

ST-ES Series

Shift Cable Chain - Enclosed Long Travel Type

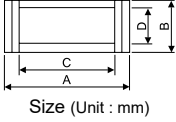






Ordering Information

ST 044 ES . 100 . R120

① ② ③

See page 65 - 66 for accessories

① Pitch (mm)	② Inner Width	③ Bending Radius					Frame type	Weight (kg/m)
			A	B	C	D		
044	35	70	74	38.5	35	26		1.18
	55	90	94		1.37			
	75	120	114		1.53			
	100	150	139		1.74			
072	50	120	105	71.8	50	44		2.77
	75	145	130		3.01			
	100	200	155		3.25			
	125	250	180		3.49			
	150	300	205		3.73			
095	100	150	162	89	100	55		4.16
	125	200	187		4.41			
	150	230	212		4.65			
	175	280	237		4.90			
	200	400	262		5.15			
120	150	200	218	115	150	76		6.28
	200	250	268		6.92			
	250	300	318		7.56			
	290	350	368		8.20			
	300	500						

How to Choose Bending Radius

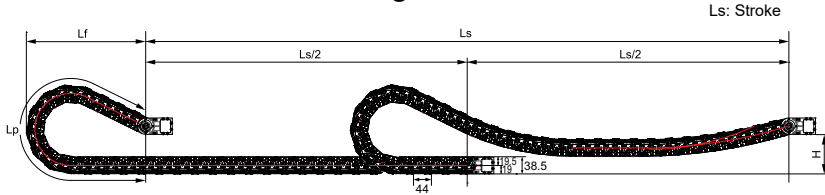
Bending Radius	The biggest Cable inserted	Multiply 8~10 by the OD of the biggest cable
	The biggest Hydraulic Hose inserted	Multiply 15~20 by the OD of the biggest hose

Specifications

Material	Polyamide with reinforced glass fiber: UL94-HB
Noise Range	40dB
Speed	3m/s
Acceleration	10m/s ²
Temperature	-30°C~+130°C
Certificate	CE, ATEX(Ex), RoHS

ST 044ES

Calculation of the chain length



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

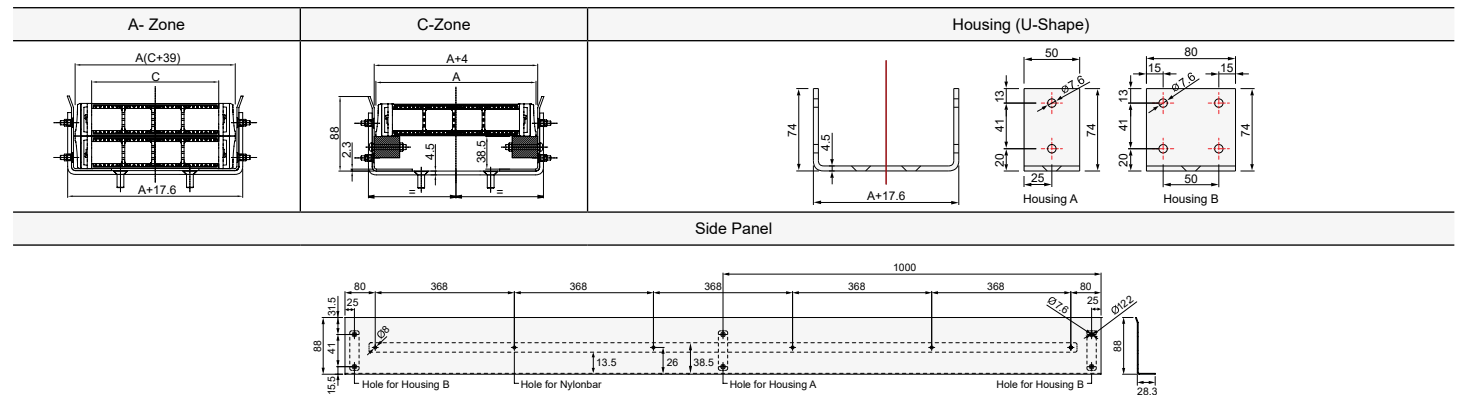
(Unit : mm)

