045N & 035N

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.

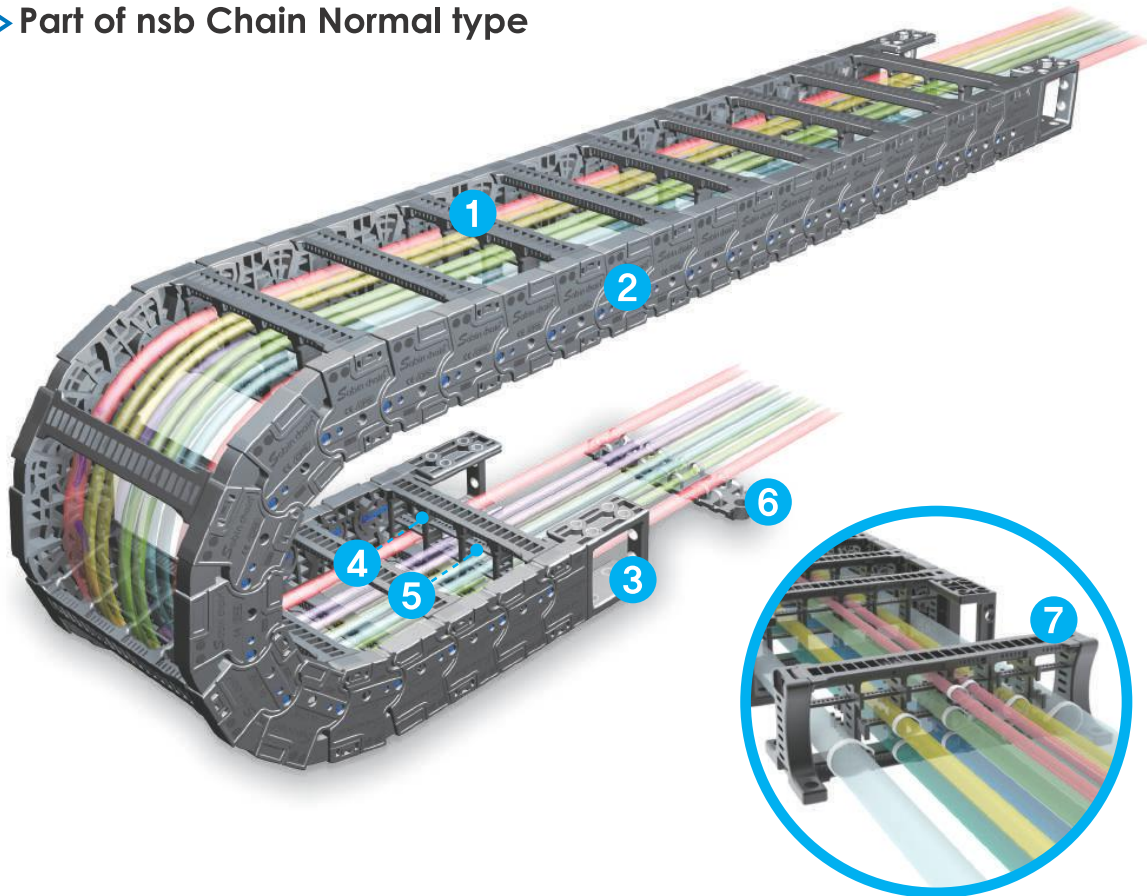
► NSB 035N

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



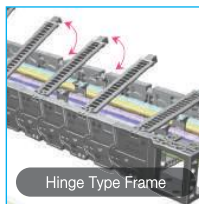
nsb Chain - Normal type

» Part of nsb Chain Normal type



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.

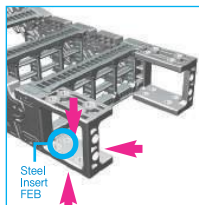


2 Side Band (SB)

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)

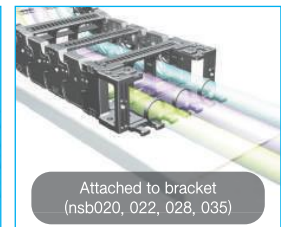
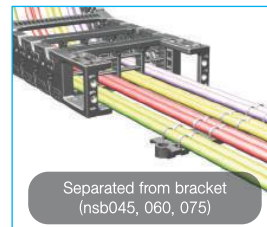
Divider sets the inside of chain vertically to prevent cable from twisting and sheath damage caused by friction. There are S, M, R and T type.

