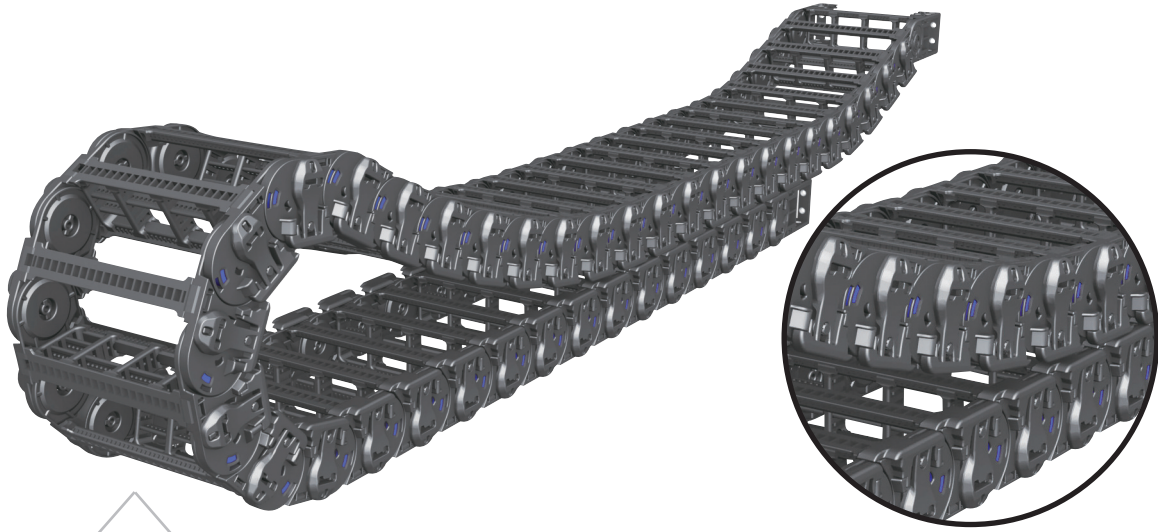
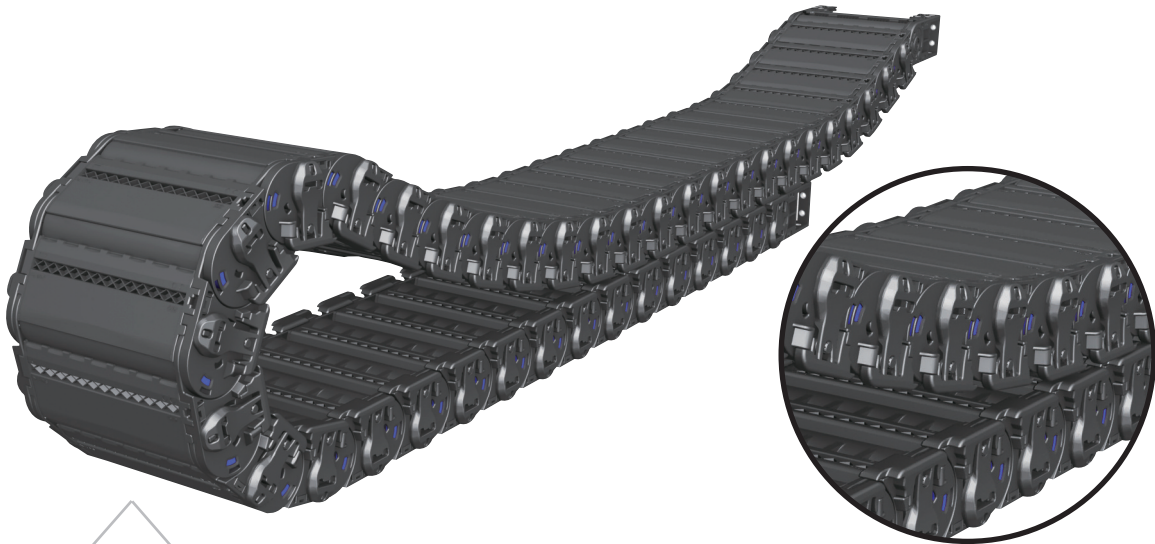


➤ CHARACTERISTIC AND MERIT OF Shift chain S, ES, RS, ERS-Type



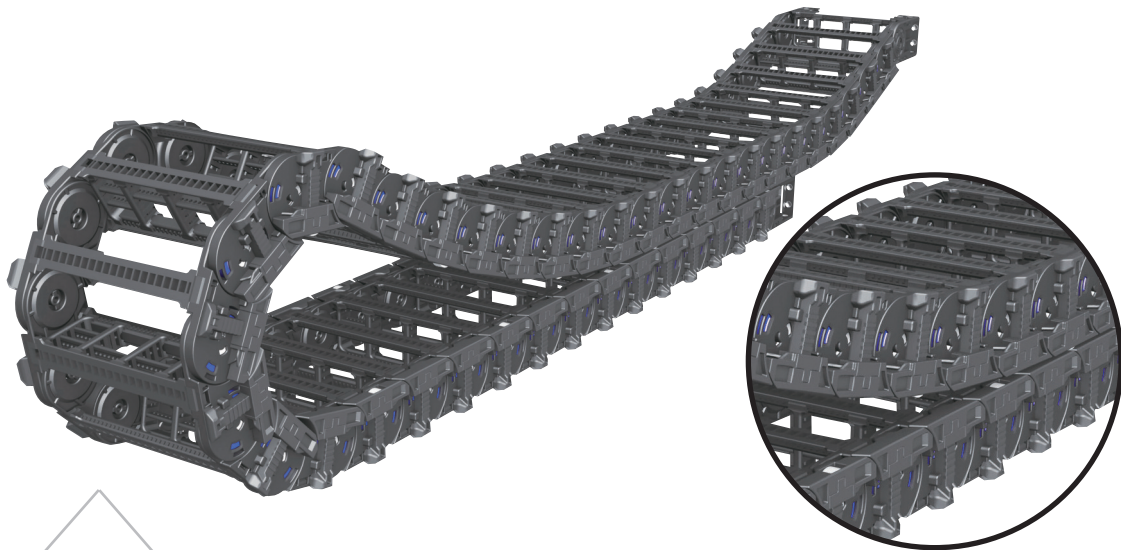
ST - S : Skid Type

1. To minimize noise and make stable driving of chain, applies a SKID to the friction surface and those are touched each other smoothly.
2. Improved structure of Side Band could make stronger durability and develop most suitable parts to protect cable damage.



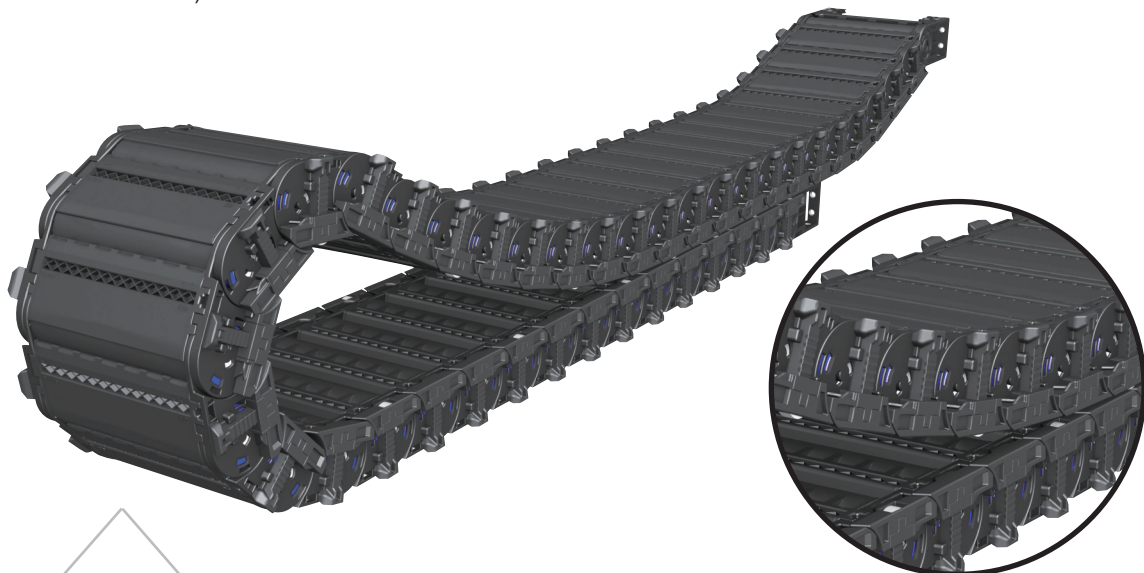
ST - ES : Enclosed Type

1. To protect cables perfectly from outside substance, enclosed frame is applied to the ST-S Type for long distance application.
2. This chain can be used in workplace with poor surroundings such as dusts, paints and machining chip etc. (Application: cutting, welding, panting line etc.)



ST - RS : Roller Skid Type

1. To minimize frictional force resulted in disturbing from a SKID, applies a Roller to the friction surface and those are touched each other smoothly.
※ The coefficient of friction : 0.02~0.07u (Normal Cable chain:0.3~0.04u)
2. It is suitable for the long distance equipment with heavy weight of cable.
(more than 50m)

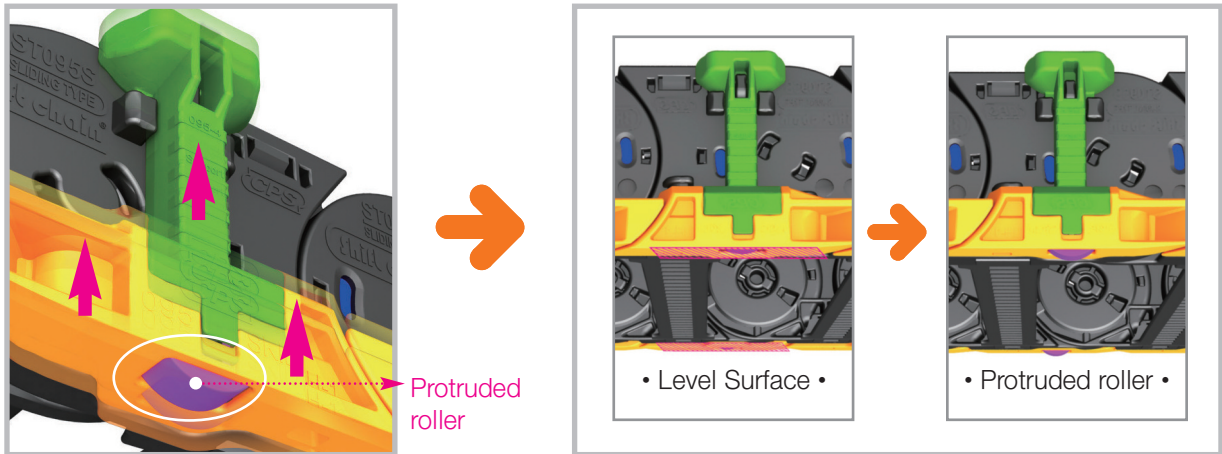


ST - ERS : Enclosed Roller Skid Type

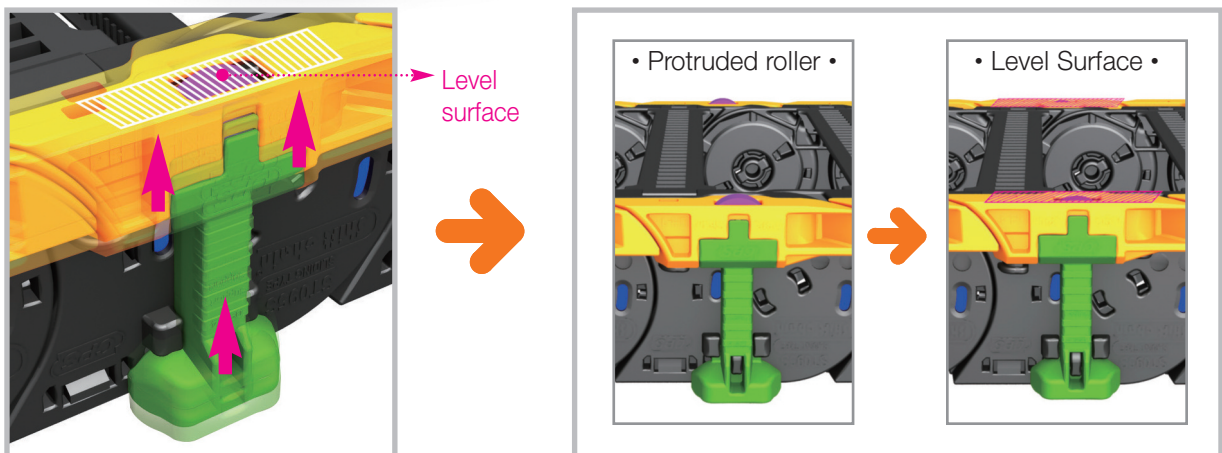
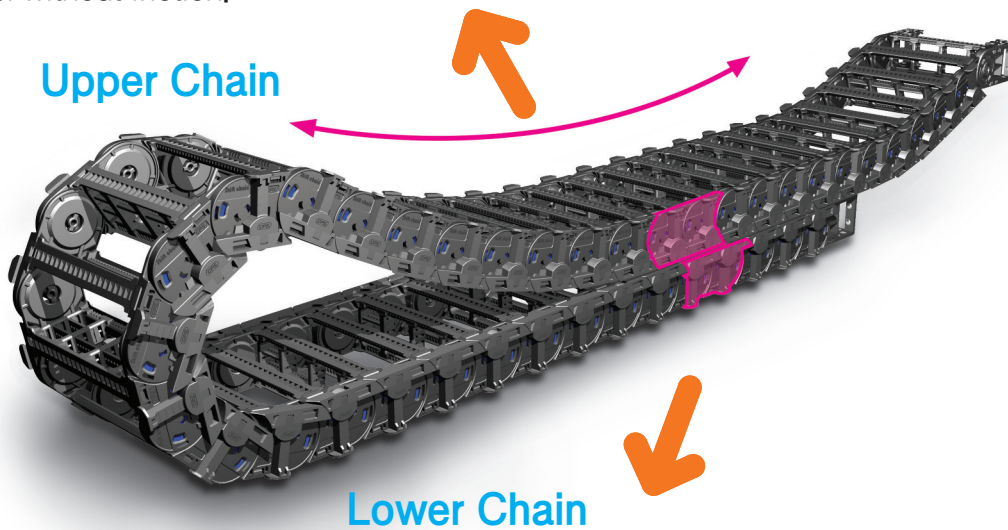
1. As applying the enclosed frame to ST-RS Type, the cable can be also protected from the any substance perfectly same as ST-RS Type, furthermore, it can be used in more wider place.
2. It is suitable for the long distance equipment with heavy weight of cable.
(more than 50m)
3. This chain can be used in workplace with poor surroundings such as dusts, paints and machining chip etc. (cutting, welding, panting etc)

CHARACTERISTIC AND MERIT OF SHIFT CHAIN-Sliding Type

1 Roller Skid Performance Property



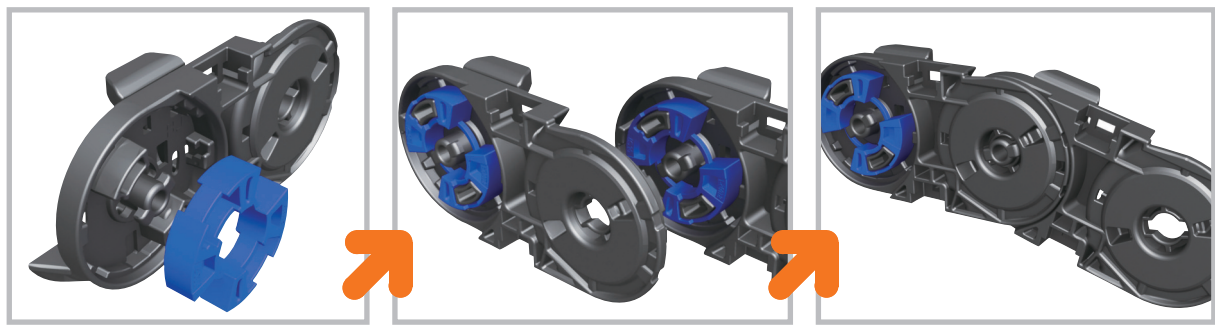
Principle of skid motion : The protruded Roller is performed as a wheel when Roller mounted skid is touched on lower chain. This principle makes it possible to move fast in long-distance travel without friction.



The support lifts Skid(Roller-Skid, Skid) and makes the surface level, when the cable Chain which includes cables is contacted on the surface of bottom of guide channel.

