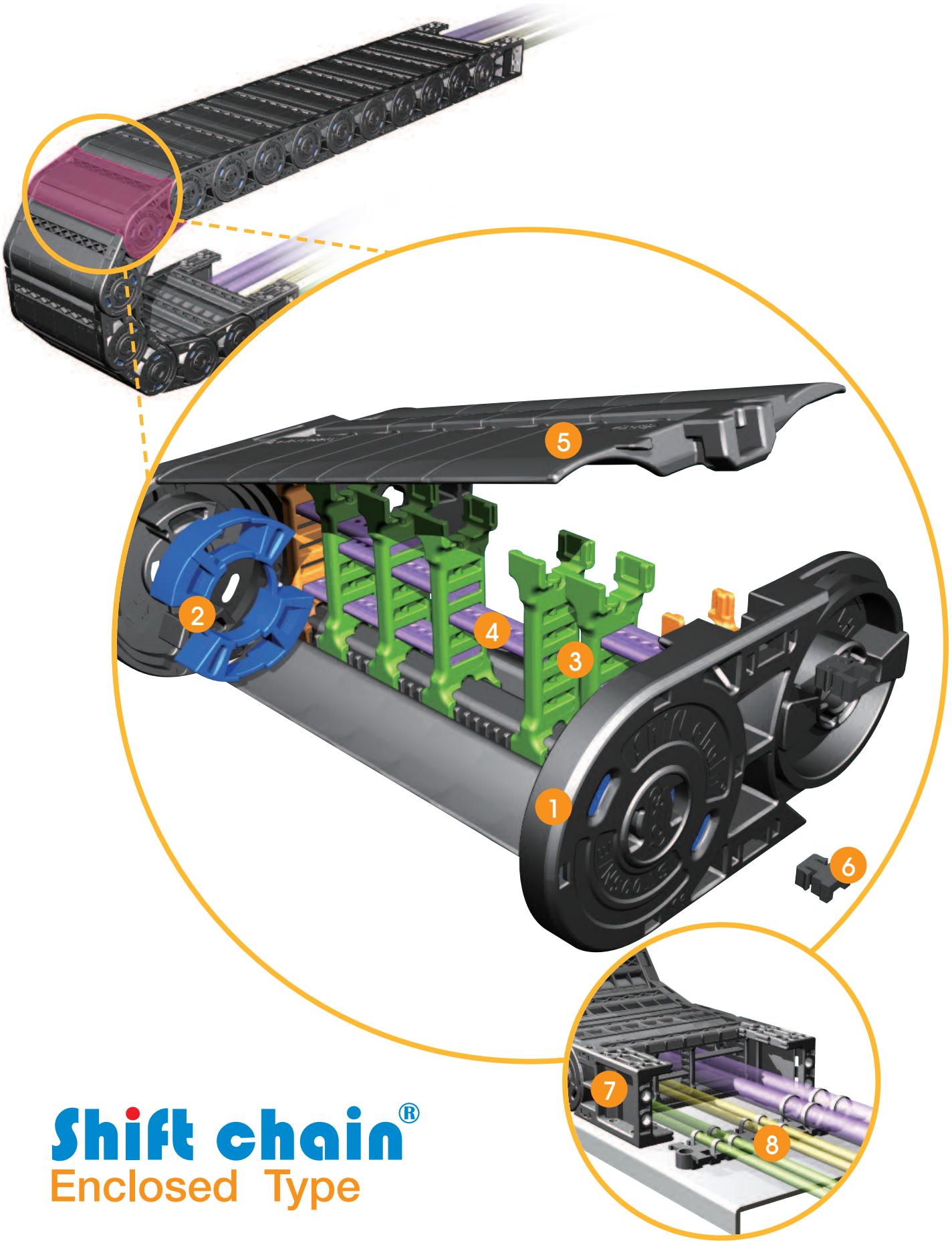
Shift chain®

E TYPE : Enclosed

- ST044E - 206p
- ST055E - 211p
- ST072E - 216p
- ST095E - 221p
- ST120E - 226p
- ST150E - 231p

ARTICLE NAME & DETAILS OF SHIFT CHAIN E - TYPE



Shift chain®
Enclosed 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 Divider(DV-S, M)

There with the Dividers are three types of the exclusive side divider(S-Type), of a role to separate large mass of inner cables vertically(M-Type), of a role to protect the sheath demage of cables by equipment of rollers to the divider(R-Type).

4 Separator (SP)

Separator divides 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 FRU, FRD

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.

6 Frame Pin (FP)

The connecting pin for preventing the breakaway of Frame connected at Side Band,
combining and fixing the Frame and Side Band.
For Shift chain(ST)072E, 092E, 120E, 150E type, one side of the frame is fixed by inserting a fixing pin to prevent frame open, which caused by any external impact.

7 Free End Bracket (FEB)

Shift chain is very effective to be able to be fixed atupper, lower and front direction with the use of FEB
(Free End Bracket) like the fixing method of Shift chain and to be fixed stronger due to the use the Steel Inset at the Fixing hole. Shift Chain has a strong point that can be fixed with the diverse ways.
This Bracket can be turned moved than 45 degrees. For ST150N, Bracket with steel is used.

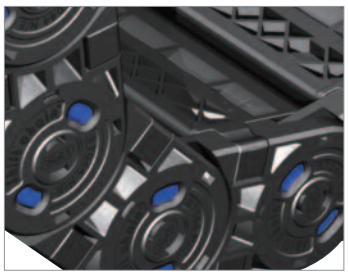
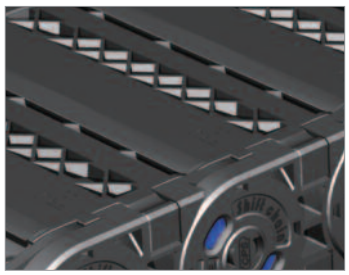
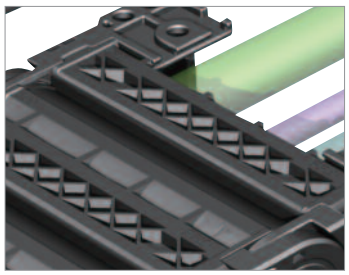
8 Tie Wrap (TW)

Tie Warp fixes to fix the cables in one straight line to prevent twisting or entangling during operation. There are two types available depending on the application; attached to bracket and separated from bracket.

ST095E

KINDS AND DIMENSIONS

Shift Chain E -Type	Pitch	Bending Radius R	Weight kg/m	Speed m/sec	Temperature °C	Clearance A	Clearance B	Clearance C	Clearance D	Frame style	Divider possible with frame
ST044E .035	44	70, 90, 120, 150	1.03	10	-30 ~ +130	56	38	35	24.5		
ST044E .055	44		1.21			76	38	55	24.5		
ST044E .075	44		1.37			96	38	75	24.5		
ST044E .100	44		1.58			121	38	100	24.5		
ST055E .050	55	100, 125, 150, 200	1.36	10	-30 ~ +130	71	52	50	38.5		
ST055E .075	55		1.56			96	52	75	38.5		
ST055E .100	55		1.76			121	52	100	38.5		
ST055E .125	55		1.97			146	52	125	38.5		
ST055E .150	55		2.21			171	52	150	38.5		
ST072E .050	72	120, 145, 200, 250, 300	2.03	10	-30 ~ +130	82	66	50	44		
ST072E .075	72		2.15			107	66	75	44		
ST072E .100	72		2.27			132	66	100	44		
ST072E .125	72		2.39			157	66	125	44		
ST072E .150	72		2.51			182	66	150	44		
ST095E .100	95	150, 200, 230, 280, 400	3.55	10	-30 ~ +130	138	82	100	55		
ST095E .125	95		3.79			163	82	125	55		
ST095E .150	95		4.04			188	82	150	55		
ST095E .175	95		4.29			213	82	175	55		
ST095E .200	95		4.40			238	82	200	55		
ST120E .150	120	200, 250, 300 350, 400, 500	5.79	10	-30 ~ +130	192	108	150	76		
ST120E .200	120		6.43			242	108	200	76		
ST120E .250	120		6.74			292	108	250	76		
ST120E .300	120		7.38			342	108	300	76		
ST150E .200	150	305, 405, 505, 605	8.16	10	-30 ~ +130	246	141	200	110		
ST150E .250	150		8.76			296	141	250	110		
ST150E .300	150		10.50			346	141	300	110		
ST150E .350	150		12.33			396	141	350	110		
ST150E .400	150		14.16			446	141	400	110		

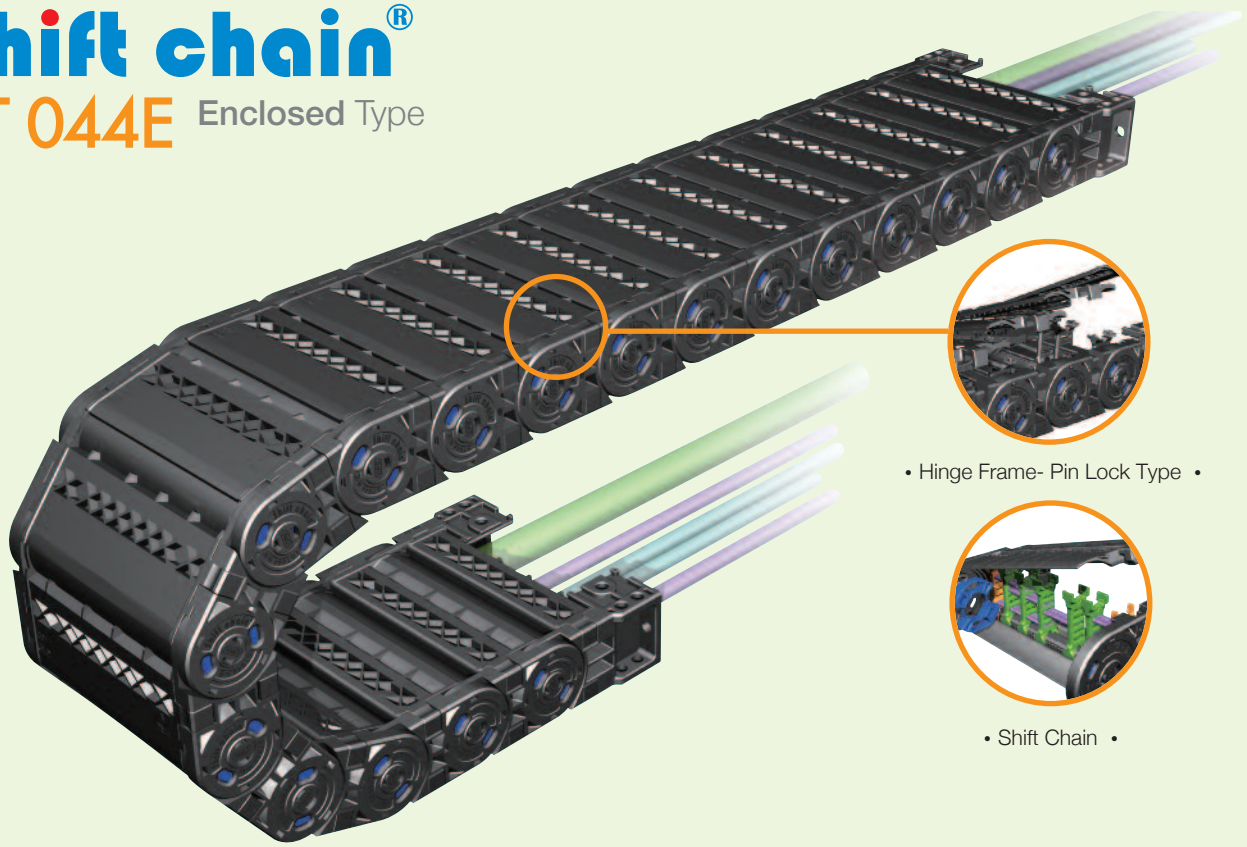




ST044E-view

Min ● ○ ○ ○ ○ ○ Max

Shift chain®

ST 044E Enclosed Type



• Hinge Frame- Pin Lock Type •

• Shift Chain •

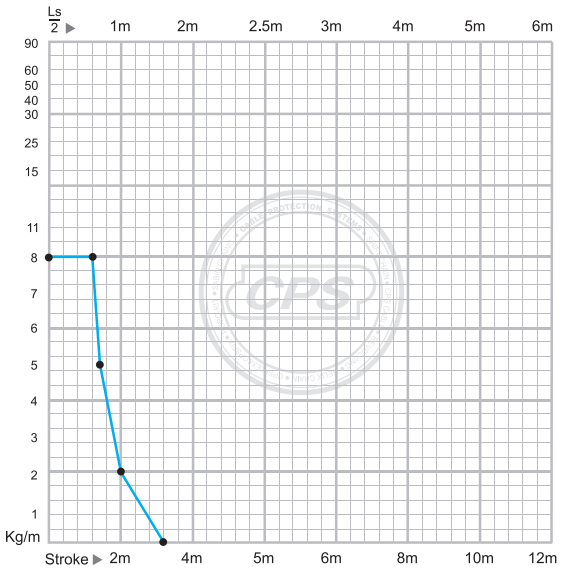
MATERIAL

- **Chain material:**
  CPS-amide with glass fiber reinforced UL94-HB
- **Low Noise & Low Mote**
- **Speed :** 10m / sec
- **Temperature :** -30°C ~ +130°C
- **Other installation Length**
  Vertical curve above= max 2.0m
  Vertical curve below= max 40m
  Side Mounted, Unsupported= max 1.0m
- **Applications**