Accessories

Free end bracket						System tie wrap			Tie wrap			
Ordering No.	A Width (Outer)	B Height (Outer)	C Frame	D Height (Inner)	E M.EB Bolt hole width	Ordering No.	C Frame	Hole Type	Ordering No.	A	B	C
ST-FEB044E	74 94 114 139	38.5	35 55 75 100	26	0.4 20.4 40.4 65.4	S-TW.EB028.35 S-TW.EB028.55 S-TW.EB028.75 S-TW.EB028.100	35 55 75 100	M6 Bolt Holes	S- TW036/025CR.35 S- TW036/025CR.55 S- TW036/025CR.75 S- TW036/025CR.100	46 70 94 118	35.4 48.9 48.9 48.9	- 20 40 65

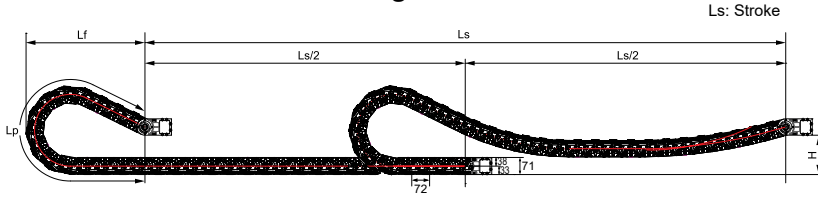
Dividers	<ul style="list-style-type: none"> ① S divider is used to fix a separator that is the same length as the frame ② M1 divider is used to separate individual cables ③ M2 divider is used to fasten a separator that is shorter than the frame length ④ W (Tie wrap) dividers are used to hold the cables in place at both ends of the cable chain 		
Separators			
	Ordering NO.	Frame	
	S-SP/M.35 S-SP/M.55 S-SP/M.75 S-SP/M.100	35 55 75 100	

Guide channel



ST 072ES

Calculation of the chain length



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

(Unit : mm)

Bending Radius (R)	L p Loop Length	L f Loop Projection	H Moving Height
120	917	420	180
145	1,063	470	
200	1,400	580	
250	1,840	752	
300	2,280	924	

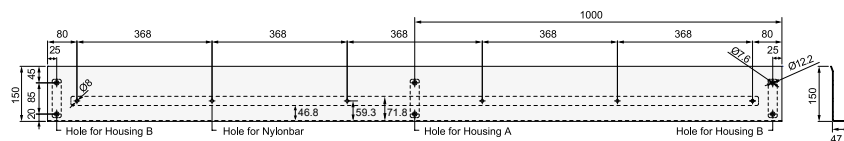
Accessories

Free end bracket						System tie wrap			Tie wrap		
Ordering No.	A Width (Outer)	B Height (Outer)	C Frame	D Height (Inner)	E M.EB Bolt hole width	Ordering No.	C Frame	Hole Type	Ordering No.	A	B
ST-FEB072	105 130 155 180 205	71.8	50 75 100 125 150	44	10 35 60 85 110	S-TW.EB045.50 S-TW.EB045.75 S-TW.EB045.100 S-TW.EB045.125 S-TW.EB045.150	50 75 100 125 150	M6 Bolt Holes	S-TW50 S-TW75 S-TW100 S-TW125 S-TW150	58 75 98 122 141	65 82 105 129 148

Dividers	① sb-DV045/S		② sb-DV045/M	
	<p>① S divider is used to fix a separator that is the same length as the frame</p> <p>② M divider is used to separate individual cables</p> <p>③ W (Tie wrap) dividers are used to hold the cables in place at both ends of the cable chain</p>			
Separators	<p>③ sb-DV045/W</p>			
	<p>System Tie Wrap</p> <p>Ordering NO.</p> <p>sb-SP/400.400 Cut to length (400 mm)</p>			