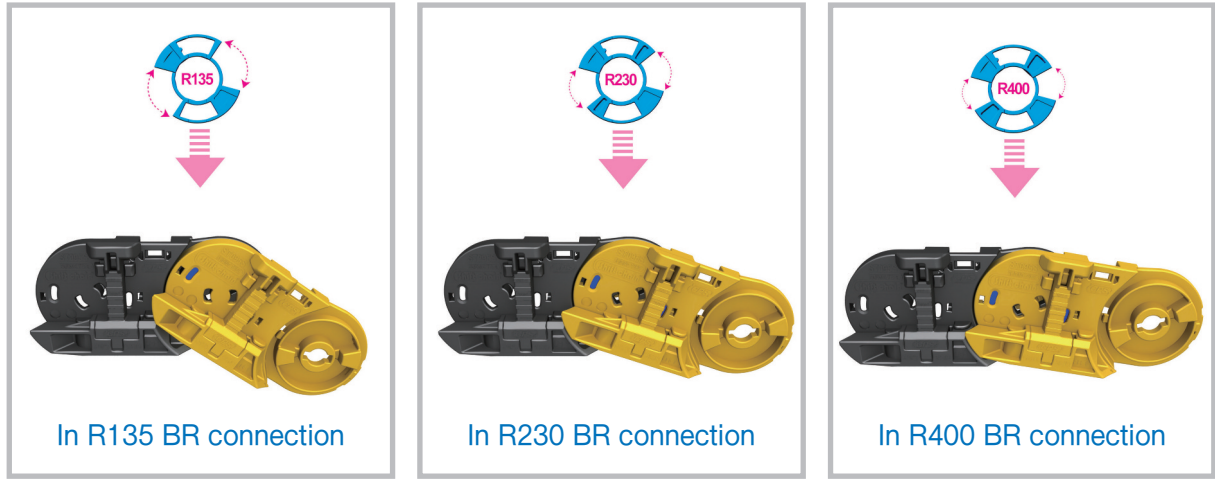
2 The Feature of Setting-up Unit for Bending Radius!

Unlike the existing chains, the Shift Chain is designed to use only one side band for the same model and to insert respective Bending Radius unit to make bending radius each. Like the below pictures, the value of bending radius is changeable just by inserting individual bending unit, and unlike the existing chains, it is suggested that you don't need side bands for each bending radius in stock, but need BR unit for each bending radius, so the Shift Chain has an excellent competitiveness to create the maximum synergy effect in relation to easy maintenance, efficient stock management and cost reduction.

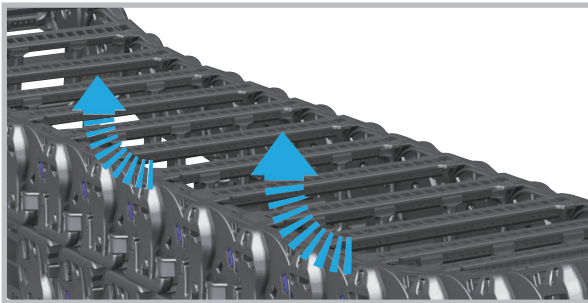


The Bending Radius combined by the Bending Radius unit(BR).

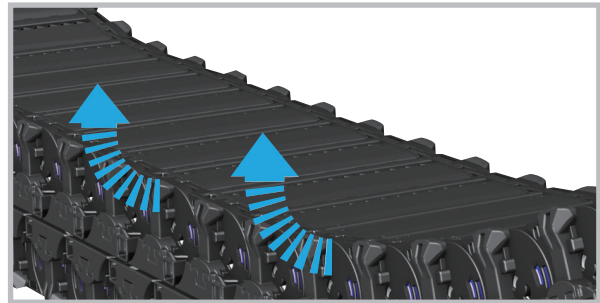
When combining Side Band with the different Bending Radius unit, the bending radius of cable chain is formed like the below and also the 'R' of cable chain will be decided by the Bending Radius-setting unit. Bending Radius(R) of each cable chains is written with each value of "R" in details of each cable chain.



3 More convenient frame structure - Hinge Frame Type!



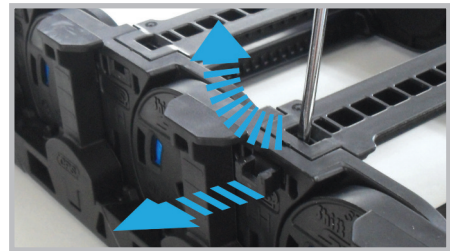
▲ ST-S type / ST-072, 095, 120, 150RS type



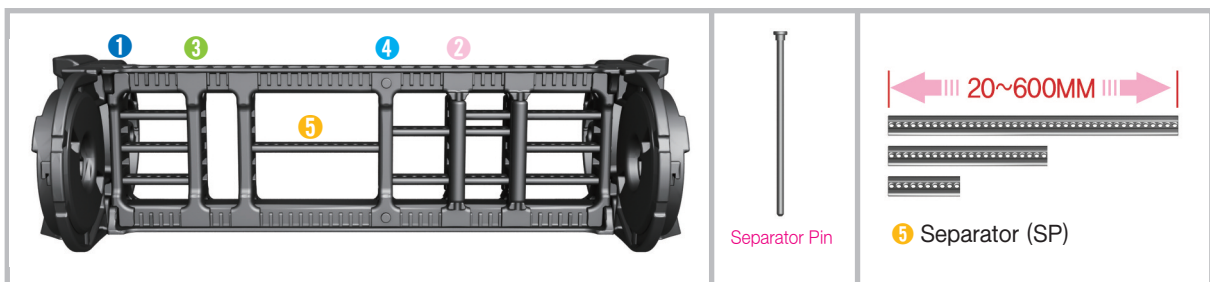
▲ ST-072, 095, 120, 150ES type / ST-072, 095, 120, 150ERS type

The Hinge type frame is created by using the original frame but locking it into place with a ball hinge on one side and making the cables easily accessible by opening the other. The hinge frame can open to expose the inserted cables on both the topside and underside of the carrier.

For Shift Chain(ST) 072S, 095S, 120S, 150S, 072ES, 095ES, 120ES, 150ES Type one side of the frame is fixed by inserting a fixing pin to prevent frame open, which caused by any external impact.



4 Diversity & Functionality Combine in this New Separator and Divider Creation!



It can protect inner cable more efficiently and safely with the diverse combination of Divider and Separator. Divider consists of S-Type for exclusive use of side, R-Type for roller mounted, M-Type for pin jointed and T-type for reinforcement, M-Type is designed to fix separator strongly by using separator pin and prevents cable from twisting and sheath damage.

T-Type is connected to upper and lower frame and prevent frame from drooping when the inserted cables are heavy.

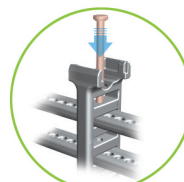
The length of separator can be installed from 20mm to 600mm and be cut by 5mm.



1 DV-S Type



2 DV-R Type



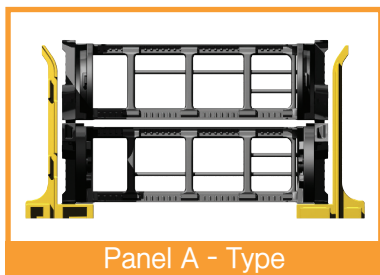
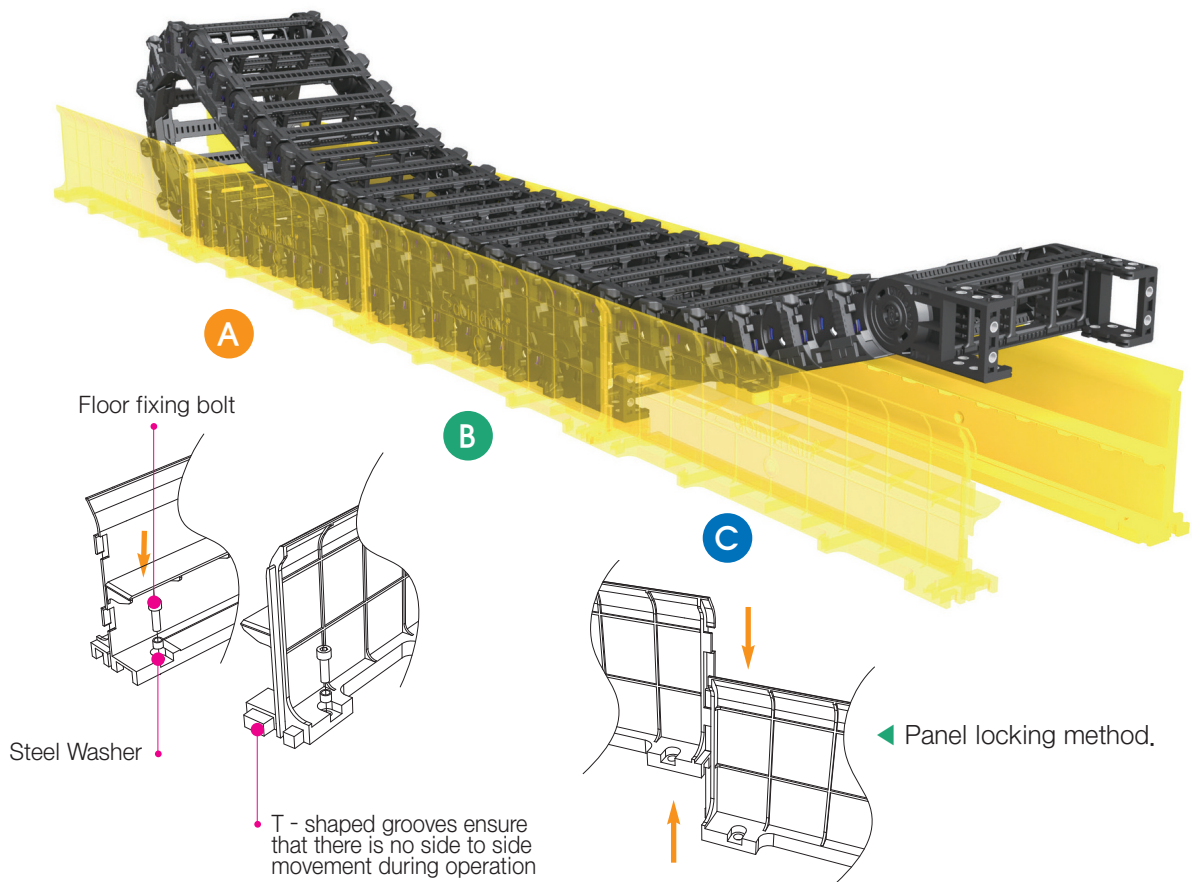
3 DV-M Type



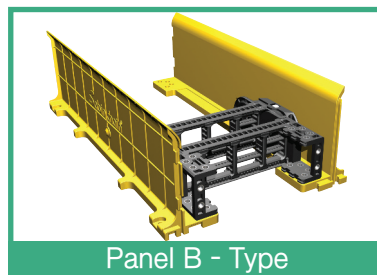
4 DV-T Type



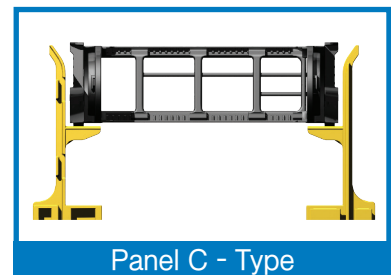
5 Develop Innovative System Guide Channel Firstly In The World!



- This panel is installed down the front end of the stroke where the Shift Chain is riding on itself.



- This panel is for securing the Shift Chain bracket to the channel in the mounting positions.

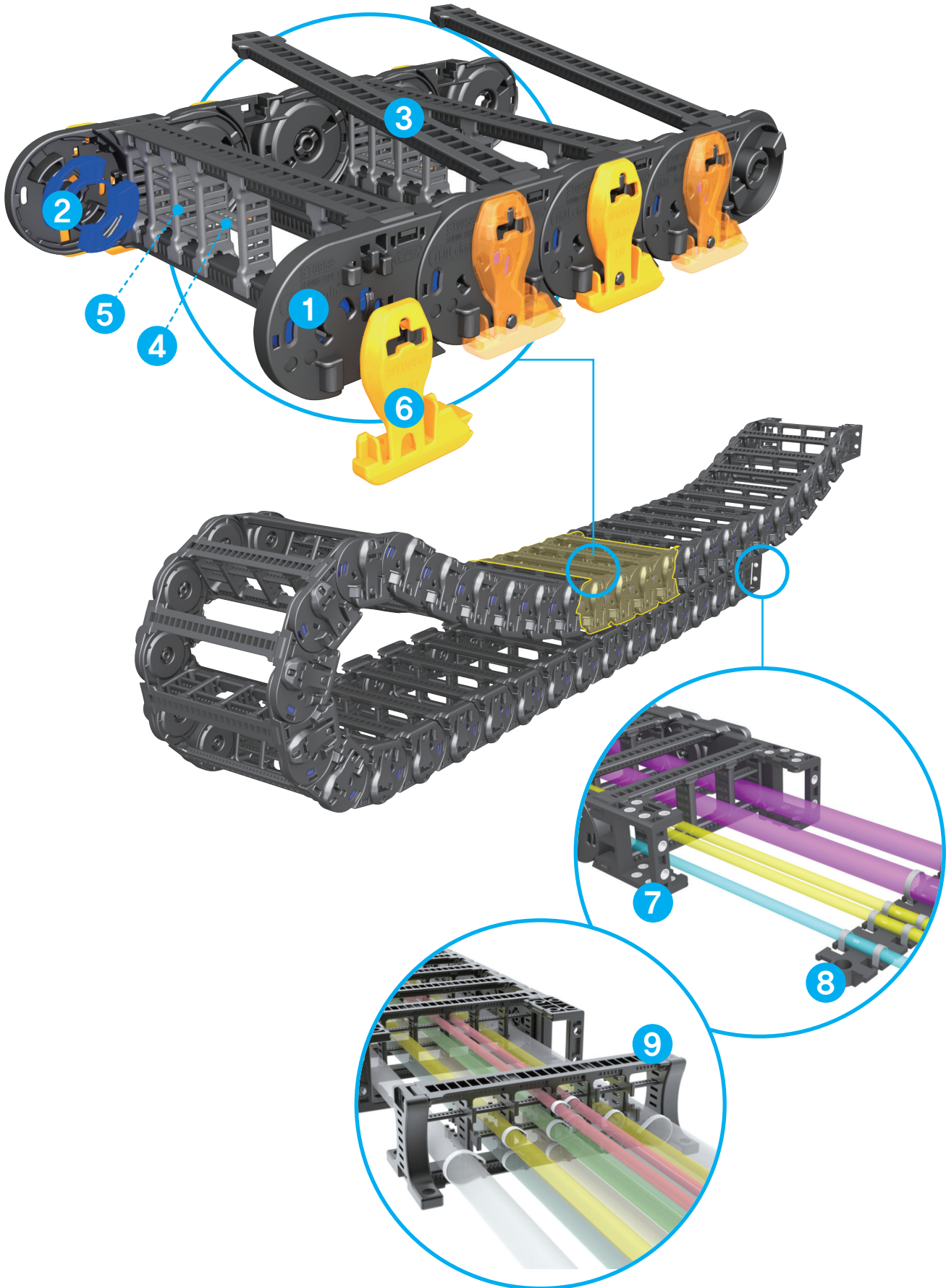


- This panel is for installation on the back end of the stroke, past the center of the travel length to provide support to the topside links.

System Guide Channel

- The new System Guide Channel keeps your Shift Chain on course for long stroke applications where balance is the key.
- The System Guide Channel compared to the current steel guide channel is lighter, easier to assemble, disassemble and it is easier and safer to install as well.
- In lengths of 500mm, the System Guide Channel comes in three different types and CPS-Amide combined with GF material help to make the guide channel strong and sturdy. For most applications, your steel guide channel can be switched out quite easily to the new System Guide Channel.
- Due to the UV (Ultraviolet) and ESD (Electro-Static Discharge) protection, you can apply the same safety options to your System Guide Channel as the ones you already have on your Sabin Chain Series.

➤ ARTICLE NAME & DETAILS OF SHIFT CHAIN-Skid / Enclosde Skid-Type





① Side Band (SB)

Connecting Radius Value inserted Side Band strengthen binding since the supporting point of side band is designed as 6 separated points.

② Bending Radius (BR)

Shift Chain has the unique structure that the value of Bending Radius is decided by Bending Radius unit.

③ Frame (FR)

[FRU(D) Enclosed type applicable]

Frame is performed as a supporter of right and left side bands and it is designed with teeth to prevent divider from detaching.

④ Separator (SP)

Dividing the inserted cables vertically to prevent twisting of cables and damage of sheath.