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.



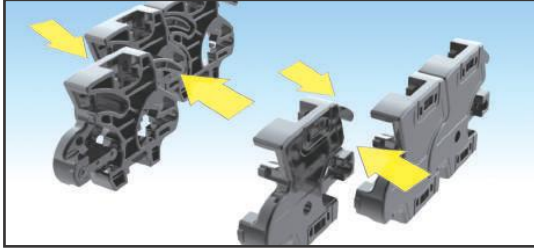
7 System tie wrap (STW)

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.

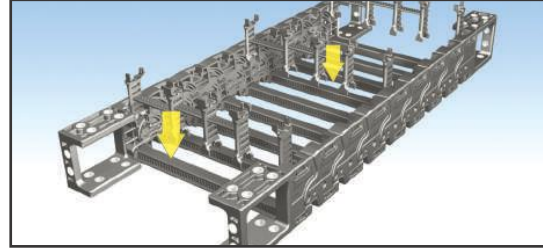


» Assembly procedure of nsb Chain Normal Type

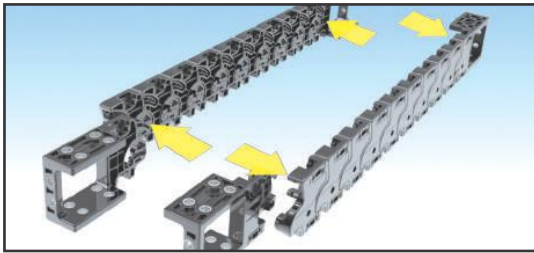
The assembling process of CR-Type of New Sabin Chain is like below and user must use rubber hammer with careful combination of Divider and Separator.



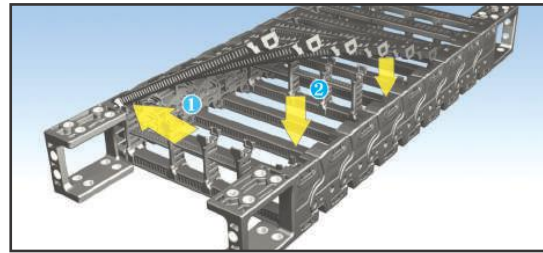
1 Connect each side band as many as you need.



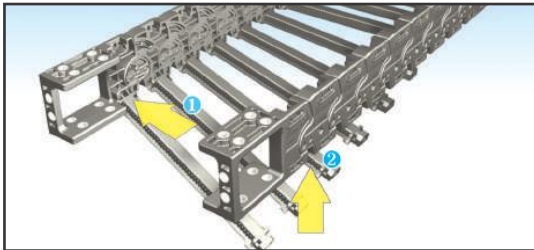
5 Fix the separator and divider patterns to the bottom-side frames as needed.



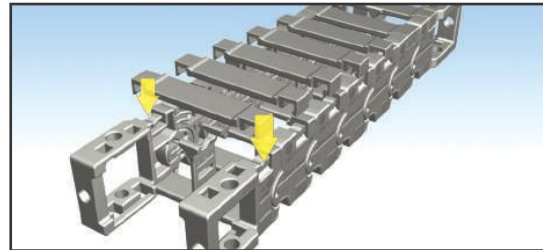
2 Assemble the end brackets on both ends.



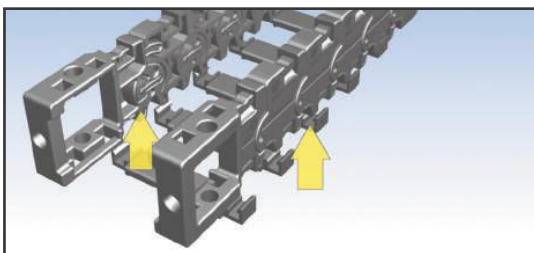
6 Attach frames to one side groove on the frames, then the other side.