Guide channel

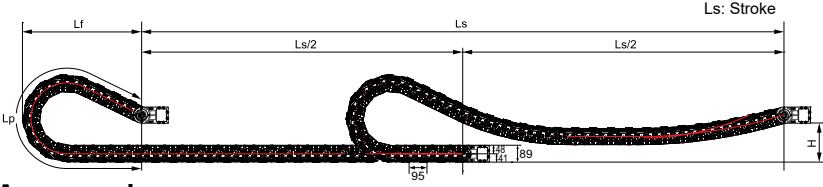
A- Zone	C- Zone	Housing (U-Shape)	
Side Panel			



ST 095ES

Calculation of the chain length

$$\left[L = \frac{Ls}{2} + Lp \right] \quad (\text{Unit : mm})$$



Bending Radius (R)	L p Loop Length	L f Loop Projection	H Moving Height
150	1,178	534	210
200	1,479	634	
230	1,666	694	
280	2,146	889	
400	3,232	1,319	

Accessories

Free end bracket						System tie wrap			Tie wrap		
<p>4-Ø10(M10 Bolt Holes)</p>											
<p>Moving Point</p>											
Ordering No.	A Width (Outer)	B Height (Outer)	C Frame	D Height (Inner)	E M.EB Bolt hole width	Ordering No.	C Frame	Hole Type	Ordering No.	A	B
ST-FEB095	162	89	100	55	49	S-TW.EB060.100	100	M10 Bolt Holes	S-TW50	58	65
	187		S-TW.EB060.125		125	S-TW75	75		82		
	212		S-TW.EB060.150		150	S-TW100	98		105		
	237		S-TW.EB060.175		175	S-TW125	122		129		
	262		S-TW.EB060.200		200	S-TW150	141		148		

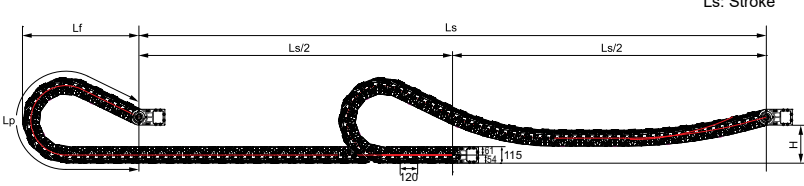
Dividers	① sb-DV060/S		② sb-DV060/M		
	<p>① S divider is used to fix a separator that is the same length as the frame</p> <p>② M divider is used to separate individual cables</p> <p>③ W (Tie wrap) dividers are used to hold the cables in place at both ends of the cable chain</p>				
Separators			<p>③ sb-DV060/W</p> <p>System Tie Wrap</p> <p>Ordering NO.</p> <p>sb-SP/400.400 Cut to length (400 mm)</p>		

Guide channel

A-Zone	C-Zone	Housing (U-Shape)
		<p>Housing A</p> <p>Housing B</p>
Side Panel		
<p>Hole for Housing B</p> <p>Hole for Nylonbar</p> <p>Hole for Housing A</p> <p>Hole for Housing B</p>		

ST 120ES

Calculation of the chain length



$$[L = \frac{L_s}{2} + L_p] \quad (\text{Unit : mm})$$

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

Accessories

Free end bracket						System tie wrap			Tie wrap		
Ordering No.	A Width (Outer)	B Height (Outer)	C Frame	D Height (Inner)	E M.EB Bolt hole width	Ordering No.	C Frame	Hole Type	Ordering No.	A	B
ST-FEB120E	218 268 318 368	115	150 200 250 300	76	90 140 190 240	S-TW.EB075.150 S-TW.EB075.200 S-TW.EB075.250 S-TW.EB075.300	150 200 250 300	M10 Bolt Holes	S-TW50 S-TW75 S-TW100 S-TW125 S-TW150	58 75 98 122 141	65 82 105 129 148

Dividers	<p>① S divider is used to fix a separator that is the same length as the frame</p> <p>② M divider is used to separate individual cables</p> <p>③ W (Tie wrap) dividers are used to hold the cables in place at both ends of the cable chain</p>	<p>① sb-DV075/S</p>	<p>② sb-DV075/M</p>
		<p>③ sb-DV075/W</p>	
		<p>System Tie Wrap</p> <p>Ordering NO.</p> <p>sb-SP/400.400 Cut to length (400 mm)</p>	

A-Zone	C-Zone	Housing (U-Shape)	
Side Panel			