Can be cut by 5mm for the convenience. When combining with divider, using separator pin it can be fixed hard not to move.

⑤ Divider (DV-S, M, R, T)

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

※ Not apply the DV-T to ES Type

⑥ Skid

To minimized inference above and under chain during moving, friction side of skid was chamfered and developed to protect against damage from interference.

⑦ Free End Bracket (FEB)

Free End Bracket is very effective in a way that it can be mounted up, down and front. It can be fixed stronger by steel washer. Shift Chain can be fixed with the diverse ways because FEB can be moved more than 45 degrees.

※ For S-Type don't need to put BR on FEB.

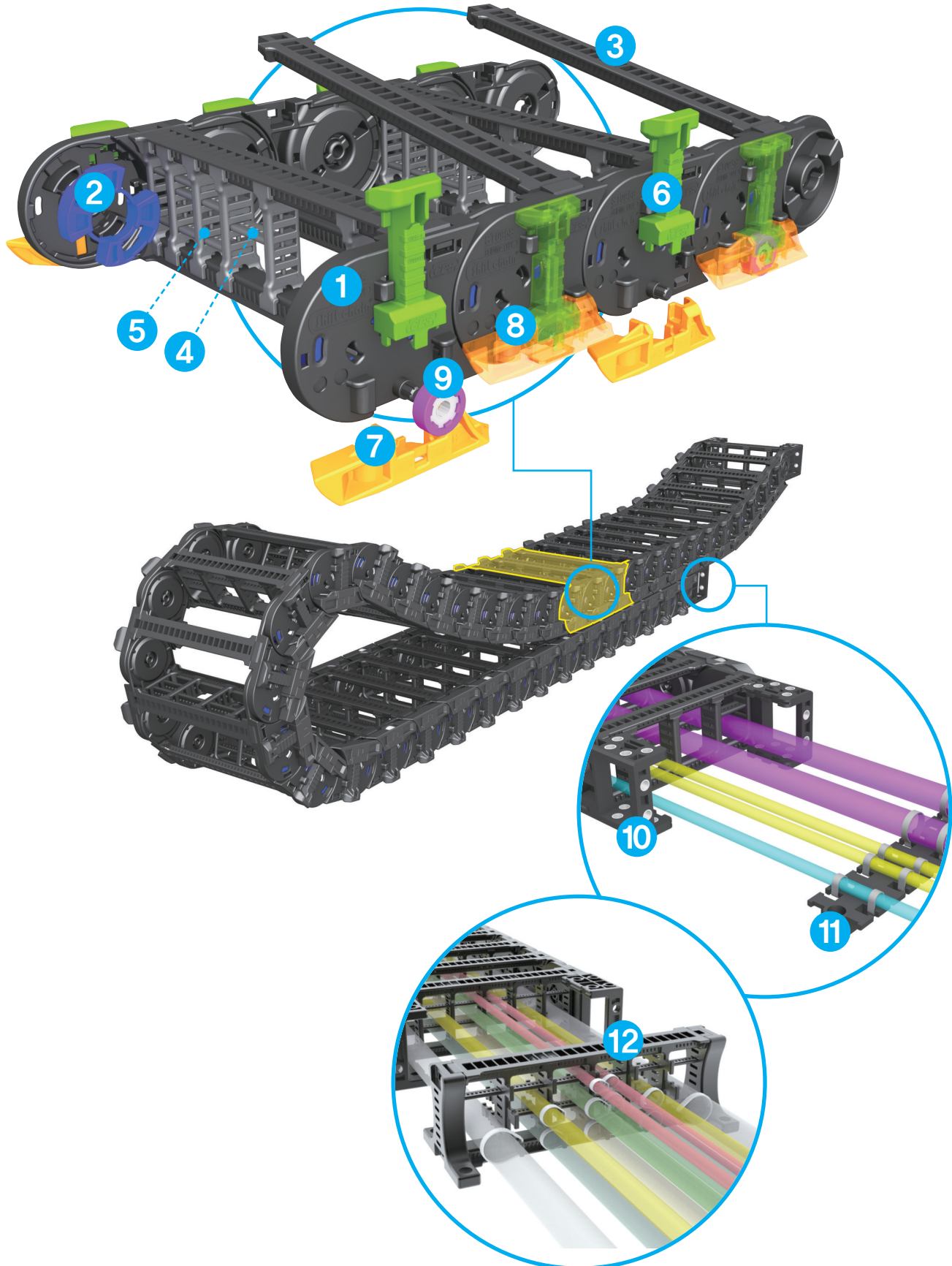
⑧ Tie Wrap (TW)

Tie Wrap fixes the cable in one straight line and prevent the cable from twisting and entangling during operation. There are two types available depending on the application : attached to bracket and separated from bracket.

⑨ 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.

➤➤ ARTICLE NAME & DETAILS OF SHIFT CHAIN-Roller Skid / Enclosed Roller Skid-Type





① Side Band (SB)

Connecting Radius Value inserted Side Band strengthen binding since the supporting point of side band is designed as 6 separated points.

② Bending Radius Unit (BR)

Shift Chain has the unique structure that the value of Bending Radius is decided by Bending Radius unit .

③ Frame (FR)

[FRU(D) Enclosed type applicable]

Frame is performed as a supporter of right and left side bands and it is designed with teeth to prevent divider from detaching.

④ Separator (SP)

Dividing the inserted cables vertically to prevent twisting of cables and damage of sheath. Can be cut by 5mm for the convenience. When combining with divider, using separator pin it can be fixed hard not to move.

⑤ Divider (DV-S, M, R, T)

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

※ Not apply the DV-T to ES Type

⑥ Support

It is performed as a supporter of Skid and Roller Skid. It makes Skid and Roller Skid move up and down.

⑦ ⑧ Skid, Roller Skid

It is divided into Roller mounted Skid and Roller unmounted Skid. Roller can be protruded or hidden according to position of chain.

⑨ Roller

Roller which is assembled with specific bearing minimize friction for long-distance travel.

⑩ Free End Bracket (FEB)

Free End Bracket is very effective in a way that it can be mounted up, down and front. It can be fixed stronger by steel washer. Shift Chain can be fixed with the diverse ways because FEB can be moved more than 45 degrees.

※ For S-Type don't need to put BR on FEB.

⑪ Tie Wrap (TW)

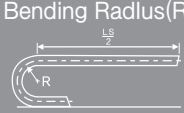
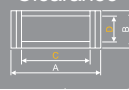






Tie Wrap fixes the cable in one straight line and prevent the cable from twisting and entangling during operation. There are two types available depending on the application: attached to bracket and separated from bracket.

⑫ 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.

➤➤ DIMENSIONS

ST - S : Skid Type

Shift Chain S Type	Pitch	Bending Radius(R) 	Weight kg/m	Speed m/sec	Temperature °C	Clearance 				Frame style 	Divider possible with frame 
						A	B	C	D		
ST 044S	44	70, 90, 120, 150	1.03	3	-30 ~ +130	74	38.5	35	26		
			1.08			89		50			
			1.10			94		55			
			1.17			114		75			
			1.26			139		100			
			1.40			164		125			
			1.52			189		150			
			1.81			214		175			
			1.98			239		200			
			ST 072S			72		100, 120, 145, 200, 250, 300			
2.57	130	75									
2.67	155	100									
2.81	180	125									
2.89	195	140									
2.95	205	150									
3.02	220	165									
3.07	230	175									
3.32	245	190									
3.49	255	200									
3.81	295	240									
3.89	305	250									
4.23	355	300									
ST 095S	95	135, 150, 200, 230, 280, 400		3.44	3		-30 ~ +130		137	89	75
			3.50	162		100					
			3.68	187		125					
			3.79	212		150					
			3.92	237		175					
			4.03	252		190					
			4.10	262		200					
			4.31	302		240					
			4.36	312		250					
			4.63	362		300					
			4.98	412		350					
			5.38	462		400					
ST 120S	120	180, 200, 250, 300, 350, 400, 500	4.71	3	-30 ~ +130	143	115	75	78		
			4.83			168		100			
			4.92			183		115			
			4.98			193		125			
			5.06			218		150			
			5.24			243		175			
			5.48			268		200			
			5.72			308		240			
			5.78			318		250			
			6.12			358		290			
			6.21			368		300			
			6.63			418		350			
			7.12			468		400			
			7.38			518		450			
			7.61			568		500			
			8.45			618		550			
			8.61			668		600			

(Dimensions in mm)

ST - ES : Enclosed Skid Type

Shift Chain ES Type	Pitch	Bending Radius(R) 	Weight kg/m	Speed m/sec	Temperature °C	Clearance 				Frame style 	Divider possible with frame
						A	B	C	D		
ST 044ES	44	70,90,120,150	1.18 1.37 1.53 1.74	3	-30 ~ +130	74 94 114 139	38.5	35 55 75 100	26		
ST 072ES	72	120,145, 200,250,300	2.77 3.01 3.25 3.49 3.73	3	-30 ~ +130	105 130 155 180 205	71.8	50 75 100 125 150	44		
ST 095ES	95	150,200, 230,280,400	4.16 4.41 4.65 4.90 5.15	3	-30 ~ +130	162 187 212 237 262	89	100 125 150 175 200	55		
ST 120ES	120	200, 250, 300, 350, 400, 500	6.28 6.92 7.56 8.20	3	-30 ~ +130	218 268 318 368	115	150 200 250 300	76		

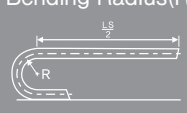
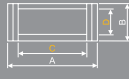












(Dimensions in mm)

ST - ERS : Enclosed Roller Skid Type

Shift Chain ERS Type	Pitch	Bending Radius(R) 	Weight kg/m	Speed m/sec	Temperature °C	Clearance 				Frame style 	Divider possible with frame
						A	B	C	D		
ST 044ERS	44	70,90,120,150	1.07 1.16 1.23 1.33	3	-30 ~ +130	73 93 113 138	40.5	35 55 75 100	24.5		
ST 072ERS	72	120, 145, 200, 250, 300	2.53 2.65 2.77 2.89 3.01	3	-30 ~ +130	104 129 154 179 204	69	50 75 100 125 150	44		
ST 095ERS	95	150, 200, 230, 280, 400	4.20 4.45 4.70 4.95 5.19	3	-30 ~ +130	168 193 218 243 268	85	100 125 150 175 200	55		
ST 120ERS	120	200, 250, 300, 350, 400, 500	5.17 5.48 5.78 6.09	3	-30 ~ +130	218 268 318 368	112	150 200 250 300	76		
ST 150ERS	150	305, 405, 505, 605	10.23 10.84 11.45 12.06 12.67	3	-30 ~ +130	287 337 387 437 487	145	200 250 300 350 400	110		

(Dimensions in mm)

ST - RS : Roller Skid Type

Shift Chain RS Type	Pitch	Bending Radlus(R) 	Weight kg/m	Speed m/sec	Temperature °C	Clearance 				Frame style 	Divider possible with frame 									
						A	B	C	D											
ST 044RS	44	70, 90, 120, 150	1.09	3	-30 ~ +130	73	40.5	35	26											
			1.15			88		50												
			1.17			93		55												
			1.24			113		75												
			1.33			138		100												
			1.47			163		125												
			1.59			188		150												
			1.88			213		175												
			2.05			238		200												
			ST 072RS			72		100, 120, 145, 200 250, 300				2.59	3	-30 ~ +130	104	69	50	45		
2.67	129	75																		
2.77	154	100																		
2.91	179	125																		
3.02	194	140																		
3.05	204	150																		
3.12	219	165																		
3.17	229	175																		
3.42	244	190																		
3.59	254	200																		
3.91	294	240																		
3.99	304	250																		
4.34	354	300																		
ST 095RS	95	135, 150, 200, 230, 280, 400	3.48	3	-30 ~ +130	143	90	75	56											
			3.55			168		100												
			3.73			193		125												
			3.84			218		150												
			3.96			243		175												
			4.07			258		190												
			4.14			268		200												
			4.36			308		240												
			4.41			318		250												
			4.67			368		300												
			5.03			418		350												
			5.43			468		400												
			ST 120RS			120		180, 200, 250, 300, 350, 400, 500				4.75	3	-30 ~ +130	143	117	75	78		
												4.87			168		100			
4.96	183	115																		
5.02	193	125																		
5.10	218	150																		
5.28	243	175																		
5.52	268	200																		
5.76	308	240																		
5.82	318	250																		
6.16	358	290																		
6.25	368	300																		
6.67	418	350																		
6.96	468	400																		
7.42	518	450																		
7.65	568	500																		
8.49	618	550																		
8.66	668	600																		
ST 150RS	150	305, 405, 505, 605		7.87	3		-30 ~ +130		162	145	75	110								
			7.98	187		100														
			8.06	202		115														
			8.11	212		125														
			8.18	237		150														
			8.34	262		175														
			8.55	287		200														
			8.76	327		240														
			8.81	337		250														
			9.11	377		290														
			9.18	387		300														
			9.55	437		350														
			9.98	487		400														
			10.21	537		450														
			10.41	587		500														
			11.14	637		550														
			11.29	687		600														

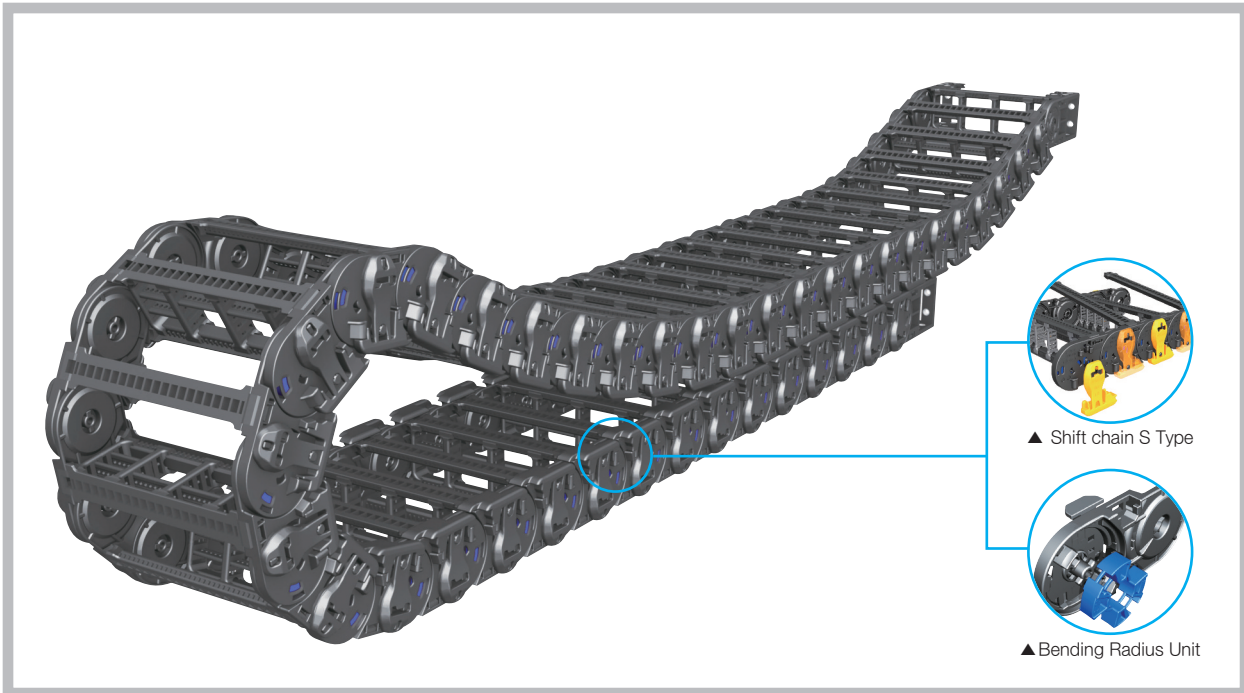
(Dimensions in mm)

Shift chain[®]

ST-S : Skid Type

- | | |
|----------|------|
| ■ ST044S | 99p |
| ■ ST072S | 104p |
| ■ ST095S | 109p |
| ■ ST120S | 114p |

ST 044S, 072S, 095S, 120S | Skid Type



■ Chain material

: CPS-amide, UL94-HB

■ Temperature

: -30°C ~ +130°C

■ Speed

: 3m / sec

■ Acceleration

: 10m / s²

■ Acceleration

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

■ Installation

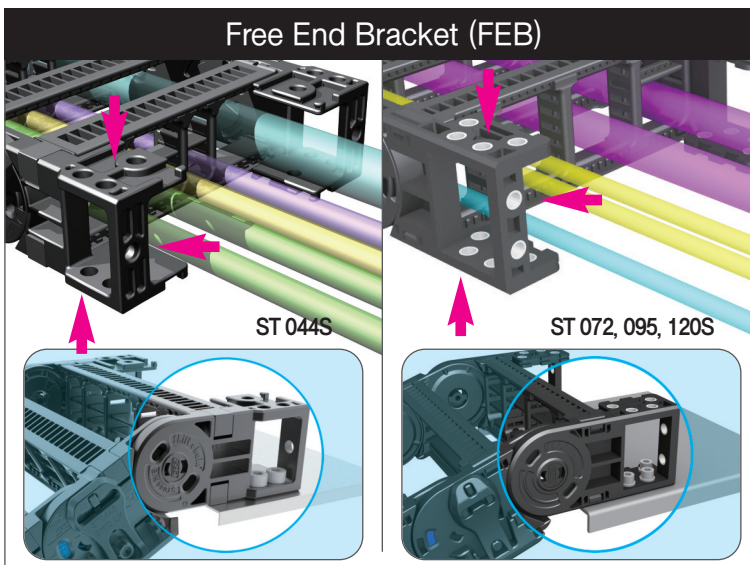
: 0.3 ~ 0.4μ

■ Applications

Facilities and equipments requiring a long travel distance as below; Gantry Robots, Robot Carriages, Automatic Welding Lines, Gantry Cranes, Gantry loader etc.