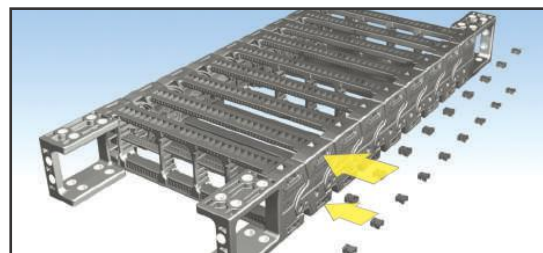
3 Attach frames to one side groove on the frames, then the other side.



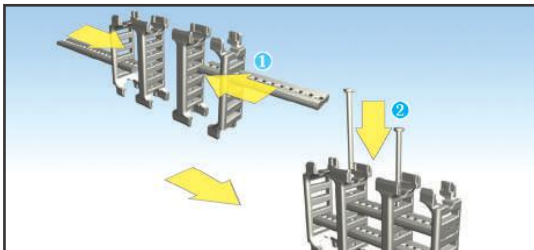
6-1 For nsb020CR and nsb022CR, they are not Hinge Type for method to connect frames, but Hook Type on both sides.



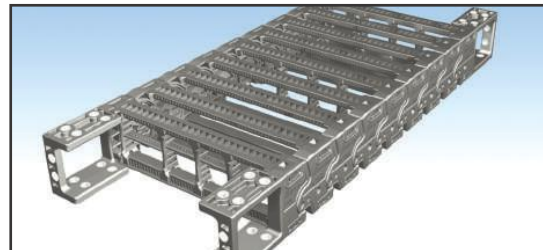
3-1 For nsb020CR and nsb022CR, they are not Hinge Type for method to connect frames, but Hook Type on both sides.



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.



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)	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	

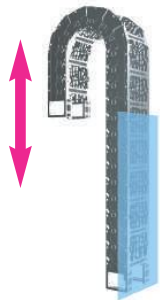
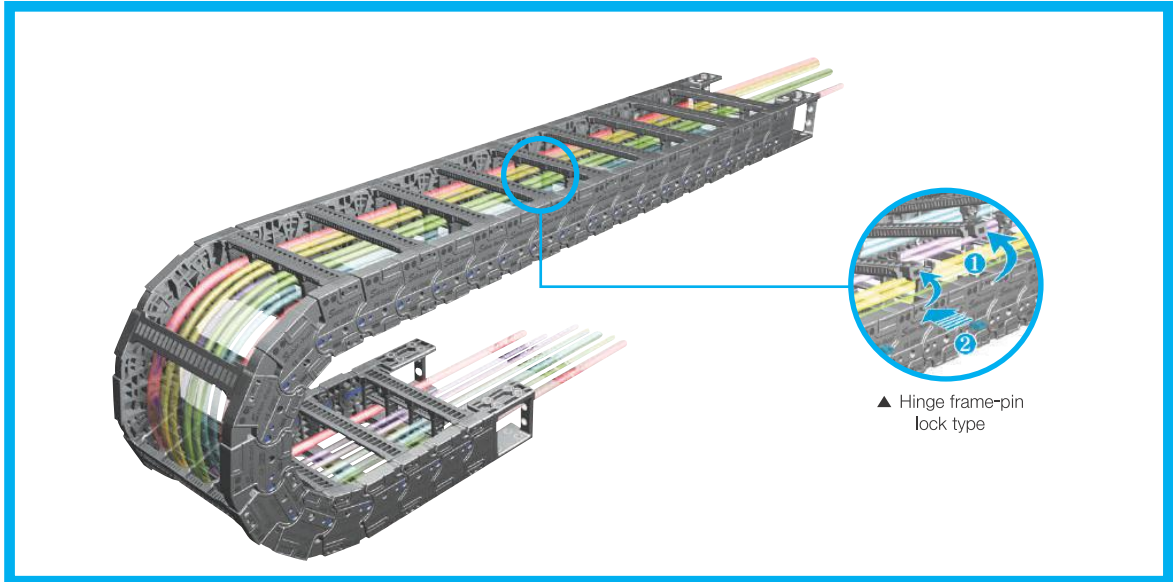