  Shift Chain E-Type can be found on car manufacturer's welding line, robot carriages and press lines and on any machine where excess material can damage your inserted cables.
- **Calculation of the chain length**

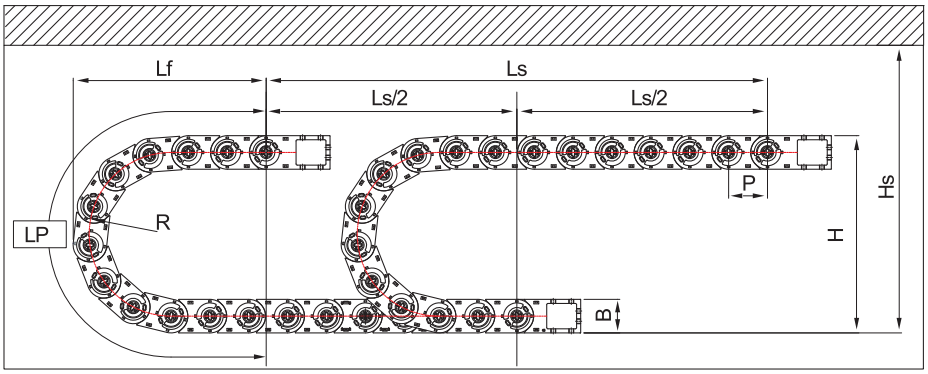
$$[\quad L = \frac{Ls}{2} + Lp \quad]$$

- **Load diagrams self-supporting length**



Enclosed Type ST 044E

LAYOUT OF THE CHAIN



Ls: Stroke
Lp: Loop Length
Lf: Loop Projection
Hs: Safe Space

(Dimensions in mm)

Bending radius R	70	90	120	150
Lp	396	459	553	648
Lf	177	197	227	257
H	178	218	278	338

ST 044E Type

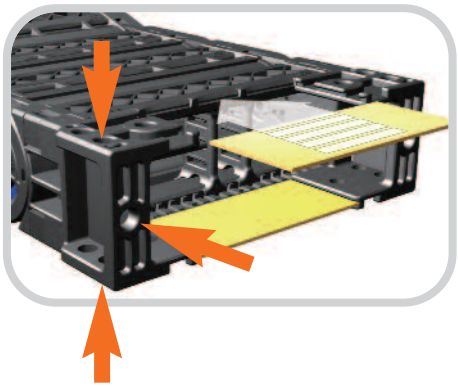
Pitch P: 44mm
Height B: 38mm
Height H: 2R+38mm
Hs≧ H+30mm

ORDERING

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

- Q'ty(set)
- Length(mm)
- F : Free End Bracket
  G : Guide Channel Type
  V : Vertical Guide Type
- Bending Radius
- Inside Width
- Enclosed Type
- Shift Chain

BRACKET TYPE



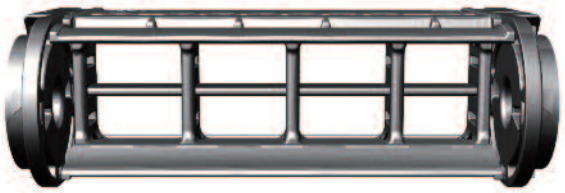
FEB (Free End Bracket)

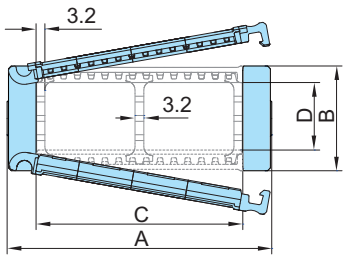
FEB Fixes the cable chain to the machinery or moving application. CPS has improved mounting efficiency by unifying the existing Easy End Bracket and Normal End Bracket. Also, inseting plastic sheets creates enclosed structure in the bracket.
(The order for subsidiary materials is extra.)

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

Enclosed Type ST 044E

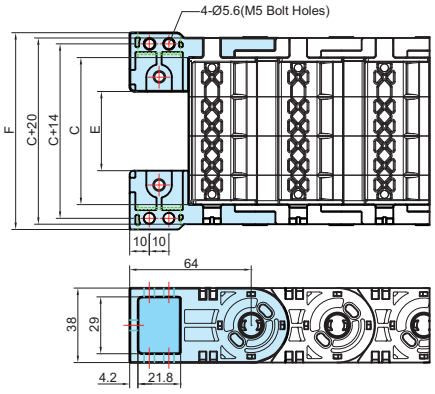
CHAIN CROSS SECTION



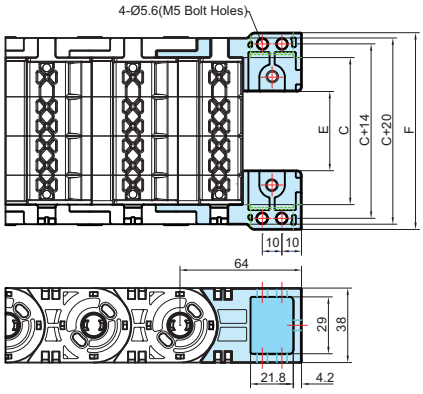


Chain Type	A	B	C	D	Bending Radius(R)	Weight in kg/m
ST 044E.035	56	38	35	24.5	70, 90, 120, 150	1.03
ST 044E.055	76		55			1.21
ST 044E.075	96		75			1.37
ST 044E.100	121		100			1.58

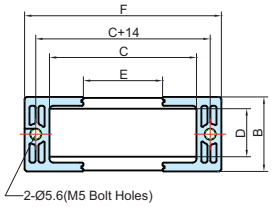
FREE END BRACKET



▲ Moving point



▲ Fixing point



▲ Front point

Chain Type	F	B	C	D	E	Hole Type
ST 044E.035	60.4	38	35	24.5	0.4	M5 Bolt Holes
ST 044E.055	80.4		55		20.4	
ST 044E.075	100.4		75		40.4	
ST 044E.100	125.4		100		65.4	

2014 NEW PRODUCT

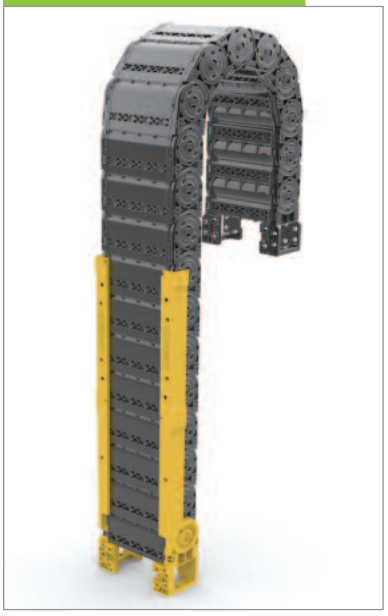
Unity Systems®

Enclosed Type ST 044E

This type of bracket is to protect deflection of chain which will support the weight of certain section start from bracket, also will protect the damage of chain.

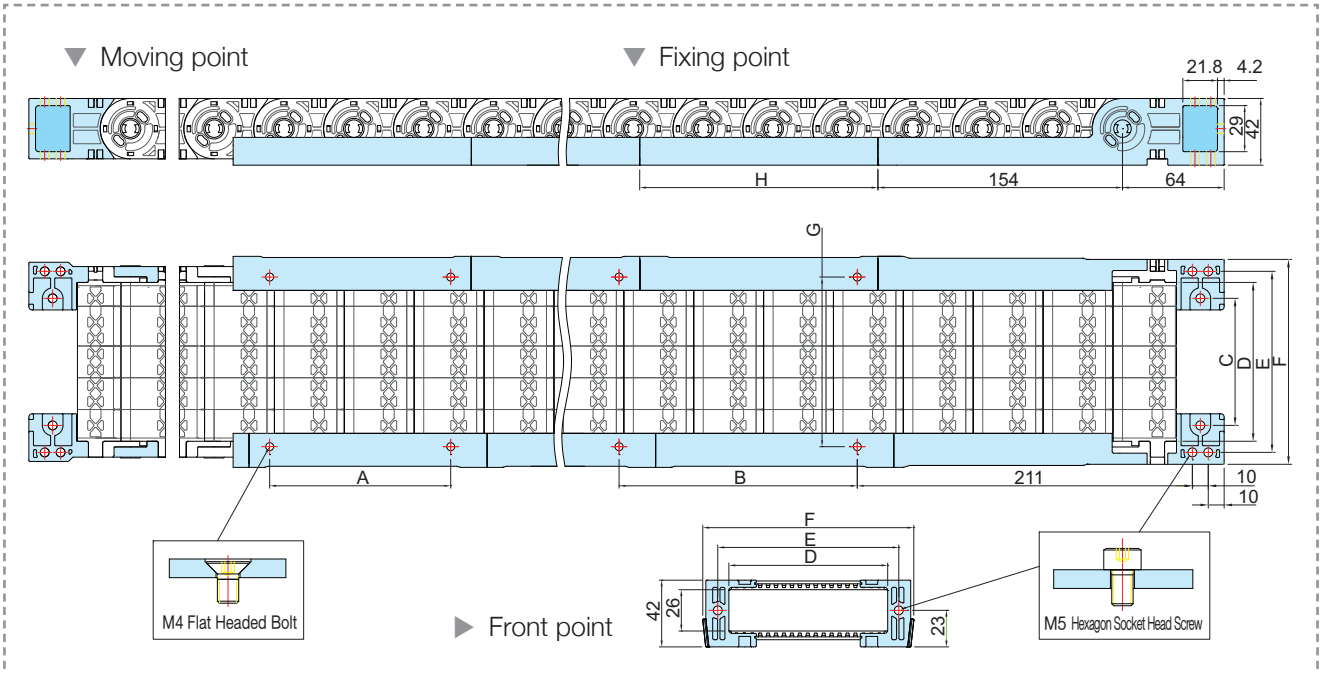
▼ Horizon Type 수평형

▼ Vertical Type 수직형



GUIDE CHANNEL TYPE END BRACKET

(Dimensions in mm)



Chain Type	C FEB fix hole(inner)	D Frame length dimension	E FEB width	F FEB width	G GC hole width
ST 044E.035	15	35	49	68	41.8
ST 044E.055	35	55	69	88	61.8
ST 044E.075	55	75	89	108	81.8
ST 044E.100	80	100	114	133	106.8

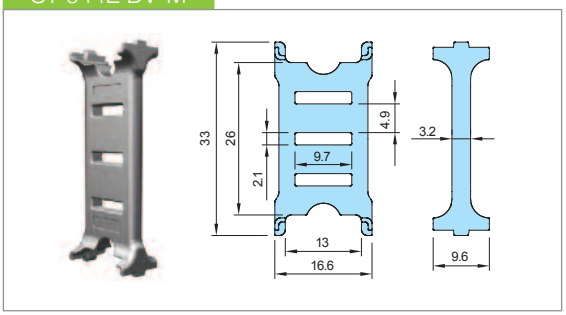
GC TYPE	H GC length	B GC fixing hole	A GC hole dimension
GC150	150	151	114
GC250	250	251	214

Enclosed Type ST 044E

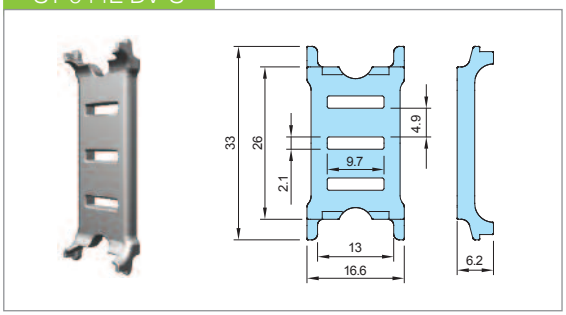
DIVIDERS & SEPARATORS

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 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 it's enclosure.