Affer using skid for a long time, it can be replaced without extra components.

BRACKET TYPE



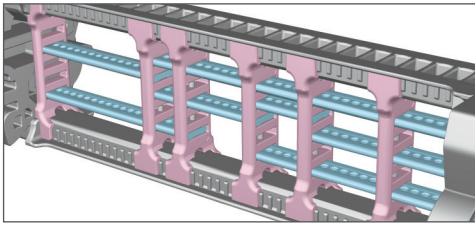
FEB Fixes the cable chain to the machinery or moving application. CPS has improved mounting efficiency by unifying the existing Easy End Bracket and Normal End Bracket. The End Bracket is designed to move up and down as the cable chain or application requires. To add strength, steel washers are inserted into the fixing holes of each Free End Bracket(ST072, 095, 120S).

▶ BR should not be inserted in the joint of side band and Free End Bracket.

! Above products are patent registered item which can be protected by industrial property right.

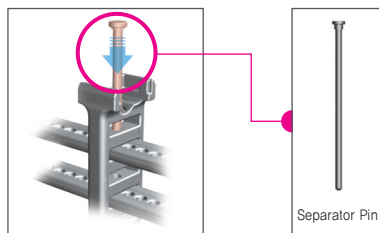
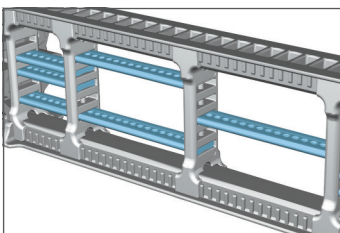


⇩ DIVIDERS



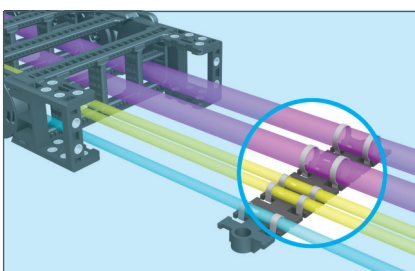
Dividers (Vertical) and Separators (Horizontal) divide the inner chamber of the cable chain to give each cable diameter its own center and keep the cables separated from each other. The use of a separator in some cases, can also reduce the width requirements as two or more levels can be made within the same chamber. To prevent twisting or damage to the cables, as a rule, there needs to be at least 10% space between the inserted cable and its enclosure.

⇩ SEPARATORS



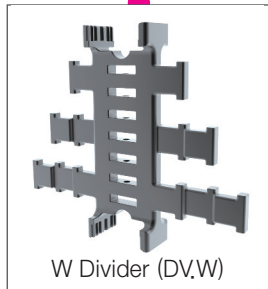
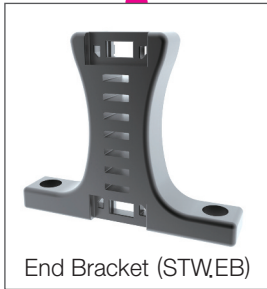
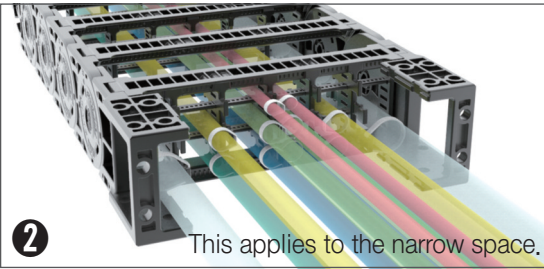
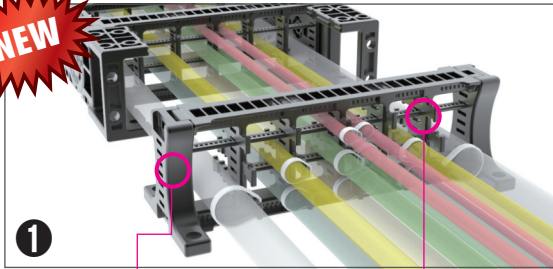
Separator is available in length from 20mm to 600mm and can be cut every 5mm for use. The combined use of divider and separator with the pin creates the most effective cable pattern and keep insertion space for cables safely, so it protects the inserted cables.

⇩ TIE WRAP



The Tie wrap separated from the Sabin Chain bracket, when installed properly, protects the inserted cables from becoming entangled and twisted during operation. There are two types in the tie wrap; Attached & Unattached to the bracket.

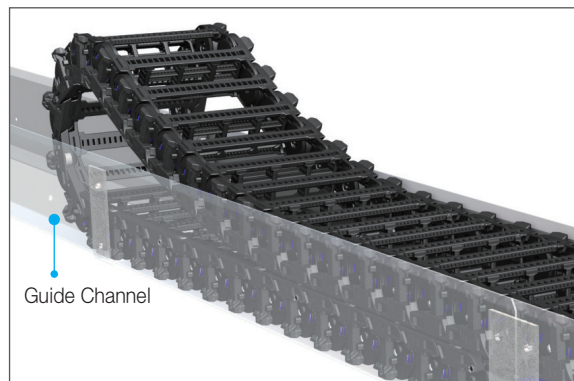
SYSTEM TIE WRAP



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 1 outside the other one is 2 to assemble inside bracket.

GUIDE CHANNEL

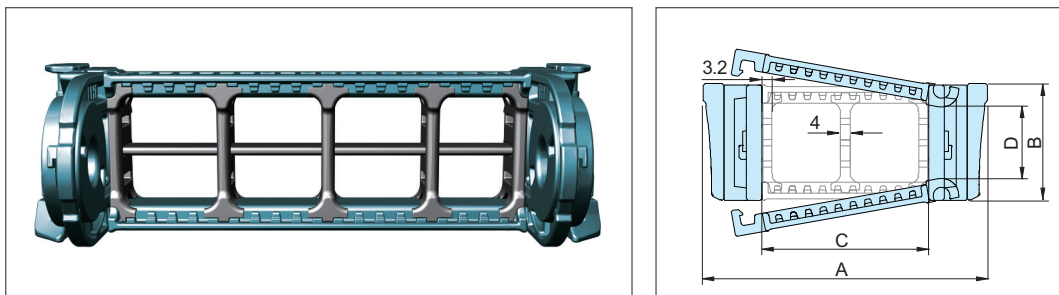
For long stroke applications the guide channel is applied to ensure that the nsb chain S-Type stays on track and to ensure safety during operation. With the application of a rubber pad on the channel floor, noise is reduced to a minimum. Guide channels are made of Steel+Zn and can be customized with SUS material.



! Thickness can be changed by the product standards of material.

ST 044S | Skid Type

CHAIN CROSS SECTION

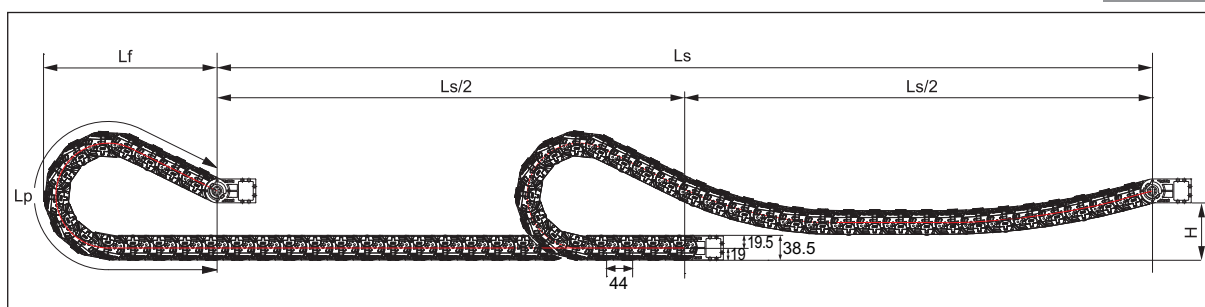


Chain Type	A Width (Outer)	B Height (Outer)	C Frame	D Height (Inner)	Weight kg/m
ST 044S	74	38,5	35	26	1,03
	89		50		1,08
	94		55		1,10
	114		75		1,17
	139		100		1,26
	164		125		1,40
	189		150		1,52
	214		175		1,81
	239		200		1,98

(Dimensions in mm)

LAYOUT OF THE CHAIN

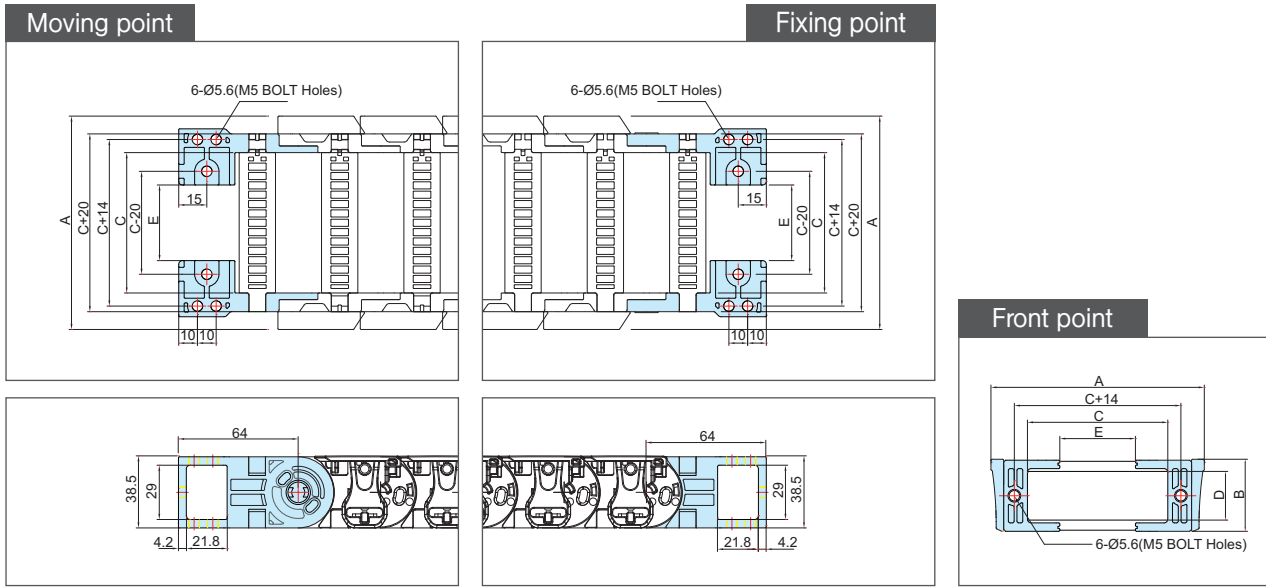
Ls: Stroke



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

(Dimensions in mm)

FREE END BRACKET

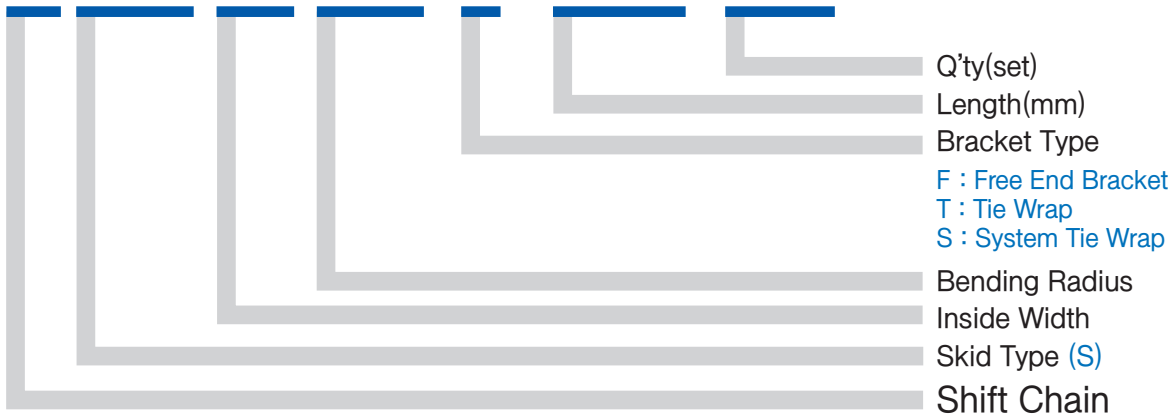


Chain Type	A Width (Outer)	B Height (Outer)	C Frame	D Height (Inner)	E M,EB Bolt hole width	Hole Type
ST 044S	74	38,5	35	26	0,4	M5 Bolt Holes
	89		50		15,4	
	94		55		20,4	
	114		75		40,4	
	139		100		65,4	
	164		125		90,4	
	189		150		115,4	
	214		175		140,4	
	239		200		165,4	

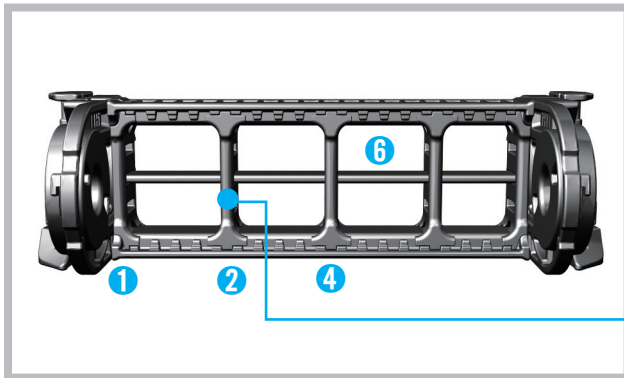
(Dimensions in mm)

ORDERING

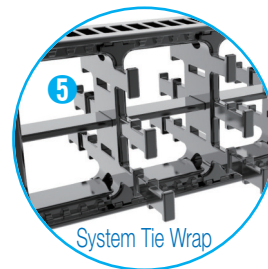
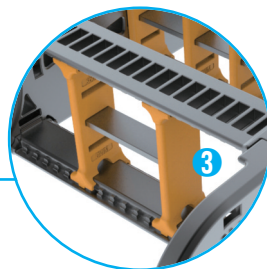
ST 044S. 100. R120 / F - 1500L : 10ST



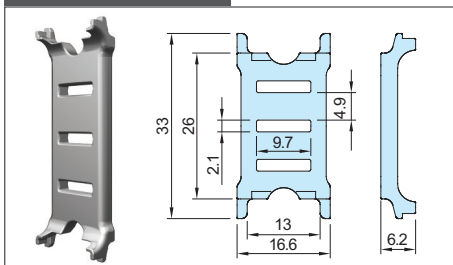
⇩ DIVIDERS (DV)



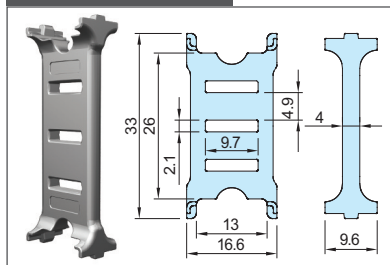
Assemble divider every Two links.
 DV.T : Applied to Frame 125~200.
 DV.M : Separated with open pin type and closed.
 DV.W : Applicable to System Tie Wrap or FEB.