Model	Classification	Part number	Description
nsb060N	SIDE BAND	nsb-SB060N,R*(LH) nsb-SB060N,R*(RH)	Left side band of nsb060N Right side band of nsb060N
	FRAME PIN	S-FP/S1	Frame pin
	FRAME	sb-FR/M,75 sb-FR/M,100 sb-FR/M,125 sb-FR/M,150 sb-FR/M,175 sb-FR/M,190 sb-FR/M,200 sb-FR/M,230 sb-FR/M,250 sb-FR/M,300 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

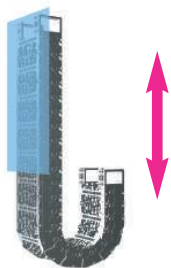
Model	Classification	Part number	Description
nsb075N	SIDE BAND	nsb-SB075N,R*(LH) nsb-SB075N,R*(RH)	Left side band of nsb075N Right side band of nsb075N
	FRAME PIN	S-FP/S2	Frame pin
	FRAME	sb-FR075/100,75 sb-FR075/100,100 sb-FR075/100,115 sb-FR075/100,125 sb-FR075/100,150 sb-FR075/100,175 sb-FR075/100,200 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



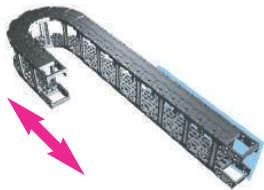
nsb 045N



Vertical with curve above



Vertical with curve below



Horizontal application mounted on its side

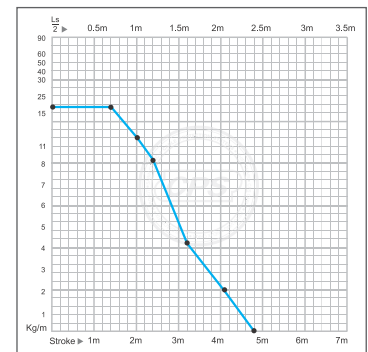
» Calculation of the chain length

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

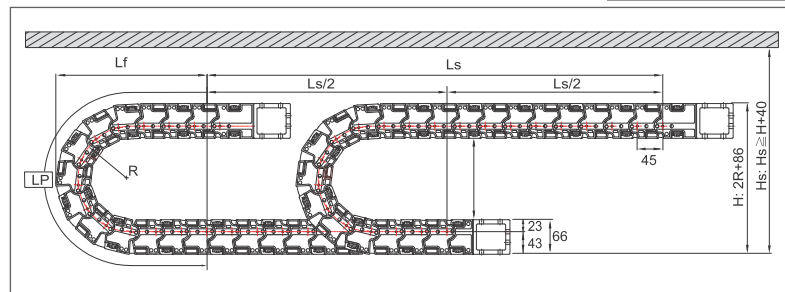
» Other installation length

Vertical curve above = max 6,0m
Vertical curve below = max 100m
Side Mounted, Unsupported = max 2,5m

» Load diagrams self-supporting length



» Layout of the chain

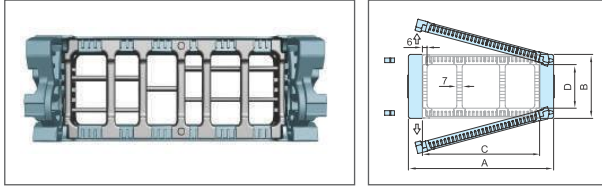


Bending Radius (R)	L _p Loop Length	L _f Loop Projection	H Moving Height
90	633	291	266
110	695	311	306
135	774	336	356
165	868	366	416
185	931	386	456
235	1,088	436	556
285	1,245	486	656

(Dimensions in mm)