ST 044E DV-M



ST 044E DV-S

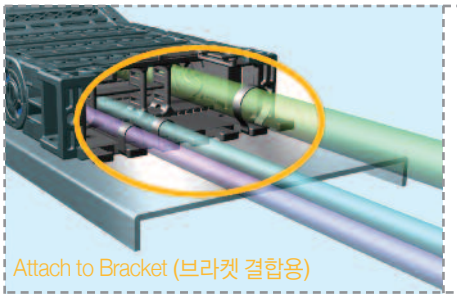


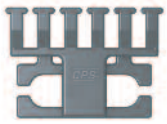
▶ Assemble divider every Two links.

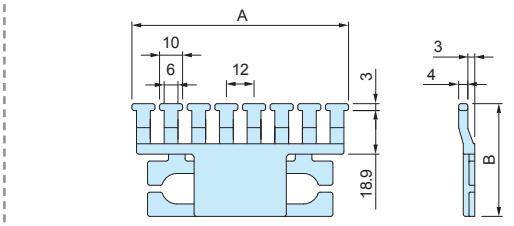
ST 044E Separators (SP) (No. : S-SP/M)

Chain Type \ Separators	SP035	SP050	SP055	SP075	SP100	SP125	SP150	SP175	SP200
ST 044E	○	○	○	○	○	○	○	○	○
ST 055E	○	○	○	○	○	○	○	○	○

TIE WRAP


Attach to Bracket (브라켓 결합용)





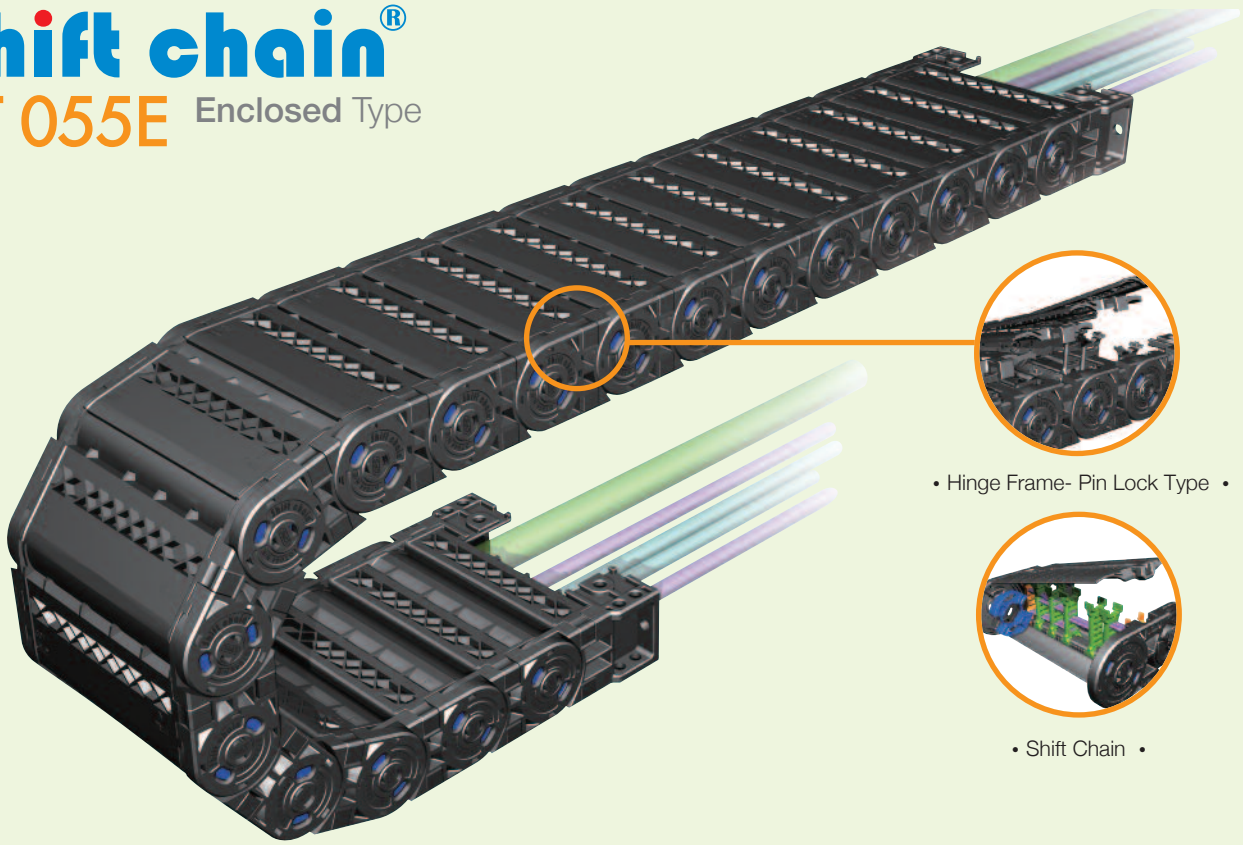
(Dimensions in mm)

Tie Wrap	035	055	075	100	125
A	46	70	94	118	142
B	35.4	48.9	48.9	48.9	48.9

The Tie Wrap separated from the Shift 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.

Min Max

Shift chain®
ST 055E Enclosed Type



• Hinge Frame- Pin Lock Type •

• Shift Chain •

MATERIAL

- **Chain material:**
  CPS-amide with glass fiber reinforced UL94-HB
- **Low Noise & Low Mote**
- **Speed :** 10m / sec
- **Temperature :** -30°C ~ +130°C
- **Other installation Length**
  Vertical curve above= max 3.0m
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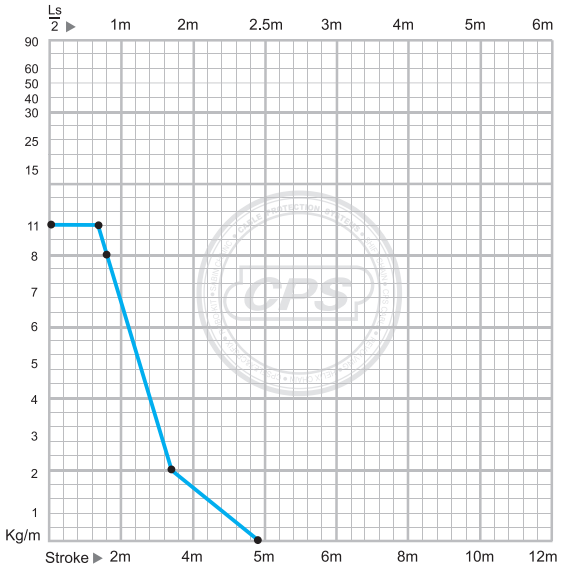
  Side Mounted, Unsupported= max 1.0m
- **Applications**

  Shift Chain E-Type can be found on car manufacturer's welding line, robot carriages and press lines and on any machine where excess material can damage your inserted cables.

- **Calculation of the chain length**

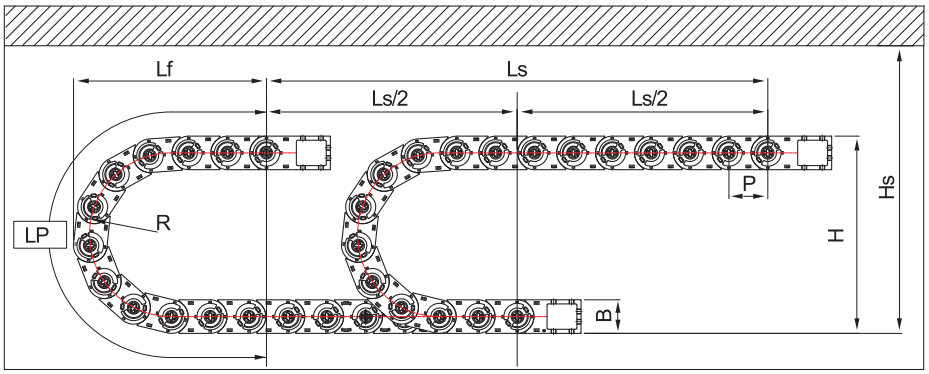
$$[\quad L = \frac{Ls}{2} + Lp \quad]$$

- **Load diagrams self-supporting length**



Enclosed Type ST 055E

LAYOUT OF THE CHAIN



(Dimensions in mm)

Bending radius R	100	125	150	200
Lp	535	613	692	849
L f	236	261	286	336
H	252	302	352	452

Ls: Stroke
Lp: Loop Length
L f: Loop Projection
Hs: Safe Space

ST 055E Type

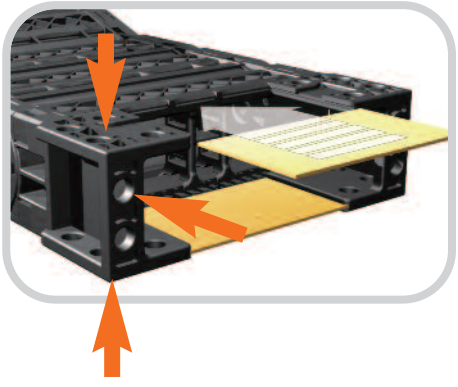
Pitch P: 55mm
Height B: 52mm
Height H: 2R+52mm
Hs≧H+35mm

ORDERING

ST 055E. 150. R150 / F - 1800L : 10ST

- Q'ty(set)
- Length(mm)
- F : Free End Bracket
  G : Guide Channel Type
  V : Vertical Guide Type
- Bending Radius
- Inside Width
- Enclosed Type
- Shift Chain

BRACKET TYPE



FEB (Free End Bracket)

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. Also, inseting plastic sheets creates enclosed structure in the bracket.
(The order for subsidiary materials is extra.)

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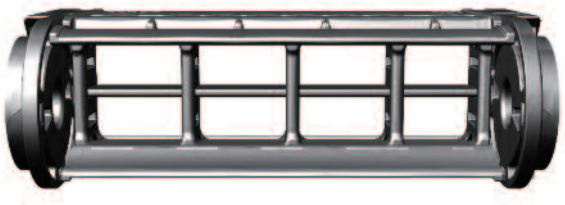
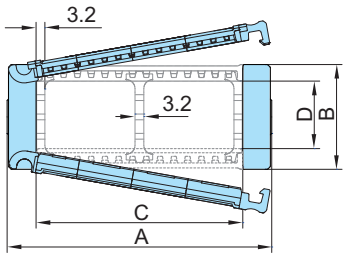
Enclosed Type ST 055E

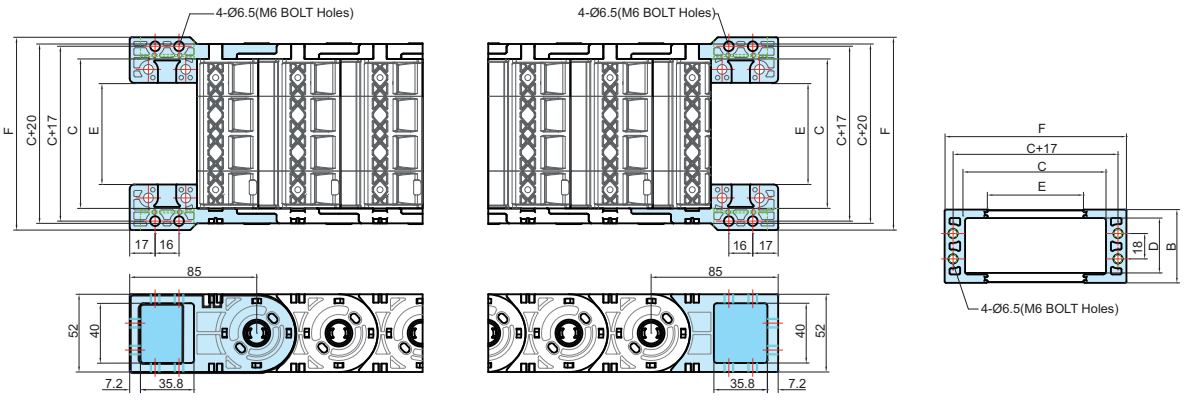
CHAIN CROSS SECTION





Chain Type	A	B	C	D	Bending Radius(R)	Weight in kg/m
ST 055E.050	71	52	50	38.5	100, 125, 150, 200	1.36
ST 055E.075	96		75			1.56
ST 055E.100	121		100			1.76
ST 055E.125	146		125			1.97
ST 055E.150	171		150			2.21

FREE END BRACKET



▲ Moving point ▲ Fixing point ▲ Front point

Chain Type	F	B	C	D	E	Hole Type
ST 055E.050	79	52	50	38.5	18	M6 Bolt Holes
ST 055E.075	104		75		43	
ST 055E.100	129		100		68	
ST 055E.125	154		125		93	
ST 055E.150	179		150		118	

2014 NEW PRODUCT

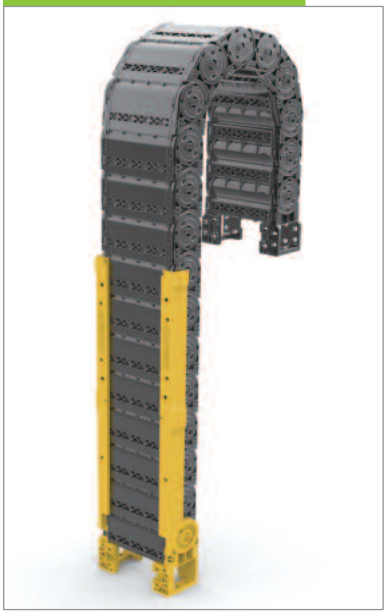
Unity Systems®

Enclosed Type ST 055E

This type of bracket is to protect deflection of chain which will support the weight of certain section start from bracket, also will protect the damage of chain.