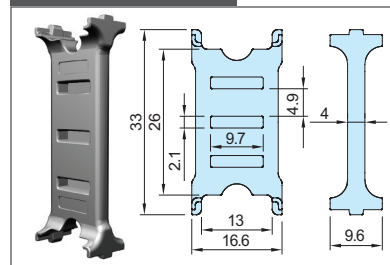
① DV05.S



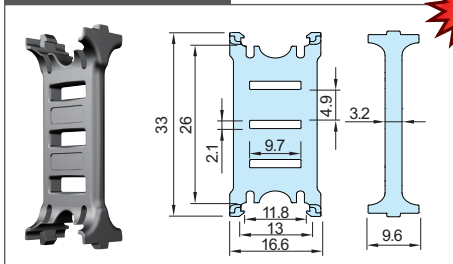
② DV05.M1



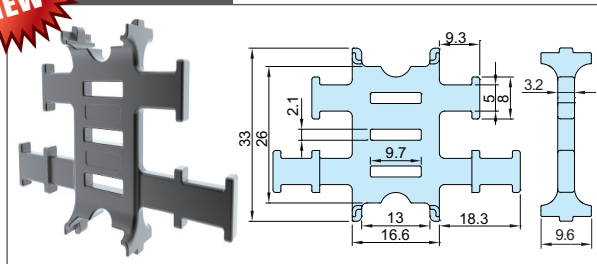
③ DV05.M2



④ DV05.T

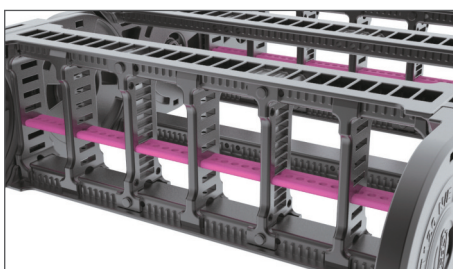


⑤ DV05.W

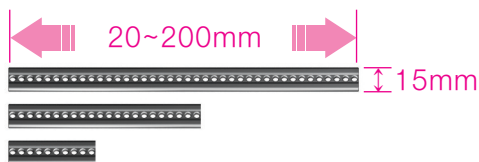


(Dimensions in mm)

⇩ SEPARATORS (SP)



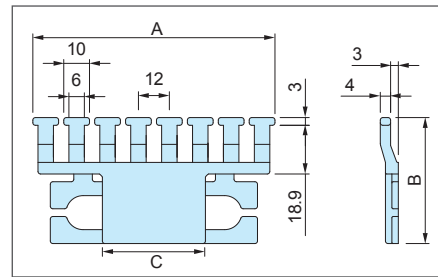
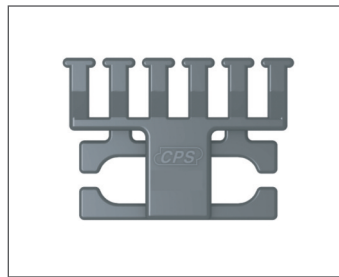
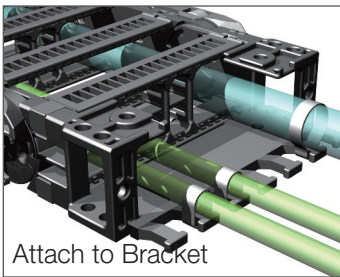
⑥ SP01 : Can order according to desired length of section.



Chain Type	Ordering NO.	Frame
ST 044S	SP01,035	35
	SP01,050	50
	SP01,055	55
	SP01,075	75
	SP01,100	100
	SP01,125	125
	SP01,150	150
	SP01,175	175
	SP01,200	200

(Dimensions in mm)

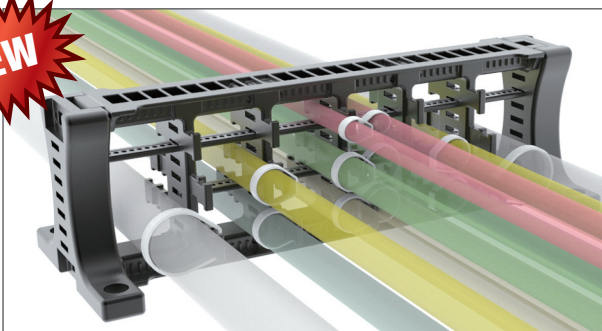
⇩ TIE WRAP



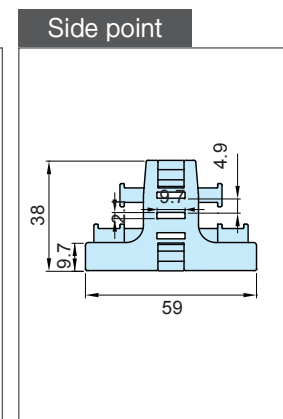
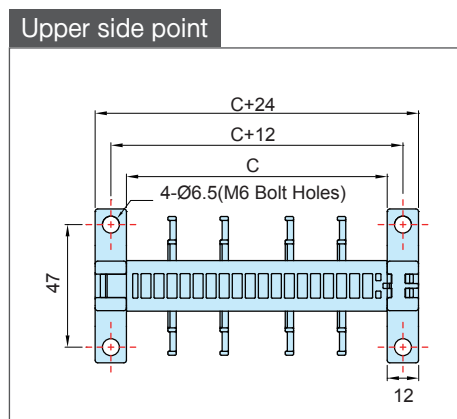
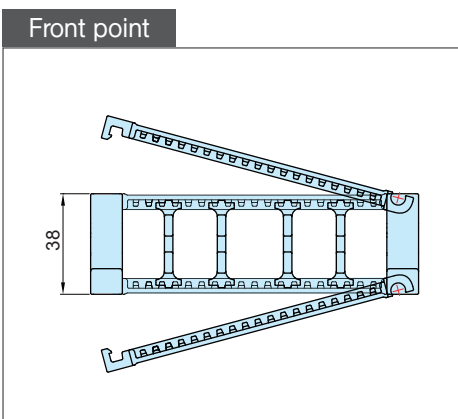
Chain Type	Ordering NO.	A	B	C
ST 044S	TW03.035	46	35.4	-
	TW03.050	70	48.9	15
	TW03.055	70	48.9	20
	TW03.075	94	48.9	40
	TW03.100	118	48.9	65
	TW03.125	142	48.9	90

(Dimensions in mm)

⇩ SYSTEM TIE WRAP (STW)



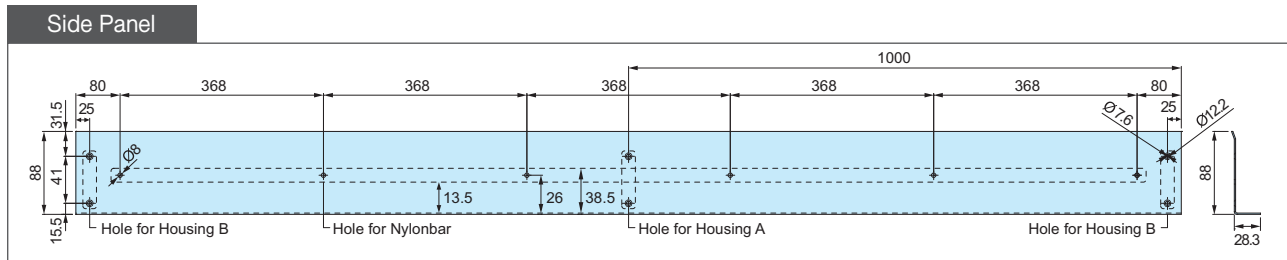
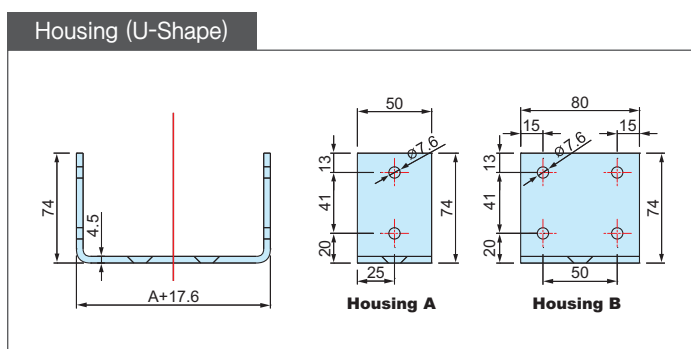
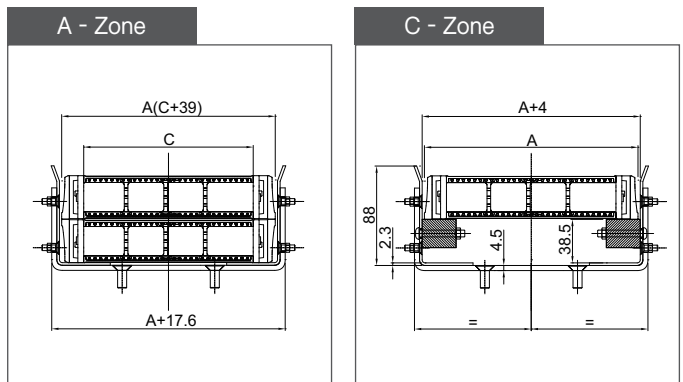
Size of separator and divider will change according to the size of frame and cables(hose).



Chain Type	Ordering NO.	C Frame	Hole Type
ST 044S	STW01.035	35	M6 Bolt Holes
	STW01.050	50	
	STW01.055	55	
	STW01.075	75	
	STW01.100	100	
	STW01.125	125	
	STW01.150	150	
	STW01.175	175	
	STW01.200	200	

(Dimensions in mm)

GUIDE CHANNEL



(Dimensions in mm)

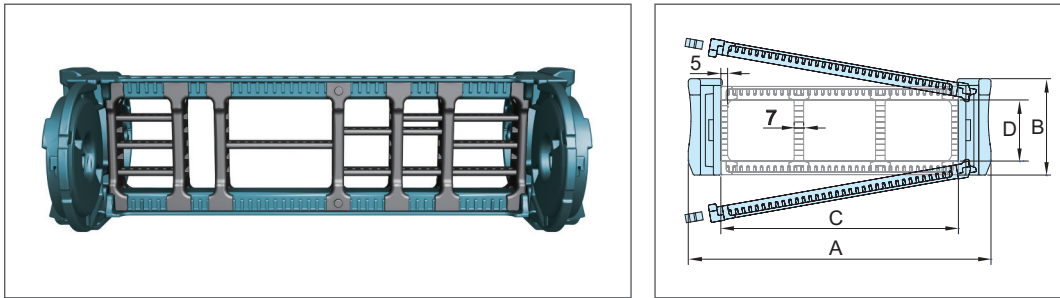
GUIDE CHANNEL ORDERING

ST-GCS 044S. 100 / A,C : 200M



ST 072S | Skid Type

CHAIN CROSS SECTION

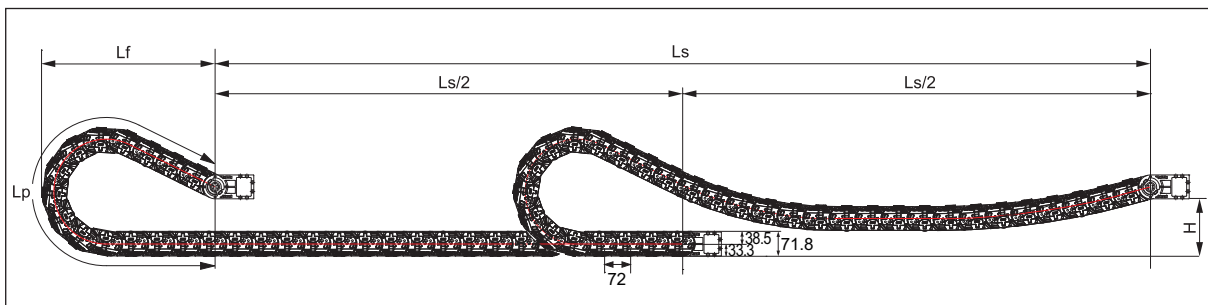


Chain Type	A Width (Outer)	B Height (Outer)	C Frame	D Height (Inner)	Weight kg/m
ST 072S	105	71.8	50	45	2.48
	130		75		2.57
	155		100		2.67
	180		125		2.81
	195		140		2.89
	205		150		2.95
	220		165		3.02
	230		175		3.07
	245		190		3.32
	255		200		3.49
	295		240		3.81
	305		250		3.89
355	300	4.23			

(Dimensions in mm)

LAYOUT OF THE CHAIN

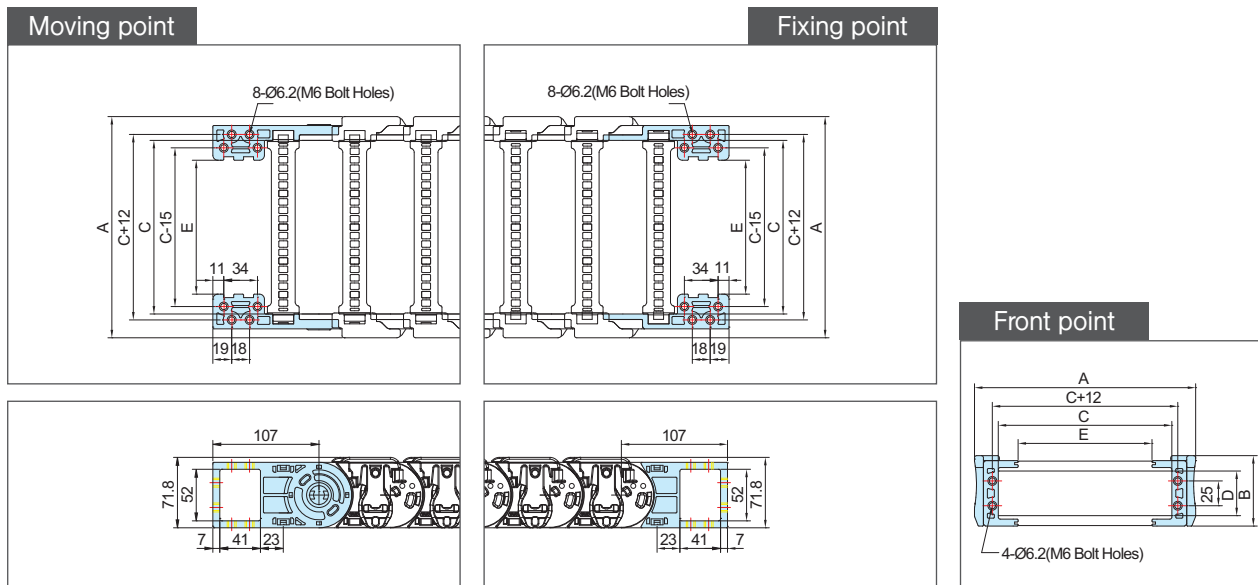
Ls: Stroke



Bending Radius (R)	Lp Loop Length	Lf Loof Projection	H Moving Height
100	806	380	180
120	917	420	
145	1,063	470	
200	1,400	580	
250	1,840	752	
300	2,280	924	

(Dimensions in mm)

FREE END BRACKET



Chain Type	A Width (Outer)	B Height (Outer)	C Frame	D Height (Inner)	E M,EB Bolt hole width	Hole Type
ST 072S	105	71.8	50	45	10	M6 Bolt Holes
	130		75		35	
	155		100		60	
	180		125		85	
	195		140		100	
	205		150		110	
	220		165		125	
	230		175		135	
	245		190		150	
	255		200		160	
	295		240		200	
	305		250		210	
355	300	260				

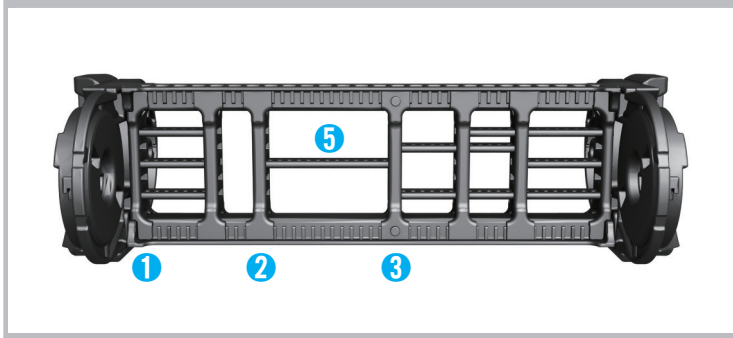
(Dimensions in mm)

ORDERING

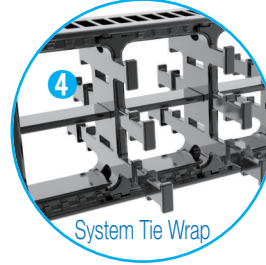
ST 072S. 175. R200 / F - 10000L : 10ST



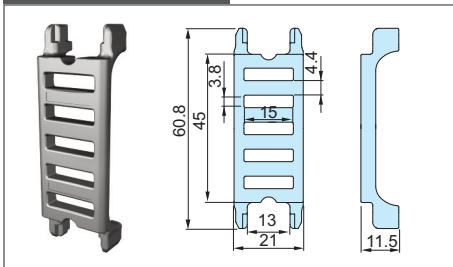
⇩ DIVIDERS (DV)



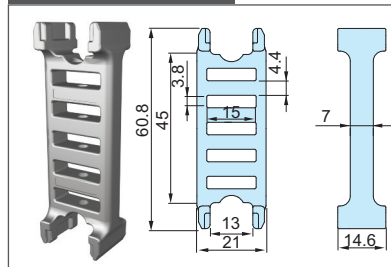
Assemble divider every Two links.
 DV.T : Applied to Frame 200~300.
 DV.W : Applicable to System Tie Wrap or FEB.