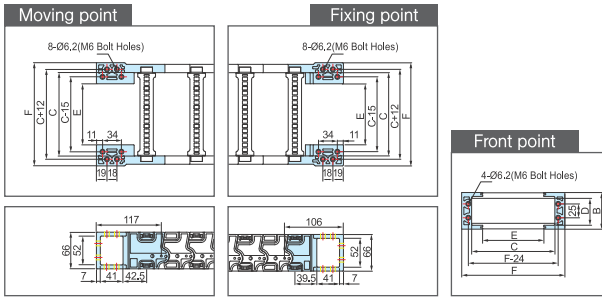
» Chain cross section



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

(Dimensions in mm)

» Free end bracket



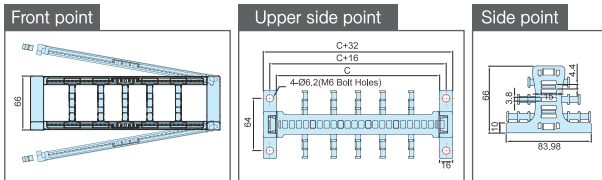
Chain Type	F Width(Outer)	B Height(Outer)	C Frame	D Height(Inner)	E M,EB Bolt hole width	Hole Type
nsb 045N	86	66	50	45	10	M6 Bolt Holes
	111		75		35	
	136		100		60	
	161		125		85	
	176		140		100	
	186		150		110	
	201		165		125	
	211		175		135	
	226		190		150	
	236		200		160	
	276		240		200	
	286		250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

(Dimensions in mm)

» System tie wrap (STW)

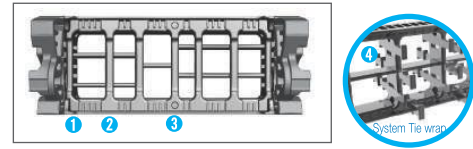


It is a unit to classify each cable for preventing entanglement of cables. It can either be installed to free end bracket or installed separately according its application environment.

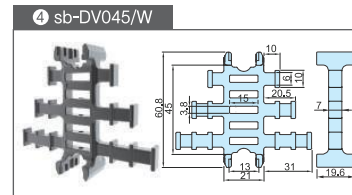
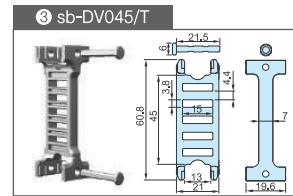
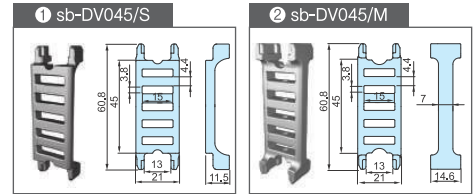


Chain Type	Ordering No.	C Frame	Hole Type
nsb 045N	S-TW.EB045.50	50	M6 Bolt Holes
	S-TW.EB045.75	75	
	S-TW.EB045.100	100	
	S-TW.EB045.125	125	
	S-TW.EB045.140	140	
	S-TW.EB045.150	150	
	S-TW.EB045.165	165	
	S-TW.EB045.175	175	
	S-TW.EB045.190	190	
	S-TW.EB045.200	200	
	S-TW.EB045.240	240	
	S-TW.EB045.250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

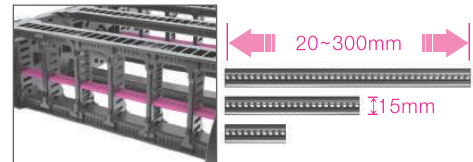
» Dividers(DV)



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.

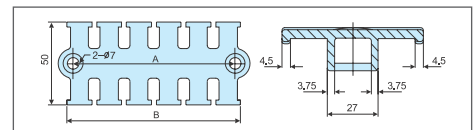
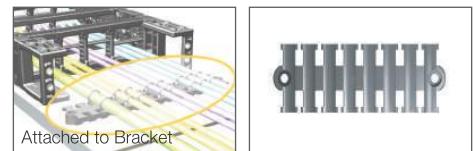


» Separators(SP)



Chain Type	Ordering NO.
nsb 045N	sb-SP/400,400

» Tie wrap (TW)



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