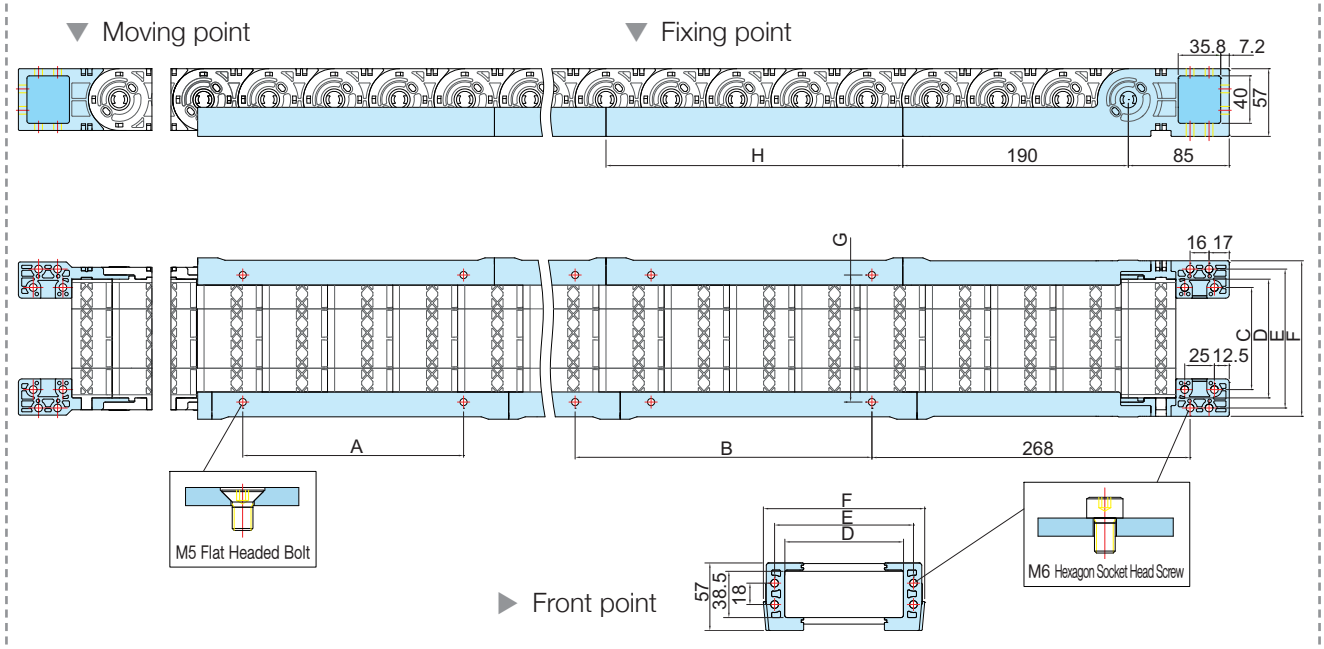
▼ Horizon Type

▼ Vertical Type



GUIDE CHANNEL TYPE END BRACKET

(Dimensions in mm)



Chain Type	C FEB fix hole(inner)	D Frame length dimension	E FEB width	F FEB width	G GC hole width
ST 055E.050	36	50	67	86	57
ST 055E.075	61	75	92	111	82
ST 055E.100	86	100	117	136	107
ST 055E.125	111	125	142	161	132
ST 055E.150	136	150	167	186	157

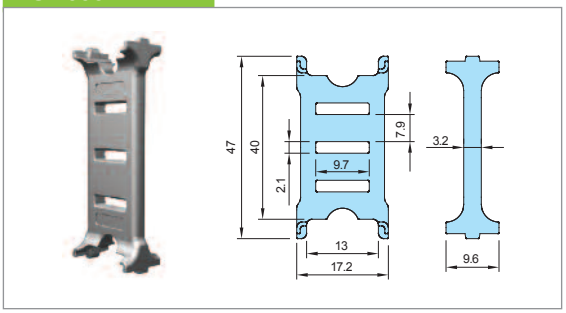
GC TYPE	H GC length	B GC fixing hole	A GC hole dimension
GC250	250	251	186
GC400	400	400	336

Enclosed Type ST 055E

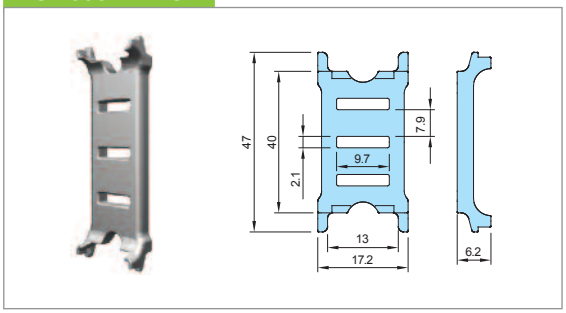
DIVIDERS & SEPARATORS

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 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.

ST 055E DV-M



ST 055E DV-S

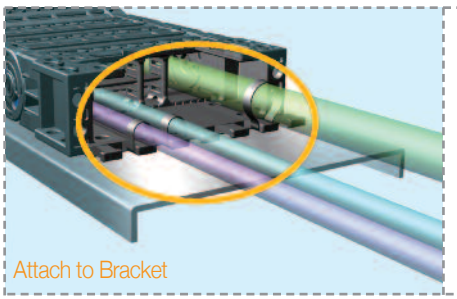


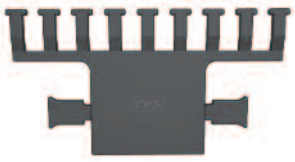
▶ Assemble divider every Two links.

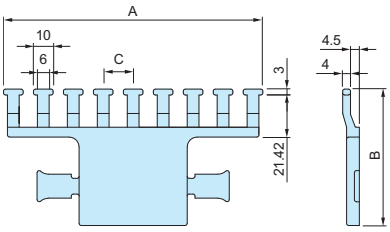
ST 055E Separators (SP) (No. : S-SP/M)

Chain Type \ Separators	SP035	SP050	SP055	SP075	SP100	SP125	SP150	SP175	SP200
ST 044E	○	○	○	○	○	○	○	○	○
ST 055E	○	○	○	○	○	○	○	○	○

TIE WRAP


Attach to Bracket





(Dimensions in mm)

Tie Wrap	050	075	100	125	150	175	200
A	82	107	132	157	182	203	232
B	69.42	69.42	69.42	69.42	69.42	69.42	69.42
C	12	12.13	15.25	14.7	14.35	12.31	13.88

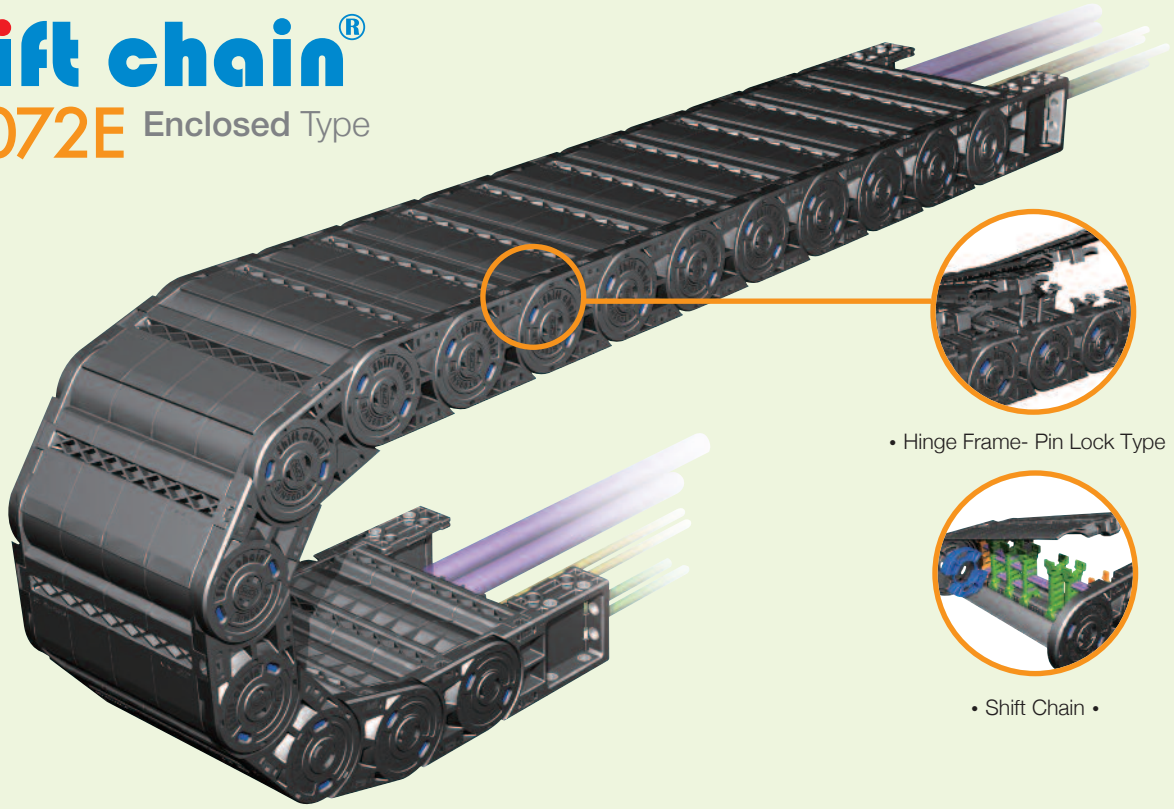
The Tie Wrap separated from the Shift Chain bracket, when installed properly, protects the inserted cables from becoming entangled and twisted during operation. There are two types in the tie wrap;Attached & Unattached to the bracket.

When using the tie wrap option for the Shift Chain ST 055 series, the corresponding frame sizes will be 50, 75, 100, 125, 150, 175 and 200mm respectively.

Min ●●●○○○ Max

Shift chain®

ST 072E Enclosed Type



• Hinge Frame- Pin Lock Type •

• Shift Chain •

MATERIAL

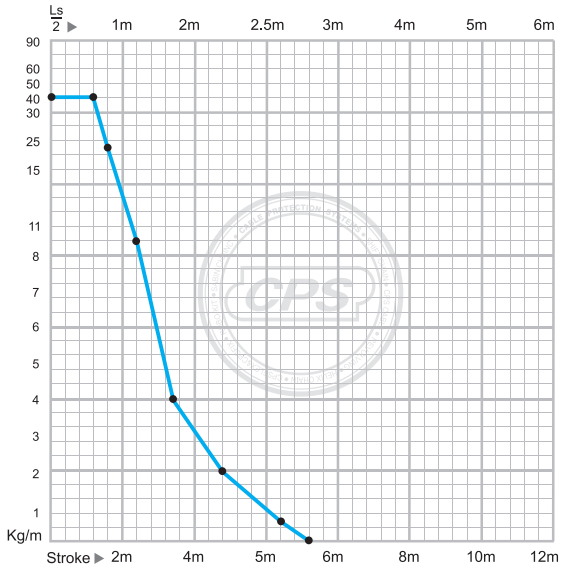
- **Chain material:**
  CPS-amide with glass fiber reinforced UL94-HB
- **Low Noise & Low Mote**
- **Speed :** 10m / sec
- **Temperature :** -30°C ~ +130°C
- **Other installation Length**
  Vertical curve above = max 6.0m
  Vertical curve below = max 100m
  Side Mounted, Unsupported = max 2.5m
- **Applications**

  Shift Chain E-Type can be found on car manufacturer's welding line, robot carriages and press lines and on any machine where excess material can damage your inserted cables.