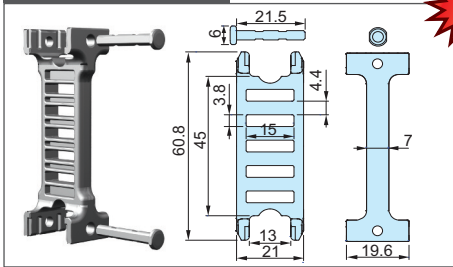
① DV07.S



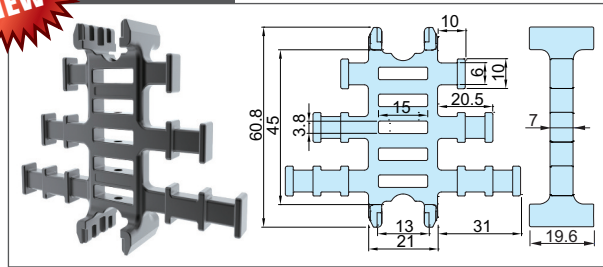
② DV07.M



③ DV07.T

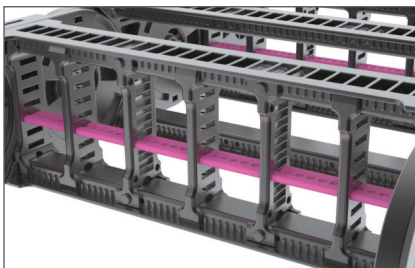


④ DV07.W

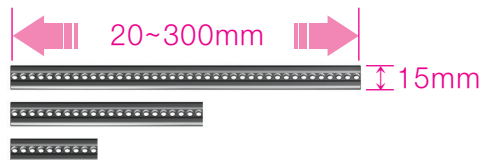


(Dimensions in mm)

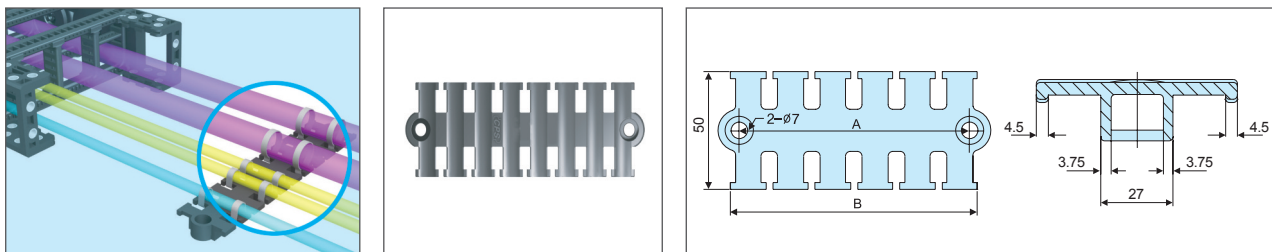
⇩ SEPARATORS (SP)



⑤ SP02 : Can order according to desired length of section.



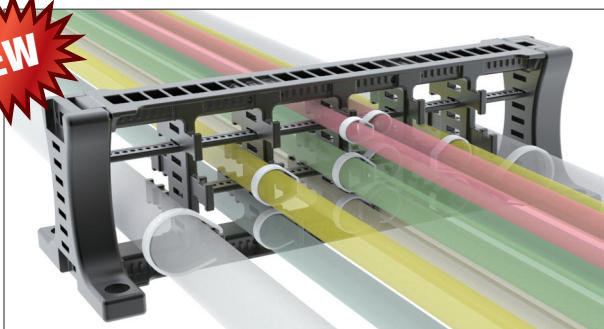
⇩ TIE WRAP (TW)



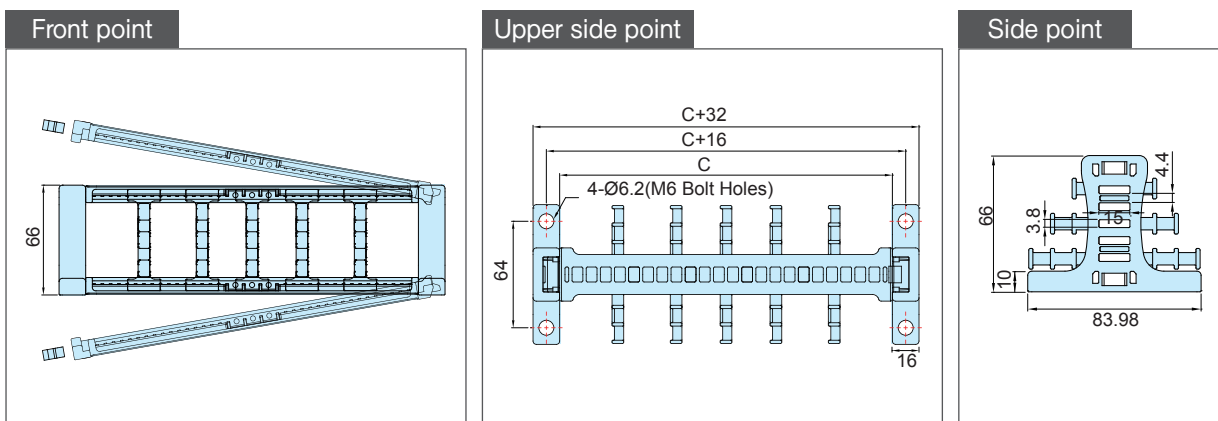
Chain Type	Ordering NO.	A	B
ST 072S	TW05.050	58	65
	TW05.075	75	82
	TW05.100	98	105
	TW05.125	122	129
	TW05.150	141	148

(Dimensions in mm)

⇩ SYSTEM TIE WRAP (STW)



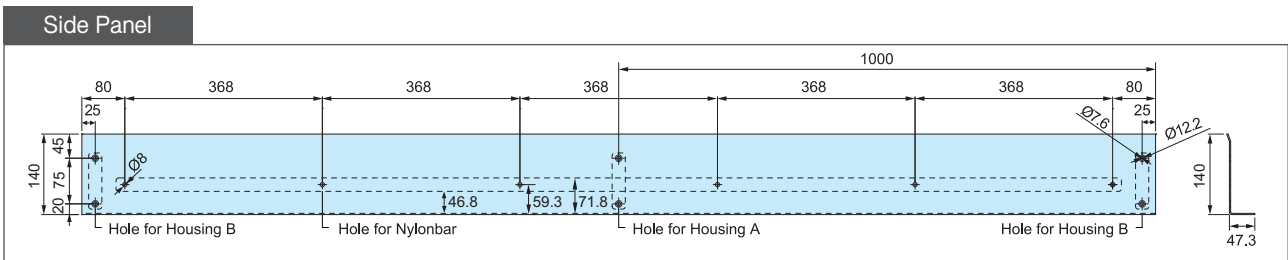
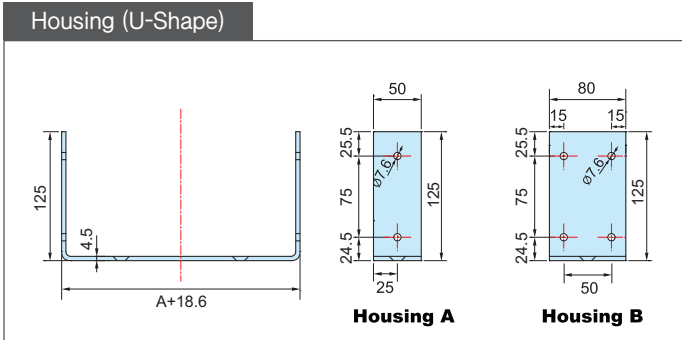
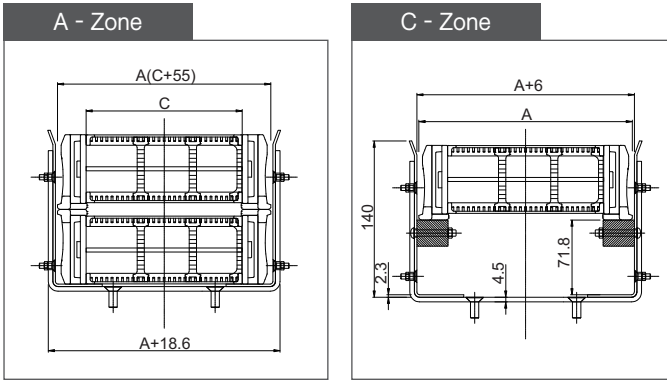
Size of separator and divider will change according to the size of frame and cables(hose).



Chain Type	Ordering NO.	C Frame	Hole Type
ST 072S	STW03.050	50	M6 Bolt Holes
	STW03.075	75	
	STW03.100	100	
	STW03.125	125	
	STW03.140	140	
	STW03.150	150	
	STW03.165	165	
	STW03.175	175	
	STW03.190	190	
	STW03.200	200	
	STW03.240	240	
	STW03.250	250	
STW03.300	300		

(Dimensions in mm)

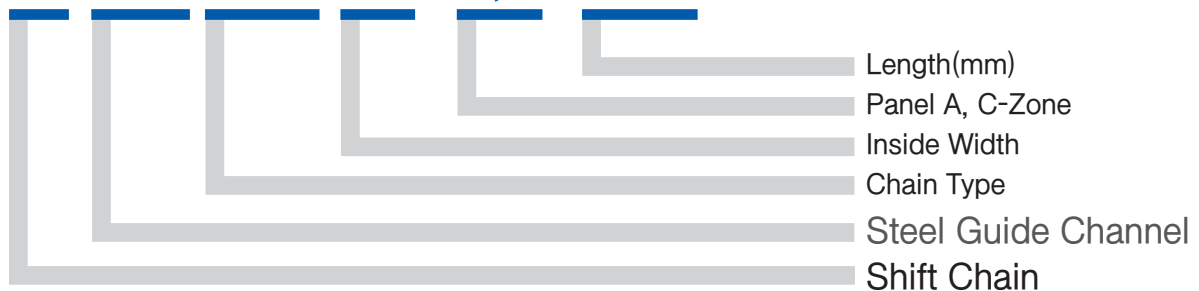
GUIDE CHANNEL



(Dimensions in mm)

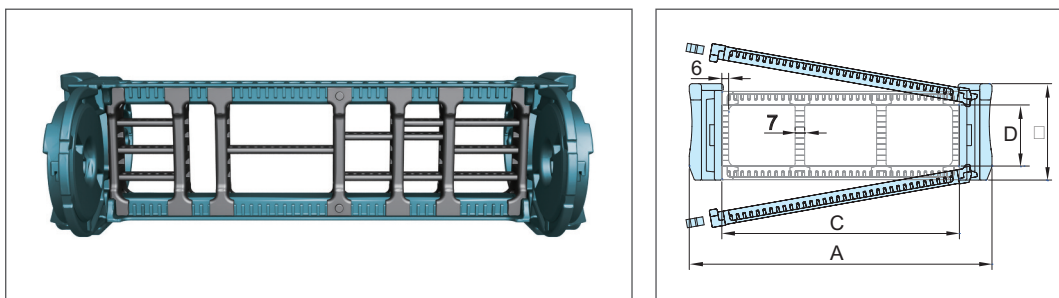
GUIDE CHANNEL ORDERING

ST-GCS 072S. 175 / A,C : 200M



ST 095S | Skid Type

CHAIN CROSS SECTION

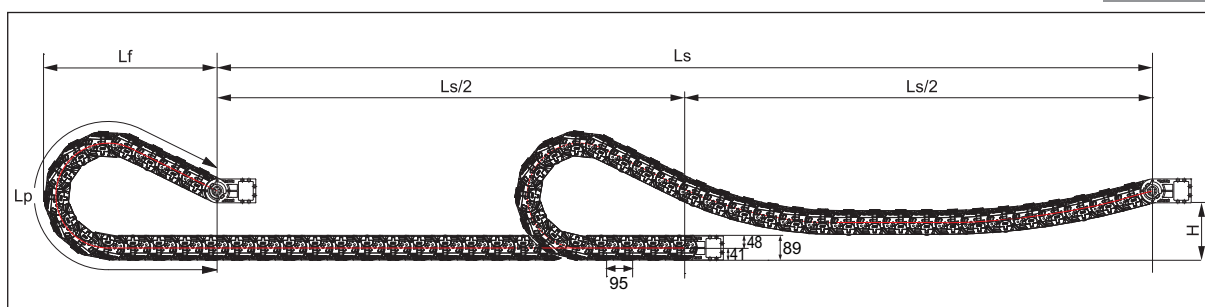


Chain Type	A Width (Outer)	B Height (Outer)	C Frame	D Height (Inner)	Weight kg/m
ST 095S	137	89	75	56	3,44
	162		100		3,50
	187		125		3,68
	212		150		3,79
	237		175		3,92
	252		190		4,03
	262		200		4,10
	302		240		4,31
	312		250		4,36
	362		300		4,63
412	350	4,98			
462	400	5,38			

Dimensions in mm)

LAYOUT OF THE CHAIN

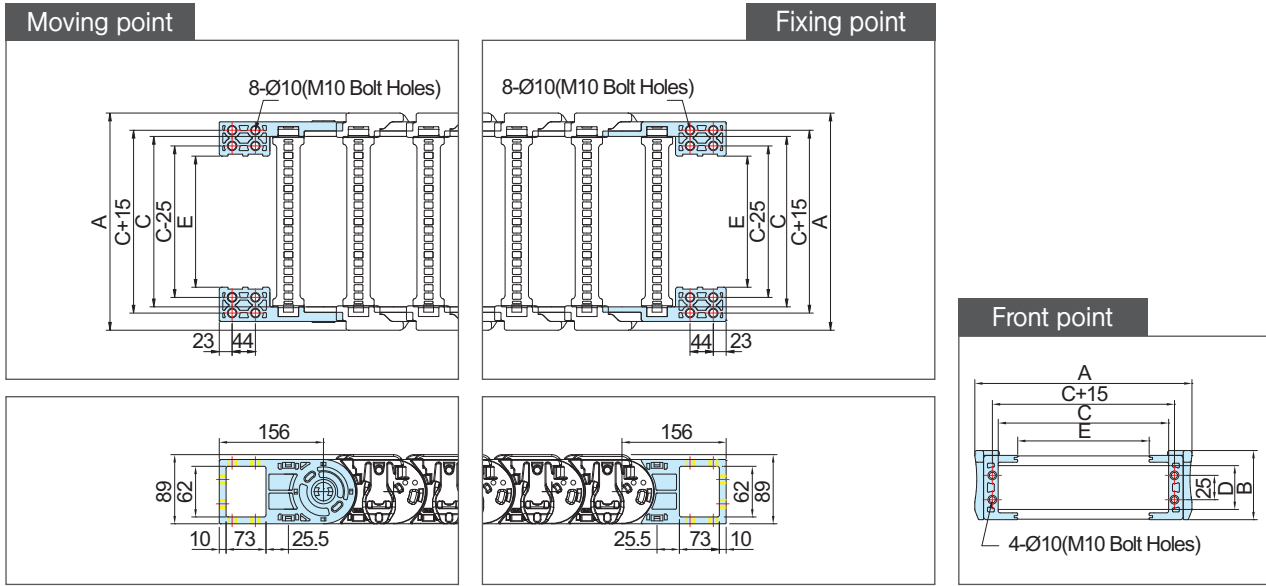
Ls: Stroke



Bending Radius (R)	Lp Loop Length	Lp Loop Length	H Moving Height
135	1,091	504	210
150	1,178	534	
200	1,479	634	
230	1,666	694	
280	2,146	889	
400	3,232	1,319	

(Dimensions in mm)

FREE END BRACKET



Chain Type	A Width (Outer)	B Height (Outer)	C Frame	D Height (Inner)	E M,EB Bolt hole width	Hole Type
ST 095S	137	89	75	56	24	M10 Bolt Holes
	162		100		49	
	187		125		74	
	212		150		99	
	237		175		124	
	252		190		139	
	262		200		149	
	302		240		189	
	312		250		199	
	362		300		249	
	412		350		299	
462	400	349				

(Dimensions in mm)

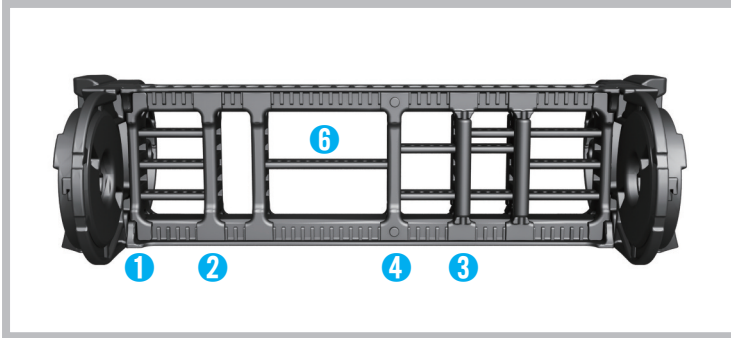
ORDERING

ST 095S. 200. R200 / F - 10000L : 10ST

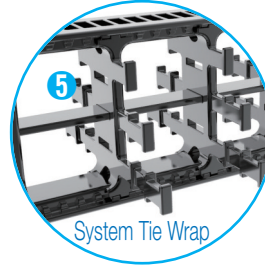




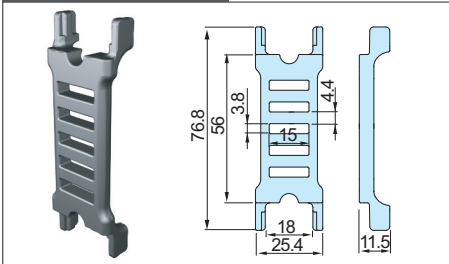
⇩ DIVIDERS (DV)



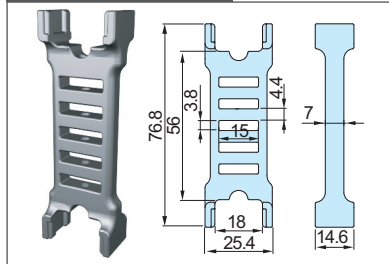
Assemble divider every Two links.
DV.T : Applied to Frame 250~400.
DV.W : Applicable to System Tie Wrap or FEB.