- **Calculation of the chain length**

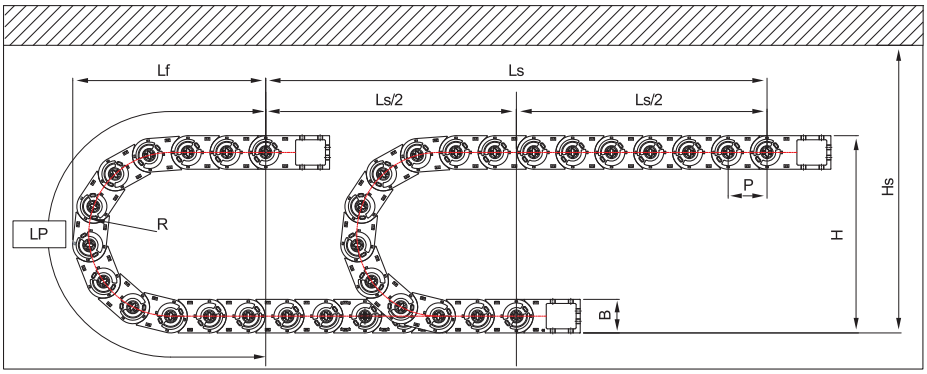
$$[\ L = \frac{Ls}{2} + Lp\ ]$$

- **Load diagrams self-supporting length**



Enclosed Type ST 072E

LAYOUT OF THE CHAIN



(Dimensions in mm)

Bending radius R	120	145	200	250	300
Lp	665	743	916	1,074	1,230
L f	297	322	377	427	477
H	306	356	466	566	666

Ls: Stroke
Lp: Loop Length
L f: Loop Projection
Hs: Safe Space

ST 072E Type

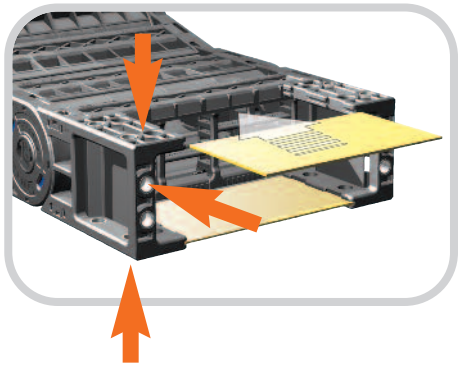
Pitch P: 72 mm
Height B: 66mm
Height H: 2R+66mm
Hs≧ H+40mm

ORDERING

ST 072E. 150. R200 / F - 3000L : 10ST

- Q'ty(set)
- Length(mm)
- F : Free End Bracket
  G : Guide Channel Type
  V : Vertical Guide Type
- Bending Radius
- Inside Width
- Enclosed Type
- Shift Chain

BRACKET TYPE



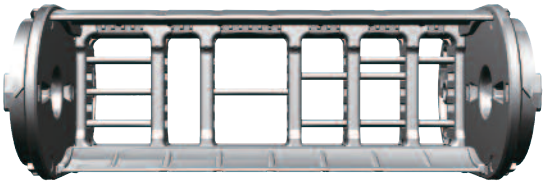
FEB (Free End Bracket)

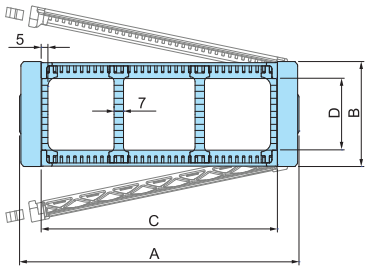
FEB Fixes the cable chain to the machinery or moving application. CPS has improved mounting efficiency by unifying the existing Easy End Bracket and Normal End Bracket. Also, inseting plastic sheets creates enclosed structure in the bracket.
(The order for subsidiary materials is extra.)

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

Enclosed Type ST 072E

CHAIN CROSS SECTION

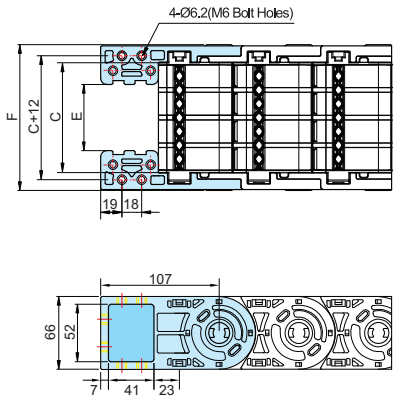




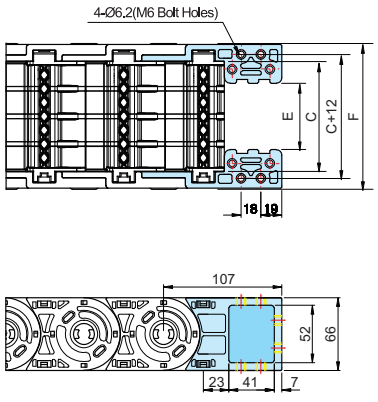
Chain Type	A	B	C	D	Bending Radius(R)	Weight in kg/m
ST 072E.050	82	66	50	44	120, 145, 200, 250, 300	2.37
ST 072E.075	107		75			2.61
ST 072E.100	132		100			2.85
ST 072E.125	157		125			3.09
ST 072E.150	182		150			3.33

▲ Application of special frame. (C:140,165,190,240)

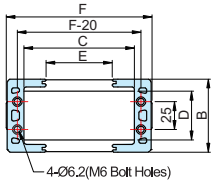
FREE END BRACKET



▲ Moving point



▲ Fixing point



▲ Front point

Chain Type	F	B	C	D	E	Hole Type
ST 072E.050	82	66	50	44	10	M6 Bolt Holes
ST 072E.075	107		75		35	
ST 072E.100	132		100		60	
ST 072E.125	157		125		85	
ST 072E.150	182		150		110	

▲ Application of special frame. (C:140,165,190,240)

2014 NEW PRODUCT

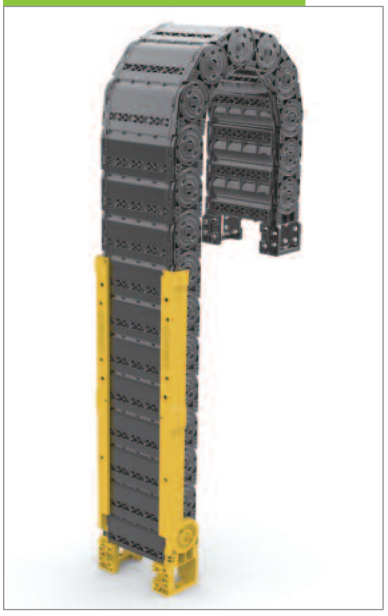
Unity Systems®

Enclosed Type ST 072E

This type of bracket is to protect deflection of chain which will support the weight of certain section start from bracket, also will protect the damage of chain.

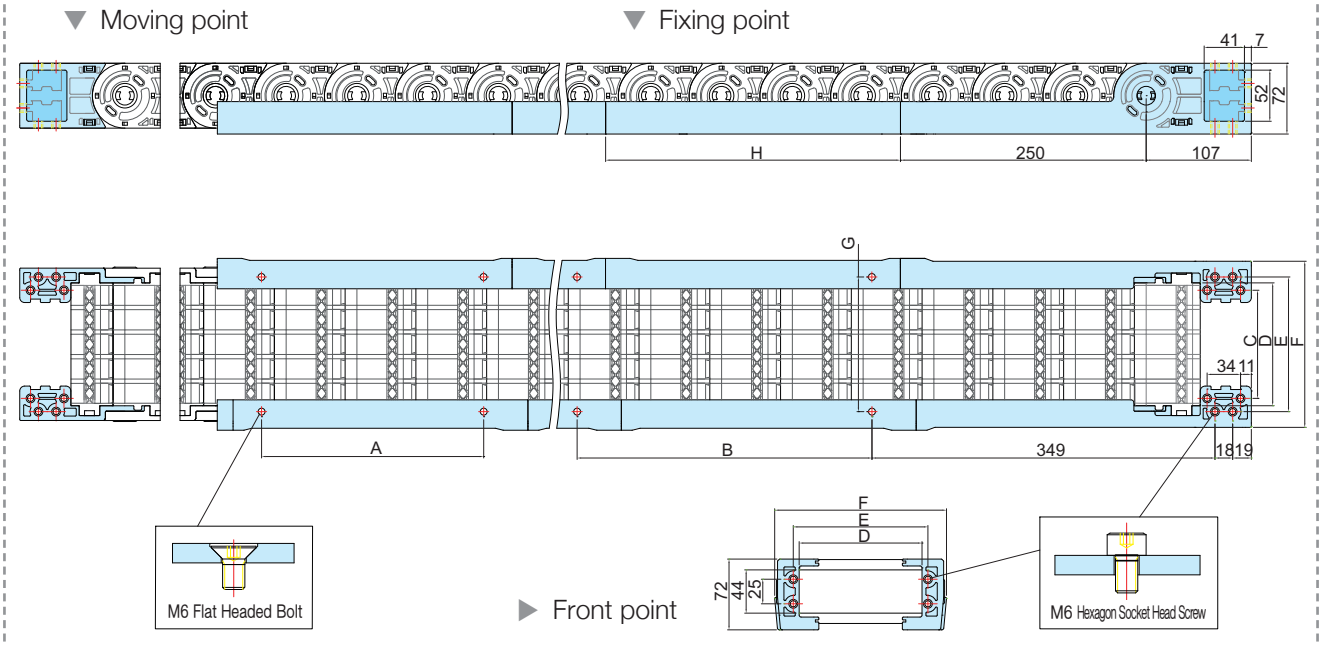
▼ Horizon Type

▼ Vertical Type



GUIDE CHANNEL TYPE END BRACKET

(Dimensions in mm)



Chain Type	C FEB fix hole(inner)	D Frame length dimension	E FEB width	F FEB width	G GC hole width
ST 072E.050	35	50	62	100	62
ST 072E.075	60	75	87	125	87
ST 072E.100	85	100	112	150	112
ST 072E.125	110	125	137	175	137
ST 072E.150	135	150	162	200	162

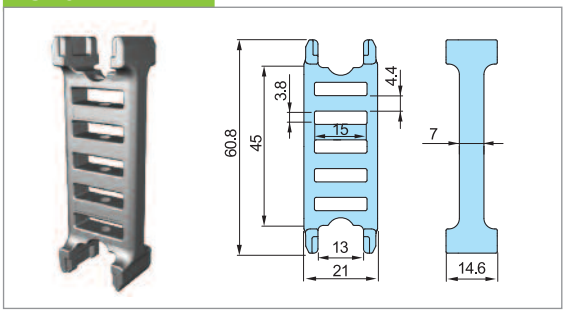
GC TYPE	H GC length	B GC fixing hole	A GC hole dimension
GC300	300	301	226
GC500	500	501	426

Enclosed Type ST 072E

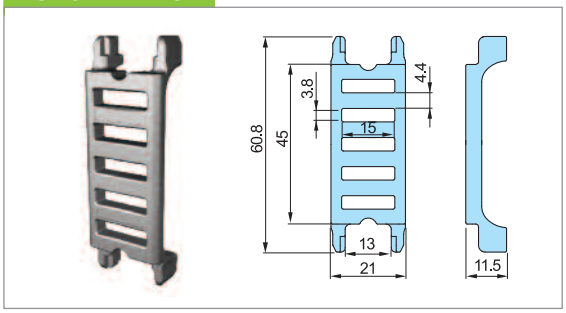
DIVIDERS

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 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.

ST 072E DV-M

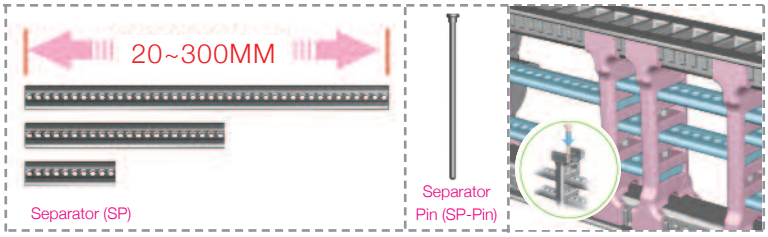


ST 072E DV-S



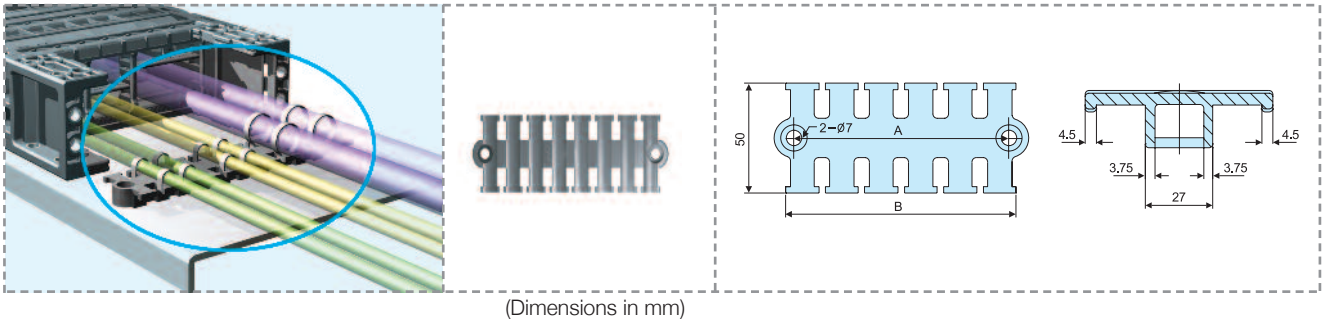
▶ Assemble divider every Two links.

SEPARATORS (SP)



Separator is available in length from 20mm to 300mm and can be cut every 5mm for use. The combined use of divider and sepatator with the pin creates the most effective cable pattern and keep insertion space for cables safely, so it protects the inserted cables.

TIE WRAP



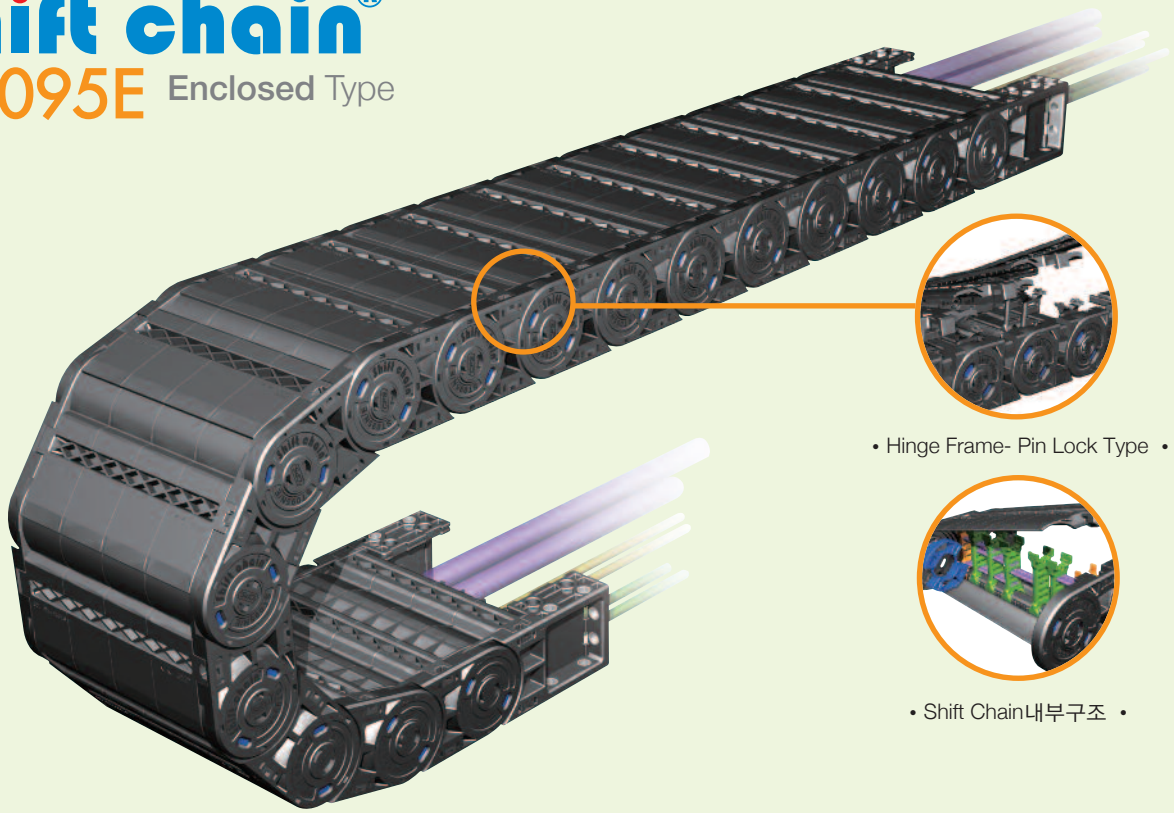
(Dimensions in mm)

Tie Wrap	050	075	100	125	150
A	58	75	98	122	141
B	65	82	105	129	148

The Tie Wrap separated from the Shift Chain bracket, when installed properly, protects the inserted cables from becoming entangled and twisted during operation

Min ●●●●●● Max

Shift chain®
ST 095E Enclosed Type



• Hinge Frame- Pin Lock Type •

• Shift Chain내부구조 •

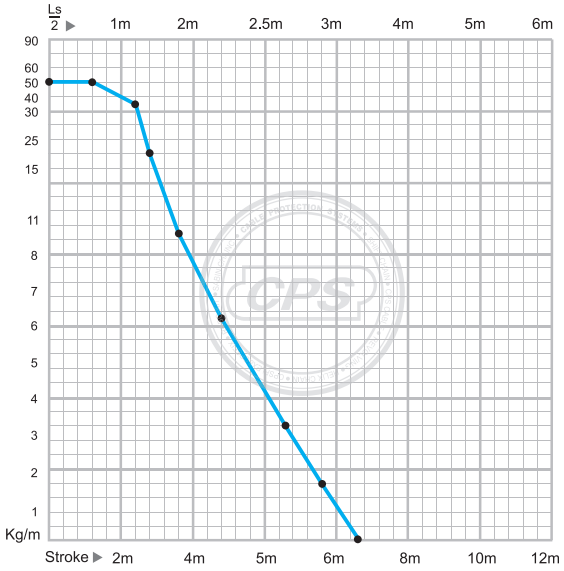
MATERIAL

- **Chain material:**
  CPS-amide with glass fiber reinforced UL94-HB
- **Low Noise & Low Mote**
- **Speed :** 10m / sec
- **Temperature :** -30°C ~ +130°C
- **Other installation Length**
  Vertical curve above = max 6.0m
  Vertical curve below = max 100m
  Side Mounted, Unsupported = max 3.0m
- **Applications**

  Shift Chain E-Type can be found on car manufacturer's welding line, robot carriages and press lines and on any machine where excess material can damage your inserted cables
- **Calculation of the chain length**

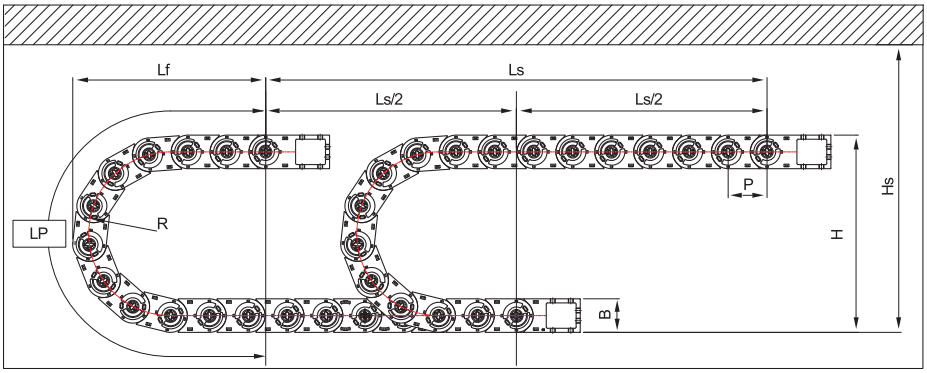
$$[\ L = \frac{Ls}{2} + Lp\ ]$$

- **Load diagrams self-supporting length**



Enclosed Type ST 095E

LAYOUT OF THE CHAIN



Ls: Stroke
Lp: Loop Length
Lf: Loop Projection
Hs: Safe Space

(Dimensions in mm)

Bending radius R	150	200	230	280	400
Lp	855	1,010	1,110	1,260	1,640
Lf	374	428	459	505	629
H	382	482	542	642	882

ST 095E Type

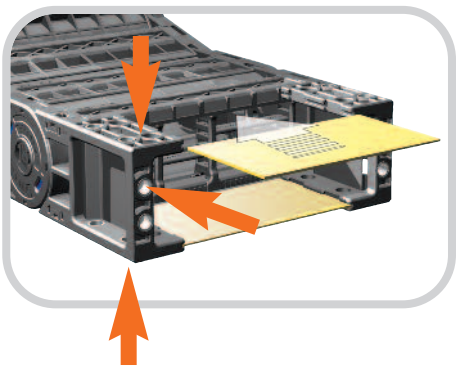
Pitch P: 95 mm
Height B: 82mm
Height H: 2R+82mm
Hs≧ H+50mm

ORDERING

ST 095E. 200. R200 / F - 3000L : 10ST

- Q'ty(set)
- Length(mm)
- F : Free End Bracket
  G : Guide Channel Type
  V : Vertical Guide Type
- Bending Radius
- Inside Width
- Enclosed Type
- Shift Chain

BRACKET TYPE



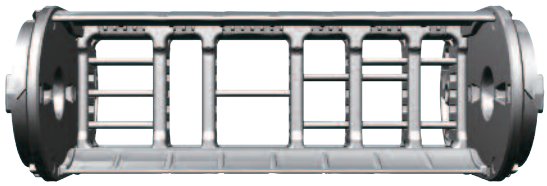
FEB (Free End Bracket)

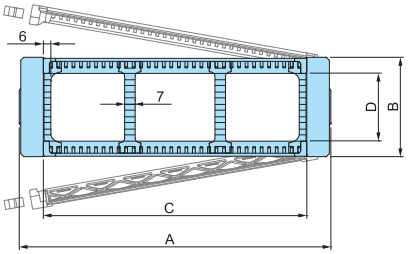
FEB Fixes the cable chain to the machinery or moving application. CPS has improved mounting efficiency by unifying the existing Easy End Bracket and Normal End Bracket. Also, inseting plastic sheets creates enclosed structure in the bracket.
(The order for subsidiary materials is extra.)

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

Enclosed Type ST 095E

CHAIN CROSS SECTION

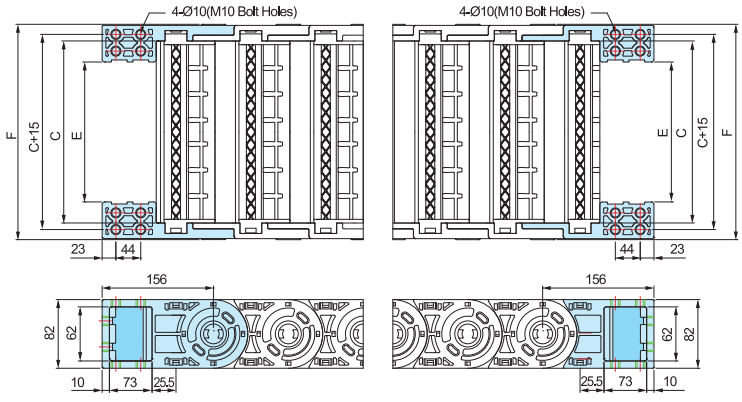




Chain Type	A	B	C	D	Bending Radius(R)	Weight in kg/m
ST 095E.100	138	82	100	55	150, 200 230, 280, 400	3.55
ST 095E.125	163		125			3.79
ST 095E.150	188		150			4.04
ST 095E.175	213		175			4.29
ST 095E.200	238		200			4.53

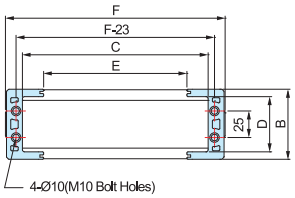
▲ Application of special frame. (C:190,240)

FREE END BRACKET



▲ Moving point

▲ Fixing point



▲ Front point

Chain Type	F	B	C	D	E	Hole Type
ST 095E.100	138	82	100	55	49	M10 Bolt Holes
ST 095E.125	163		125		74	
ST 095E.150	188		150		99	
ST 095E.175	213		175		124	
ST 095E.200	238		200		149	

▲ Application of special frame. (C:190,240)

2014 NEW PRODUCT

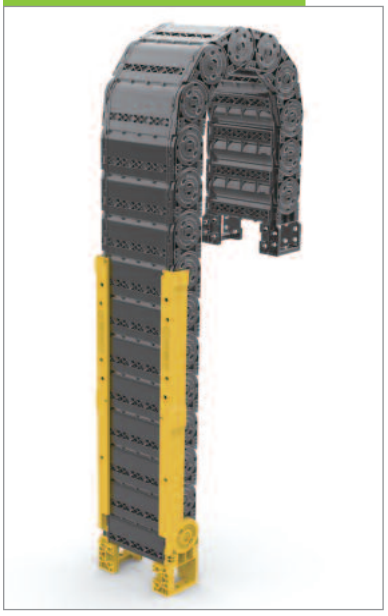
Unity Systems®

Enclosed Type ST 095E

This type of bracket is to protect deflection of chain which will support the weight of certain section start from bracket, also will protect the damage of chain.