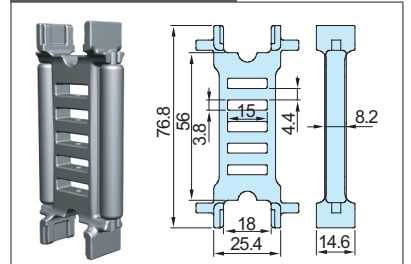
① DV09.S



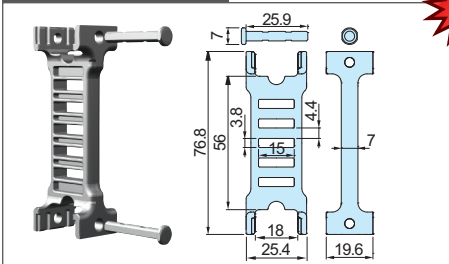
② DV09.M



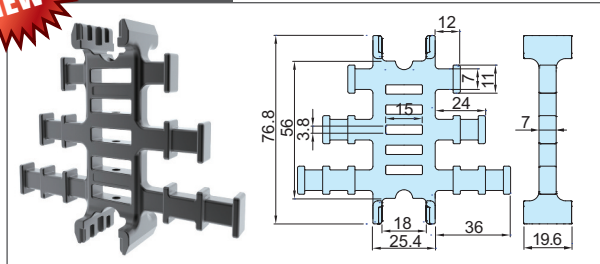
③ DV09.R



④ DV09.T

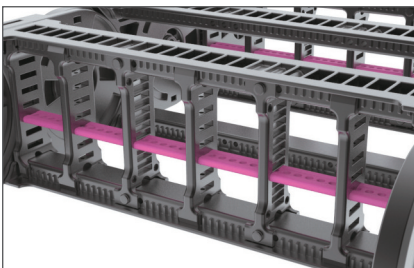


⑤ DV09.W

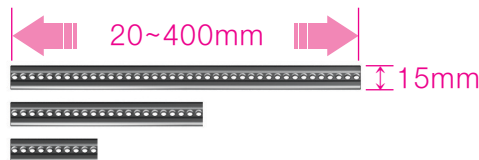


(Dimensions in mm)

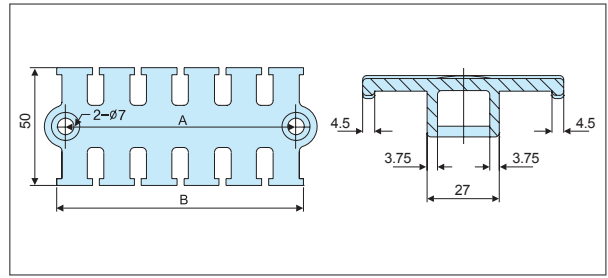
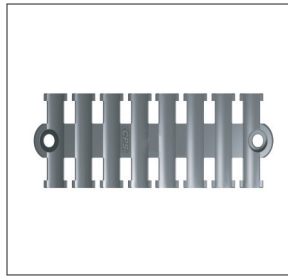
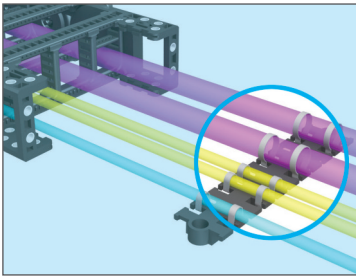
⇩ SEPARATORS (SP)



⑥ SP02 : Can order according to desired length of section.



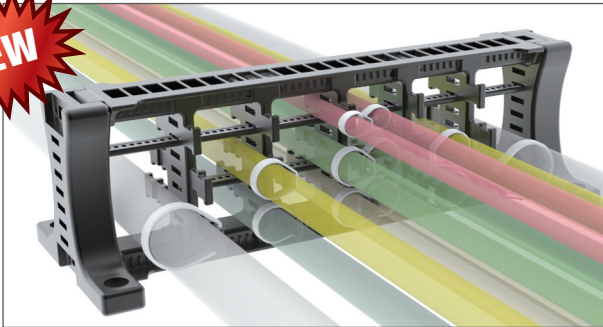
⇩ TIE WRAP (TW)



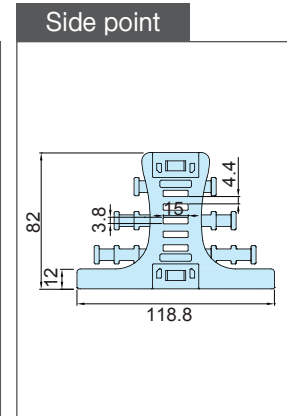
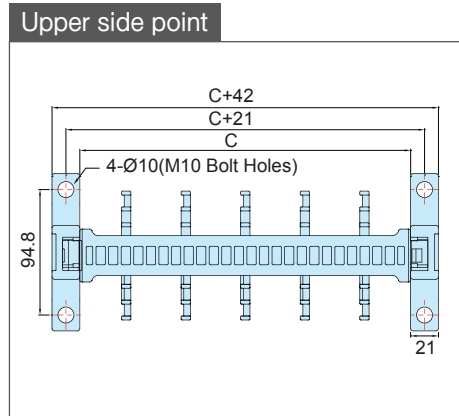
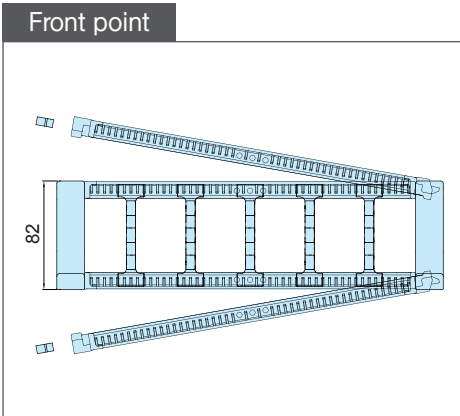
Chain Type	Ordering NO.	A	B
ST 095S	TW05,050	58	65
	TW05,075	75	82
	TW05,100	98	105
	TW05,125	122	129
	TW05,150	141	148

(Dimensions in mm)

⇩ SYSTEM TIE WRAP (STW)



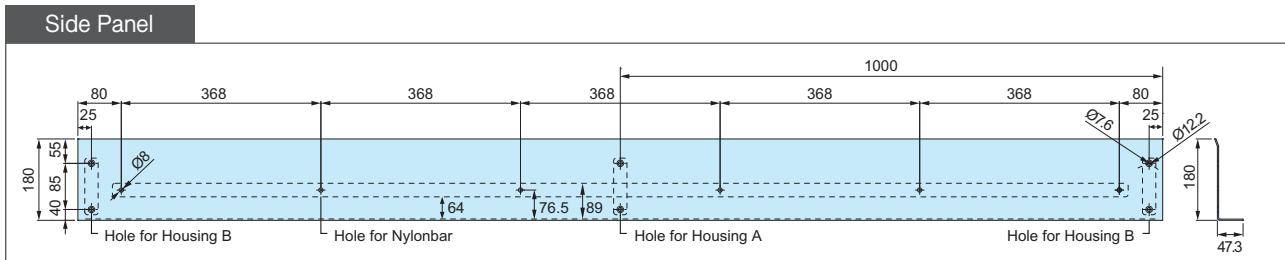
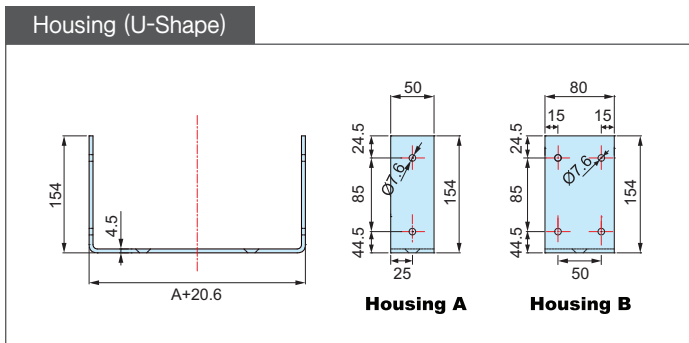
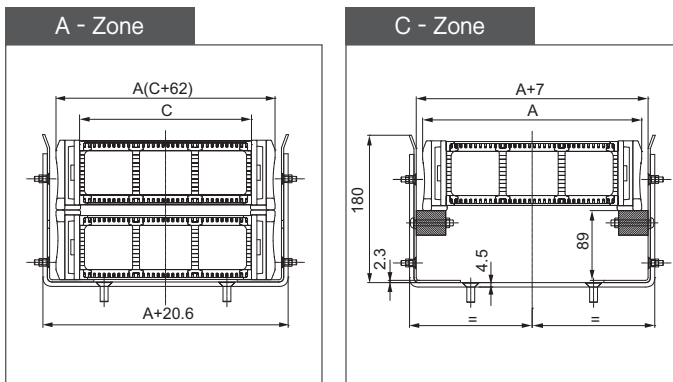
Size of separator and divider will change according to the size of frame and cables(hose).



Chain Type	Ordering NO.	C Frame	Hole Type
ST 095S	STW04,075	75	M10 Bolt Holes
	STW04,100	100	
	STW04,125	125	
	STW04,150	150	
	STW04,175	175	
	STW04,190	190	
	STW04,200	200	
	STW04,240	240	
	STW04,250	250	
	STW04,300	300	
	STW04,350	350	
	STW04,400	400	

(Dimensions in mm)

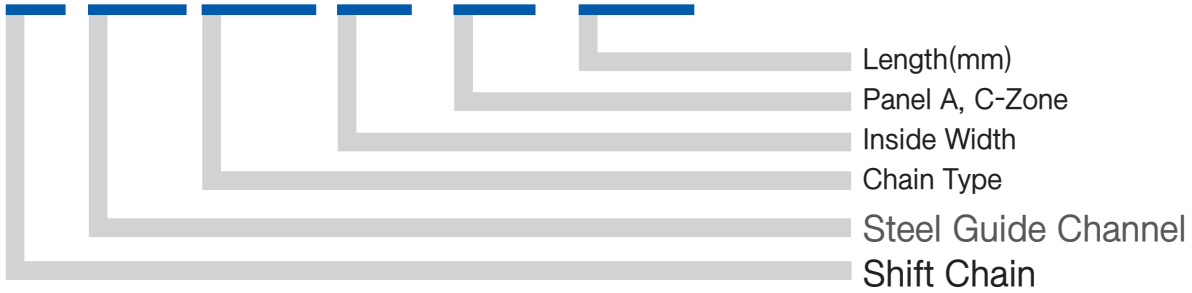
GUIDE CHANNEL



(Dimensions in mm)

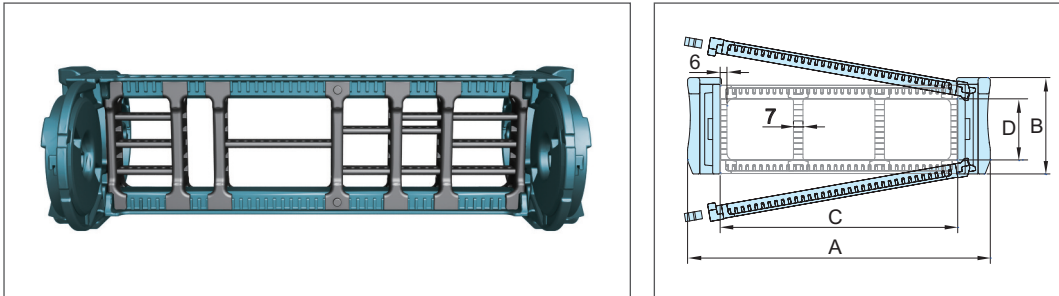
GUIDE CHANNEL ORDERING

ST-GCS 095S. 175 / A,C : 200M



ST 120S | Skid Type

CHAIN CROSS SECTION

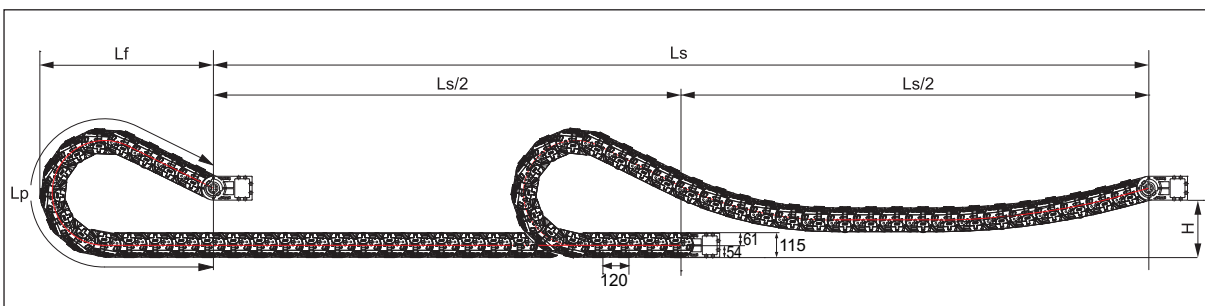


Chain Type	A Width (Outer)	B Height (Outer)	C Frame	D Height (Inner)	Weight kg/m
ST 120S	143	115	75	78	4.71
	168		100		4.83
	183		115		4.92
	193		125		4.98
	218		150		5.06
	243		175		5.24
	268		200		5.48
	308		240		5.72
	318		250		5.78
	358		290		6.12
	368		300		6.21
	418		350		6.63
	468		400		7.12
518	450	7.38			
568	500	7.61			
618	550	8.45			
668	600	8.61			

(Dimensions in mm)