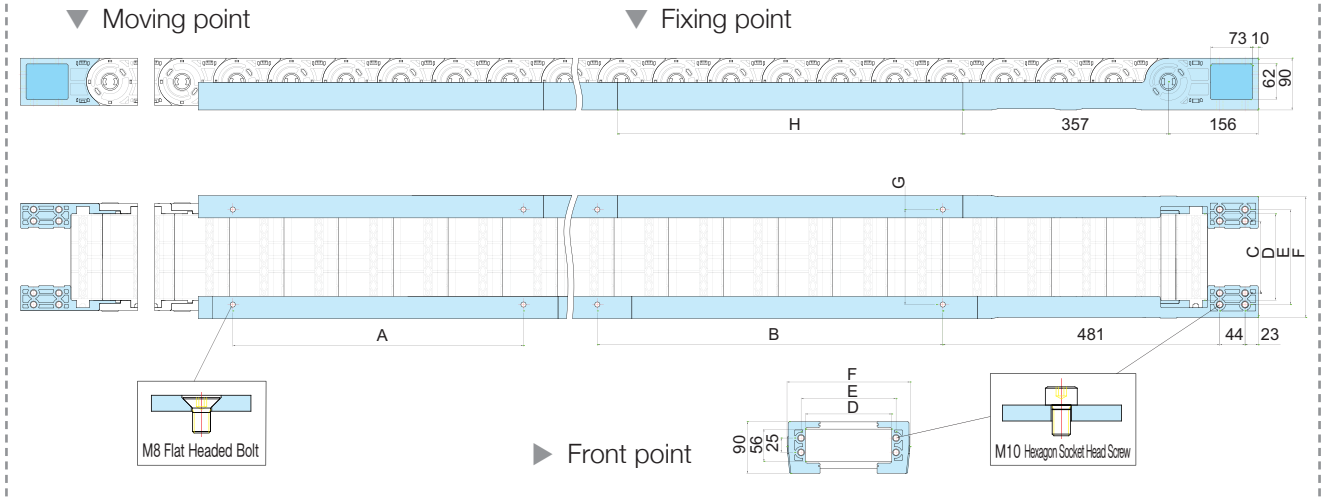
▼ Horizon Type

▼ Vertical Type



GUIDE CHANNEL TYPE END BRACKET

(Dimensions in mm)



Chain Type	C FEB fix hole(inner)	D Frame length dimension	E FEB width	F FEB width	G GC hole width
ST 095E.100	75	100	115	160	115
ST 095E.125	100	125	140	185	140
ST 095E.150	125	150	165	210	165
ST 095E.175	150	175	190	235	190
ST 095E.200	175	200	215	260	215

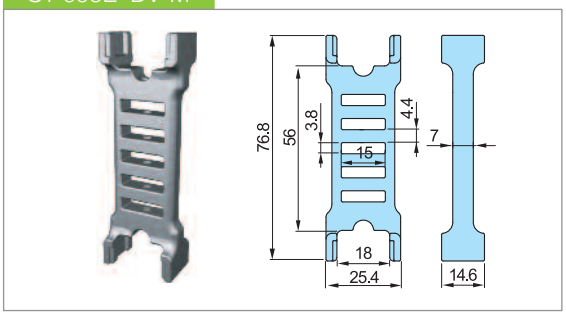
GC TYPE	H GC length	B GC fixing hole	A GC hole dimension
GC600	600	601	505
GC800	800	801	705

Enclosed Type ST 095E

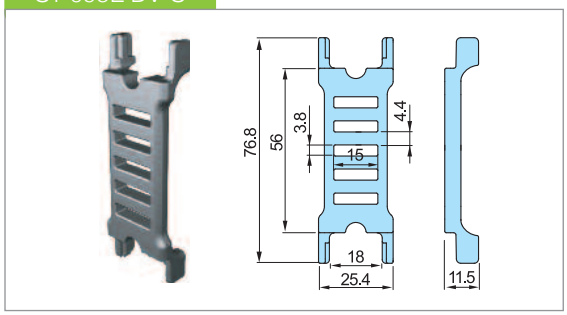
DIVIDERS

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 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.

ST 095E DV-M

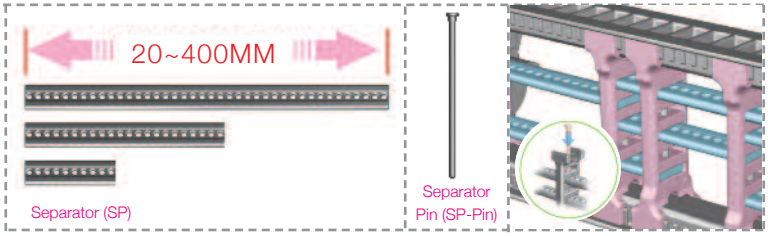


ST 095E DV-S



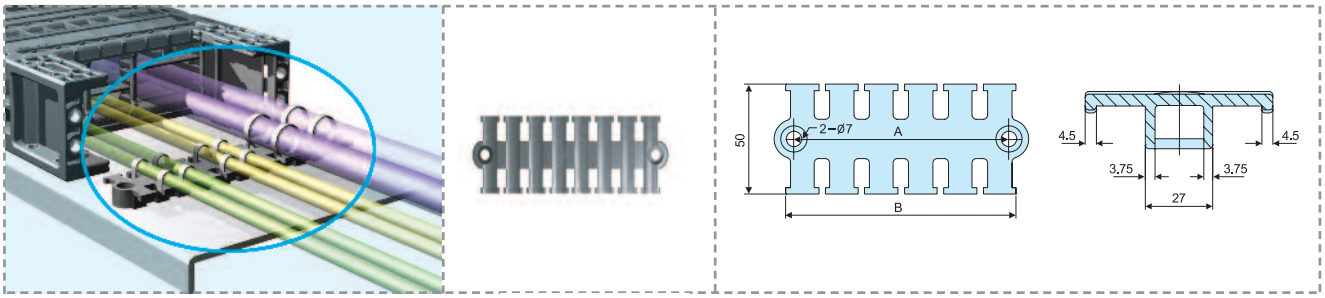
▶ Assemble divider every Two links.

SEPARATORS (SP)



Separator is available in length from 20mm to 400mm and can be cut every 5mm for use. The combined use of divider and sepatator with the pin creates the most effective cable pattern and keep insertion space for cables safely, so it protects the inserted cables.

TIE WRAP



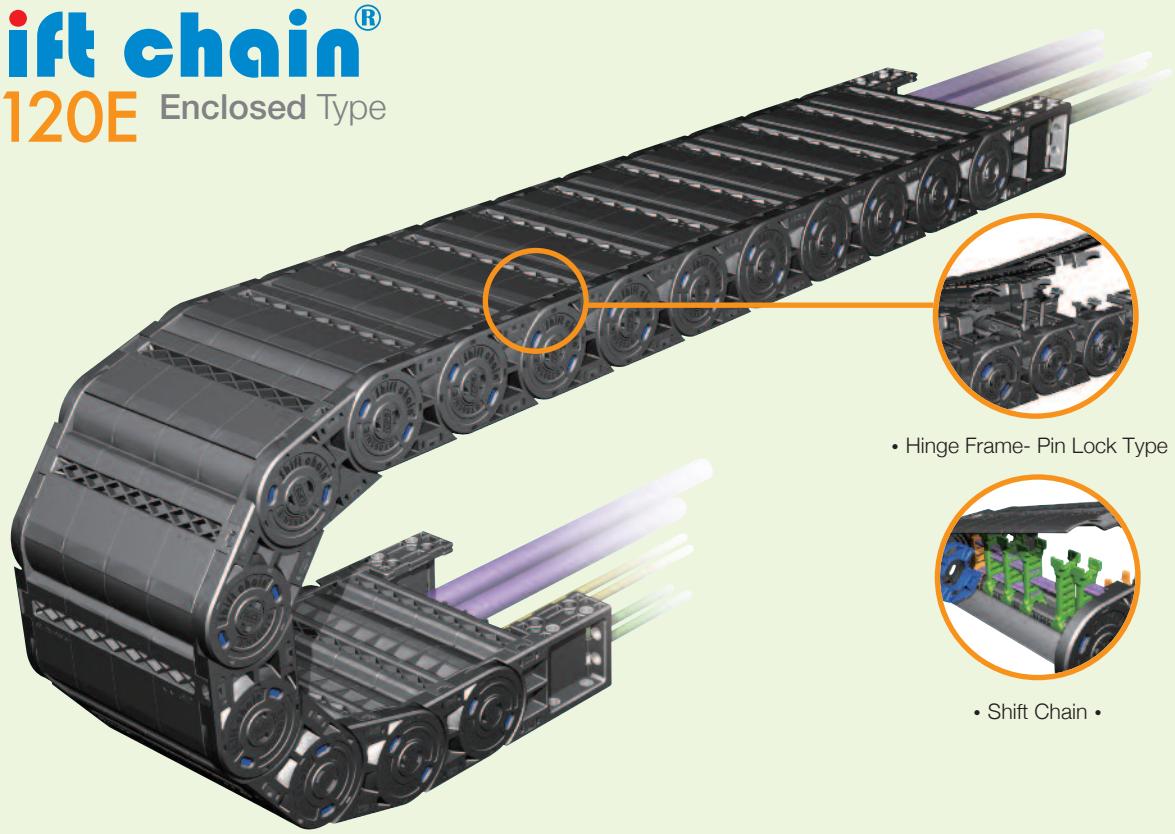
(Dimensions in mm)

Tie Wrap	050	075	100	125	150
A	58	75	98	122	141
B	65	82	105	129	148

The Tie Wrap separated from the Shift Chain bracket, when installed properly, protects the inserted cables from becoming entangled and twisted during operation

Min ●●●●●○ Max

Shift chain®
ST 120E Enclosed Type



• Hinge Frame- Pin Lock Type •

• Shift Chain •

MATERIAL

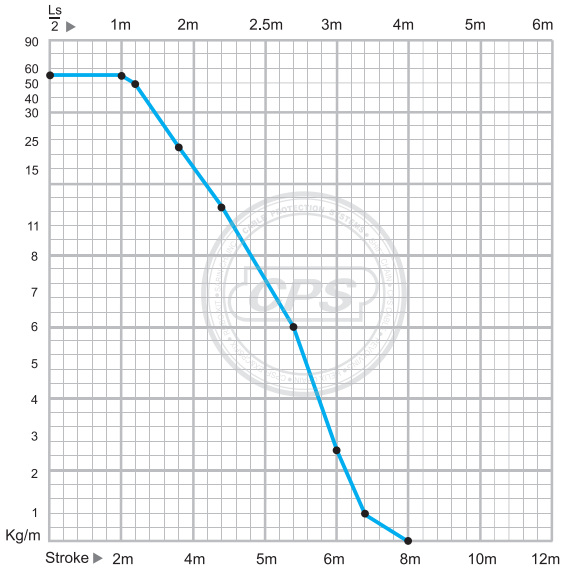
- **Chain material:**
  CPS-amide with glass fiber reinforced UL94-HB
- **Low Noise & Low Mote**
- **Speed :** 10m / sec
- **Temperature :** -30°C ~ +130°C
- **Other installation Length**
  Vertical curve above = max 6.0m
  Vertical curve below = max 120m
  Side Mounted, Unsupported = max 3.0m
- **Applications**

  Shift Chain E-Type can be found on car manufacturer's welding line, robot carriages and press lines and on any machine where excess material can damage your inserted cables.