LAYOUT OF THE CHAIN

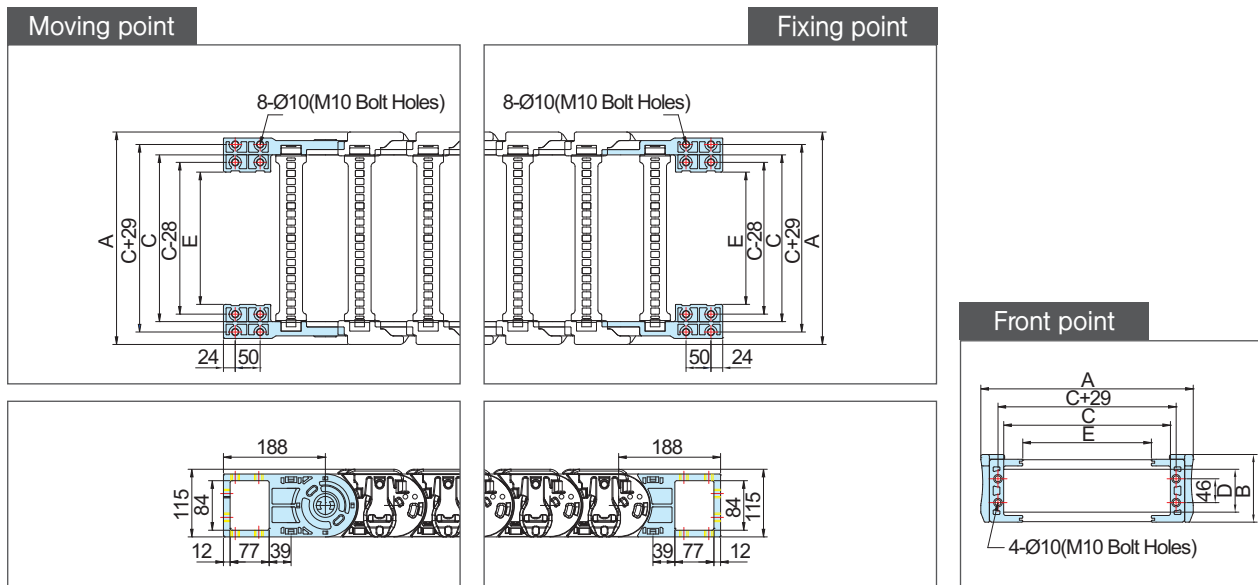
Ls: Stroke



Bending Radius (R)	Lp Loop Length	Lf Loof Projection	H Moving Height
180	1,441	654	260
200	1,559	694	
250	1,864	794	
300	2,178	894	
350	2,701	1,114	
400	3,225	1,334	
500	4,062	1,654	

(Dimensions in mm)

FREE END BRACKET



Chain Type	A Width (Outer)	B Height (Outer)	C Frame	D Height (Inner)	E M,EB Bolt hole width	Hole Type
ST 120S	143	115	75	78	15	M10 Bolt Holes
	168		100		40	
	183		115		55	
	193		125		65	
	218		150		90	
	243		175		115	
	268		200		140	
	308		240		180	
	318		250		190	
	358		290		230	
	368		300		240	
	418		350		290	
	468		400		340	
	518		450		390	
568	500	440				
618	550	490				
668	600	540				

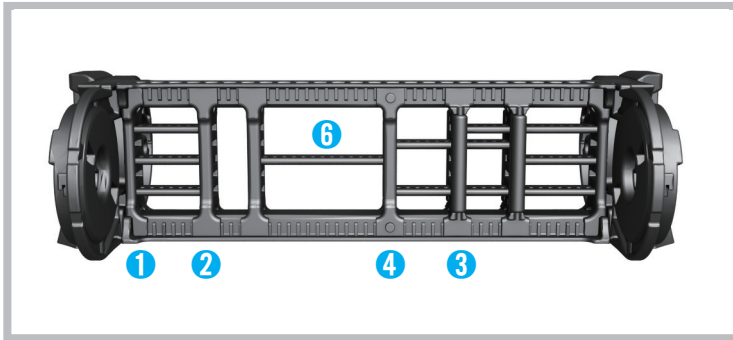
(단위 : mm)

ORDERING

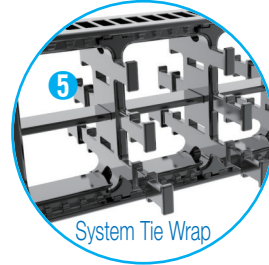
ST 120S. 300. R200 / F - 10000L : 10ST



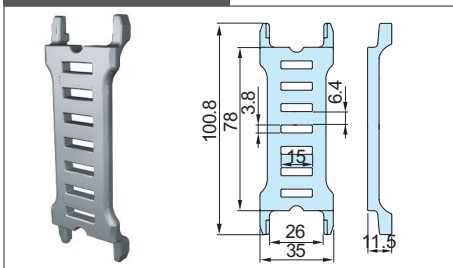
⇩ DIVIDERS (DV)



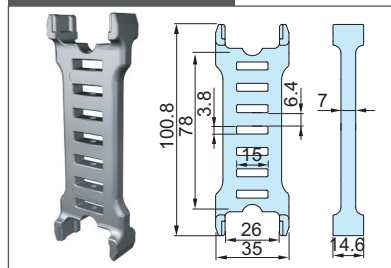
Assemble divider every Two links.
 DV.T : Applied to Frame 300~600.
 DV.W : Applicable to System Tie Wrap or FEB.



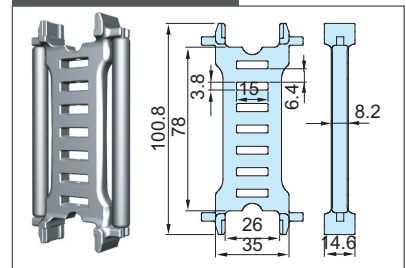
① DV10.S



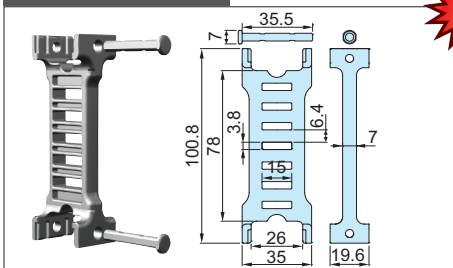
② DV10.M



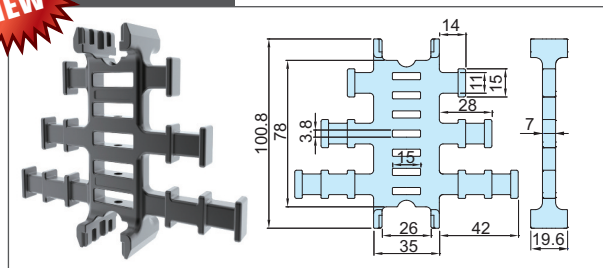
③ DV10.R



④ DV10.T

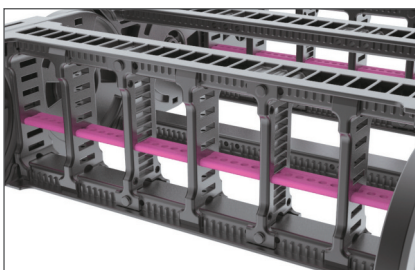


⑤ DV10.W

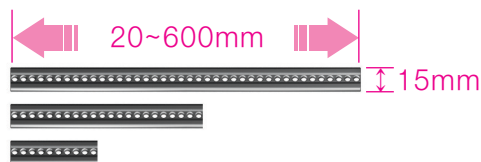


(Dimensions in mm)

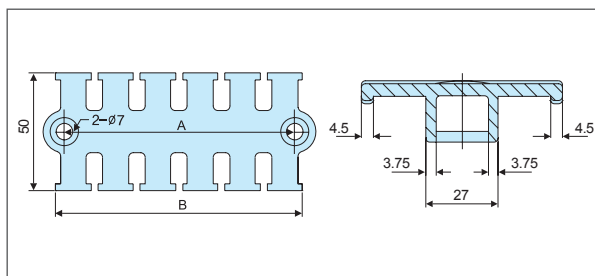
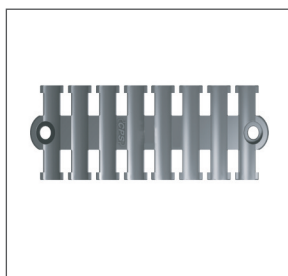
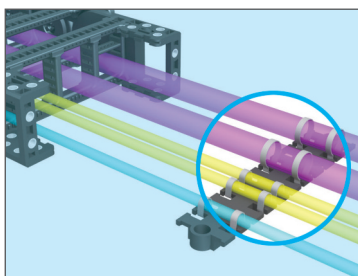
⇩ SEPARATORS (SP)



⑥ SP02 : Can order according to desired length of section.



TIE WRAP (TW)

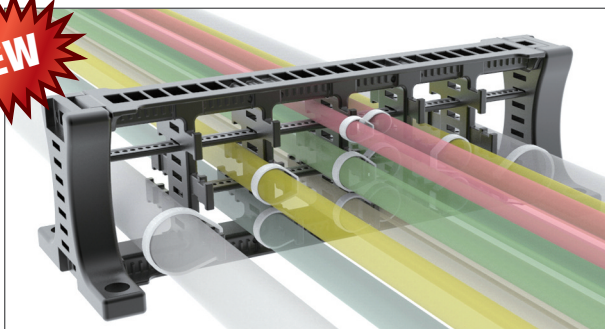


Chain Type	Ordering NO.	A	B
ST 120S	TW05.050	58	65
	TW05.075	75	82
	TW05.100	98	105
	TW05.125	122	129
	TW05.150	141	148

(Dimensions in mm)

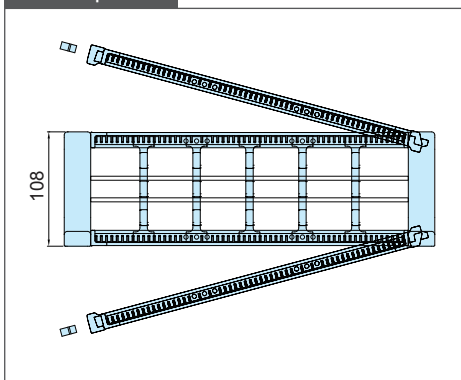
SHIFT CHAIN

SYSTEM TIE WRAP (STW)

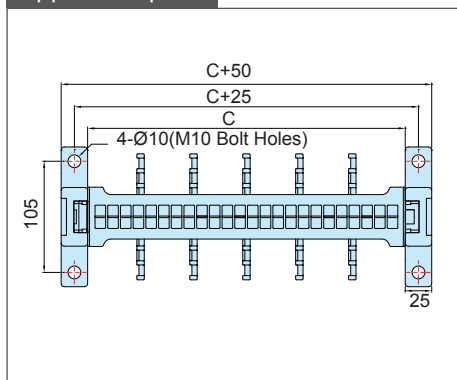


Size of separator and divider will change according to the size of frame and cables(hose).

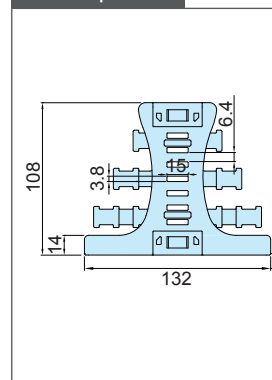
Front point



Upper side point



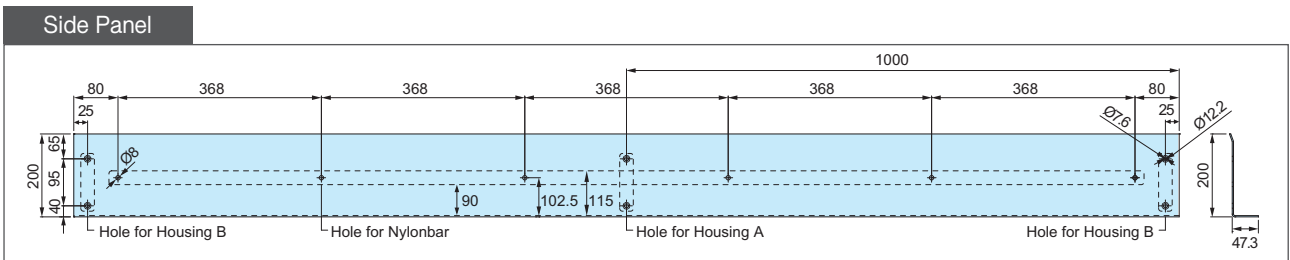
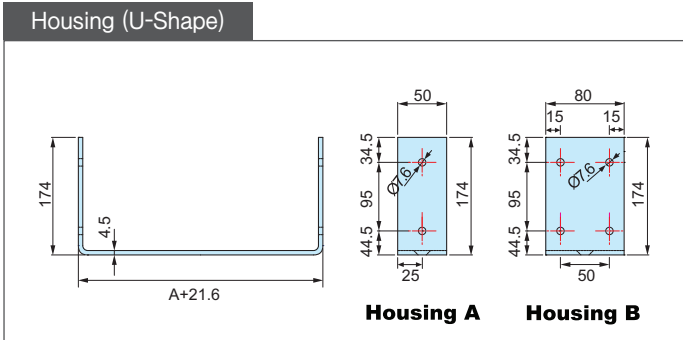
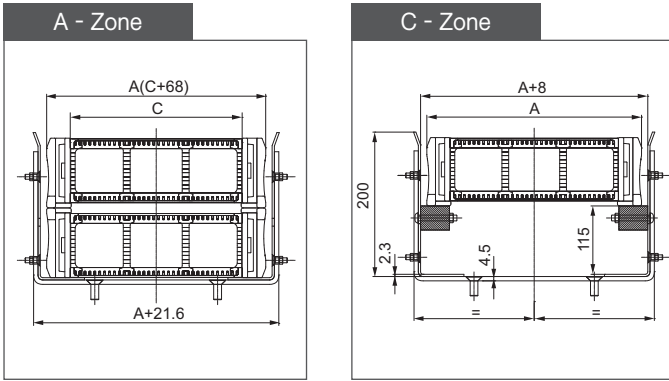
Side point



Chain Type	Ordering NO.	C Frame	Hole Type
ST 120S	STW05.075	75	M10 Bolt Holes
	STW05.100	100	
	STW05.115	115	
	STW05.125	125	
	STW05.150	150	
	STW05.175	175	
	STW05.200	200	
	STW05.240	240	
	STW05.250	250	
	STW05.290	290	
	STW05.300	300	
	STW05.350	350	
	STW05.400	400	
	STW05.450	450	
	STW05.500	500	
	STW05.550	550	
	STW05.600	600	

(Dimensions in mm)

📌 **GUIDE CHANNEL**



(Dimensions in mm)

📌 **GUIDE CHANNEL ORDERING**

ST-GCS 120S. 175 / A,C : 200M



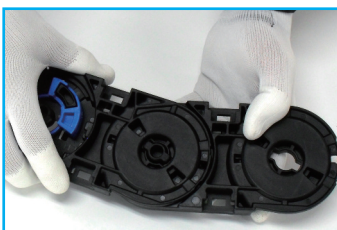
ASSEMBLY PROCEDURE / ST Skid Type

Assembly procedure of Shift chain S-type is as follows. The assembling process of shift Chain ES-type is like below and you must use rubber hammer with careful combination of Divider and Separator. (Disassembly process for repair and replacement are in reverse order)



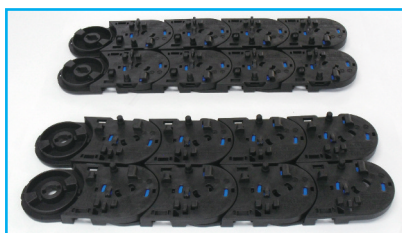
1

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



2

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



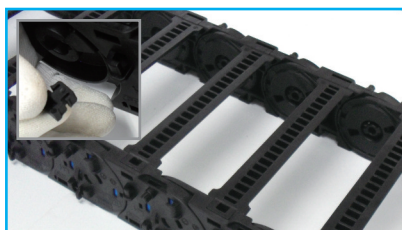
3

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



4

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



5

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



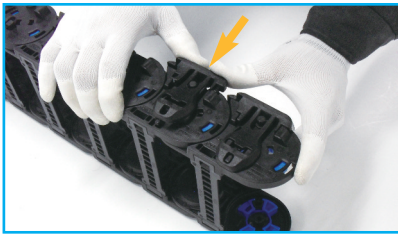
6

Assemble opposite frame as same procedure.



7

Insert Skid to the protruding side of Side Band.



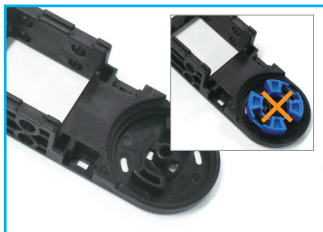
8

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



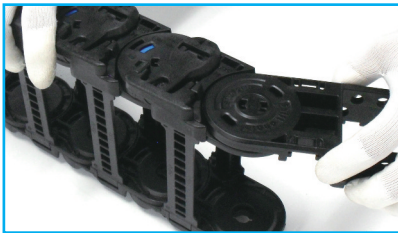
9

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



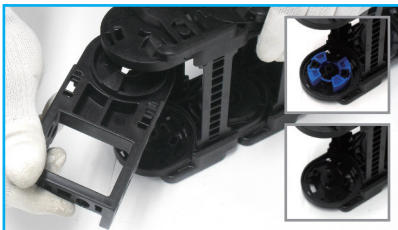
10

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



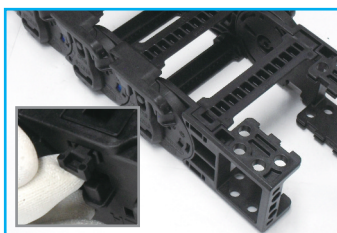
11

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



12

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



13

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



14

Insert steel washers into FEB according to fixing direction.