- **Calculation of the chain length**

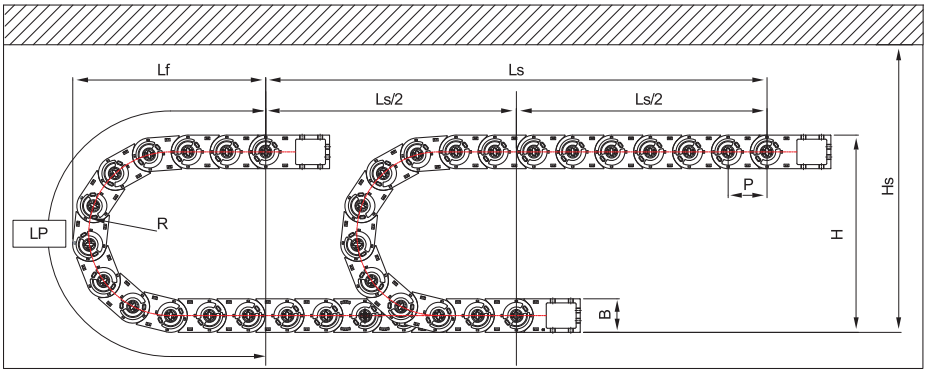
$$[\quad L = \frac{Ls}{2} + Lp \quad]$$

- **Load diagrams self-supporting length**



Enclosed Type ST 120E

LAYOUT OF THE CHAIN



Ls: Stroke
Lp: Loop Length
L f: Loop Projection
Hs: Safe Space

(Dimensions in mm)

Bending radius R	200	250	300	350	400	500
Lp	1,109	1,266	1,423	1,580	1,737	2,051
L f	494	544	594	644	694	794
H	508	608	708	808	908	1,108

ST 120E Type

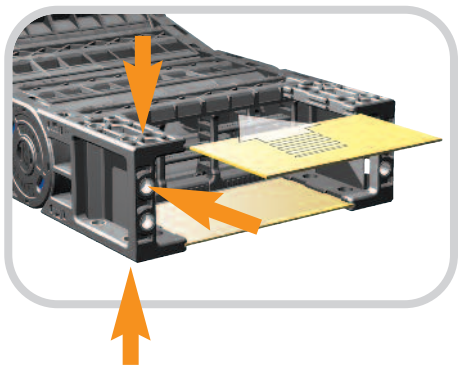
Pitch P: 120 mm
Height B: 108mm
Height H: 2R+108mm
Hs≧ H+60mm

ORDERING

ST 120E. 200. R200 / F - 3000L : 10ST

- Q'ty(set)
- Length(mm)
- F : Free End Bracket
  G : Guide Channel Type
  V : Vertical Guide Type
- Bending Radius
- Inside Width
- Enclosed Type
- Shift Chain

BRACKET TYPE



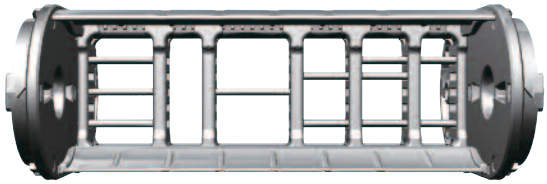
FEB (Free End Bracket)

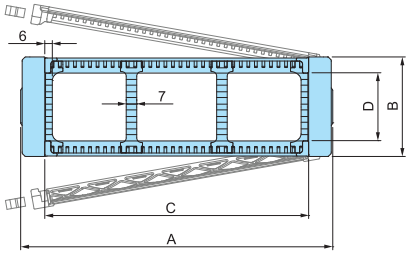
FEB Fixes the cable chain to the machinery or moving application. CPS has improved mounting efficiency by unifying the existing Easy End Bracket and Normal End Bracket. Also, inseting plastic sheets creates enclosed structure in the bracket.
(The order for subsidiary materials is extra.)

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

Enclosed Type ST 120E

CHAIN CROSS SECTION

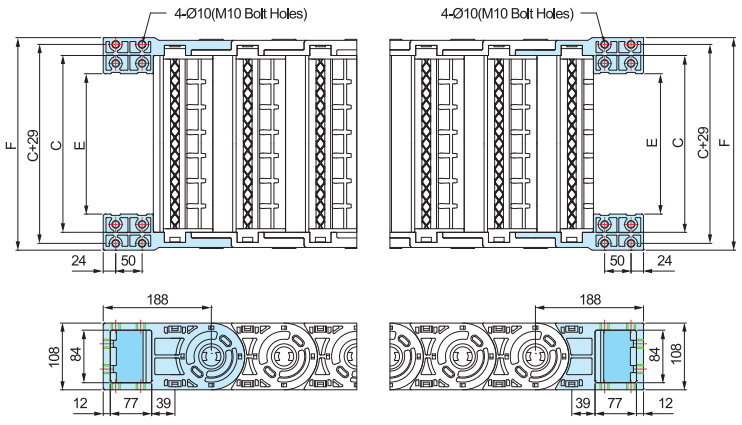




Chain Type	A	B	C	D	Bending Radius(R)	Weight in kg/m
ST 120E.150	192	108	150	76	200, 250, 300 350, 400, 500	5.79
ST 120E.200	242		200			6.43
ST 120E.250	292		250			7.07
ST 120E.300	342		300			7.71

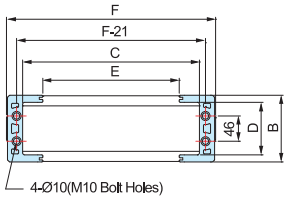
▲ Application of special frame. (C:115,240,290)

FREE END BRACKET



▲ Moving point

▲ Fixing point



▲ Front point

Chain Type	F	B	C	D	E	Hole Type
ST 120E.150	200	108	150	76	90	M10 Bolt Holes
ST 120E.200	250		200		140	
ST 120E.250	300		250		190	
ST 120E.300	350		300		240	

▲ Application of special frame. (C:115,240,290)

2014 NEW PRODUCT

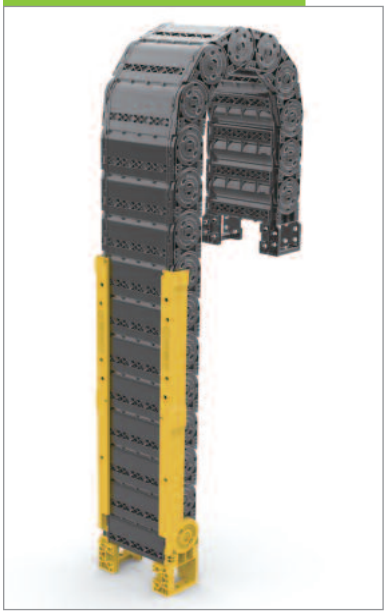
Unity Systems®

Enclosed Type ST 120E

This type of bracket is to protect deflection of chain which will support the weight of certain section start from bracket, also will protect the damage of chain.

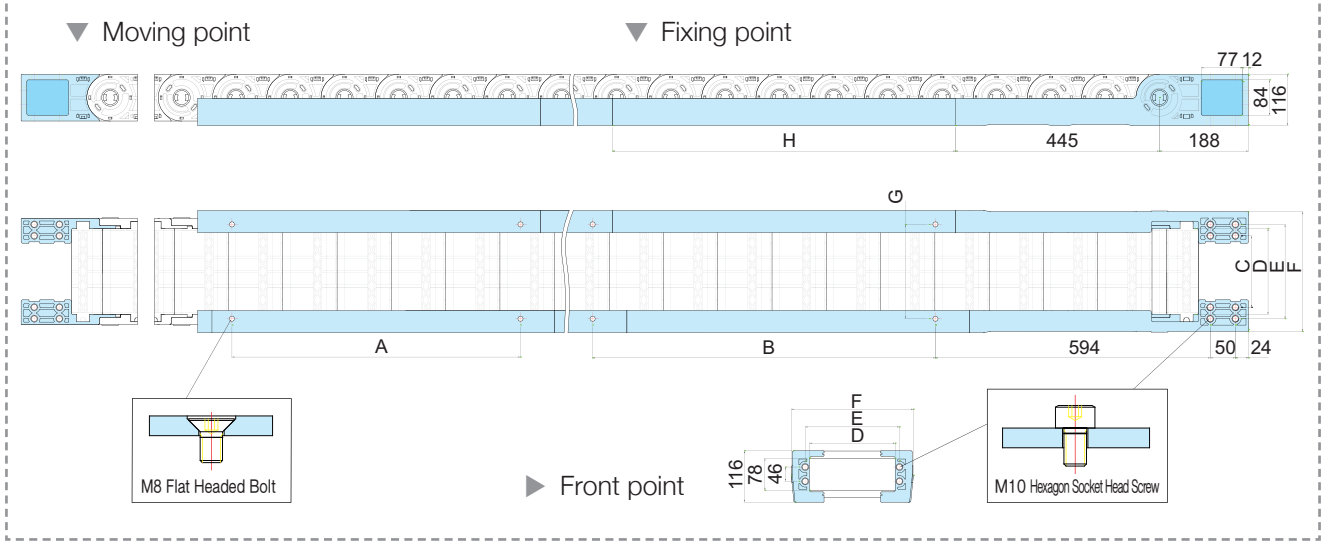
▼ Horizon Type

▼ Vertical Type



GUIDE CHANNEL TYPE END BRACKET

(Dimensions in mm)



Chain Type	C FEB fix hole(inner)	D Frame length dimension	E FEB width	F FEB width	G GC hole width
ST 120E.150	122	150	179	214	169
ST 120E.200	172	200	229	264	219
ST 120E.250	222	250	279	314	269
ST 120E.300	272	300	329	364	319

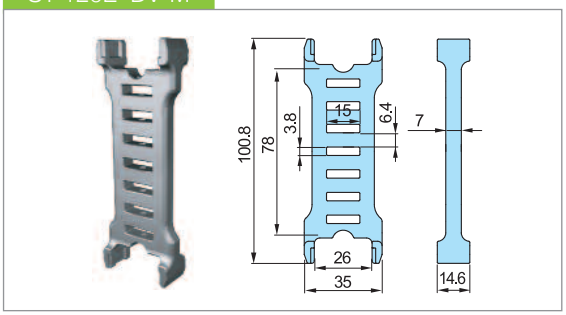
GC TYPE	H GC length	B GC fixing hole	A GC hole dimension
GC600	600	601	505
GC800	800	801	705

Enclosed Type ST 120E

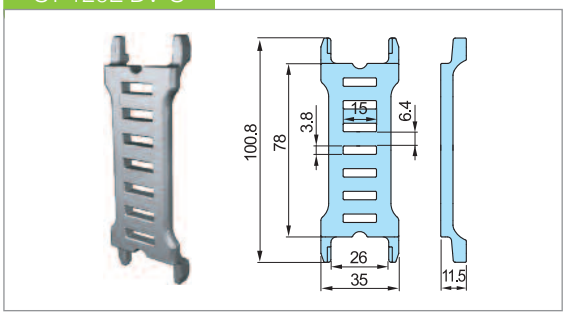
DIVIDERS

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 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.

ST 120E DV-M

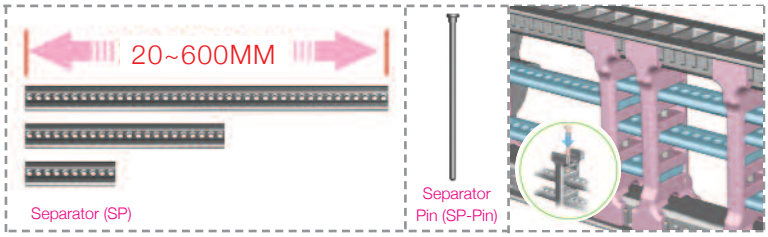


ST 120E DV-S



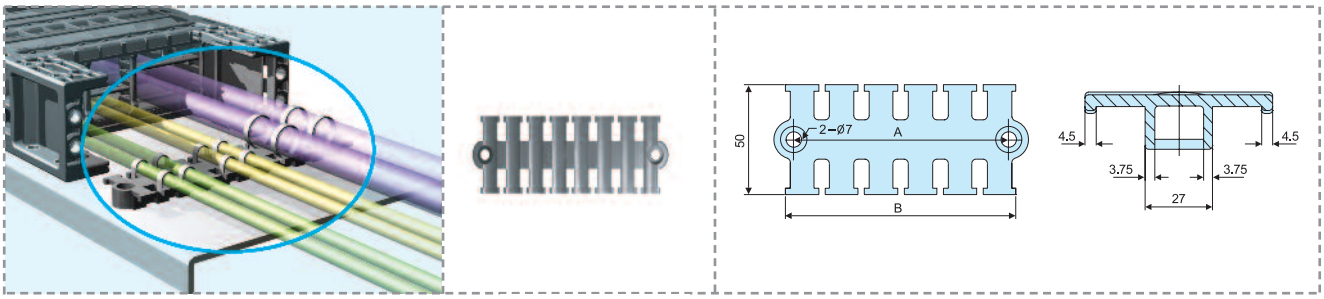
▶ Assemble divider every Two links.

SEPARATORS (SP)



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

TIE WRAP



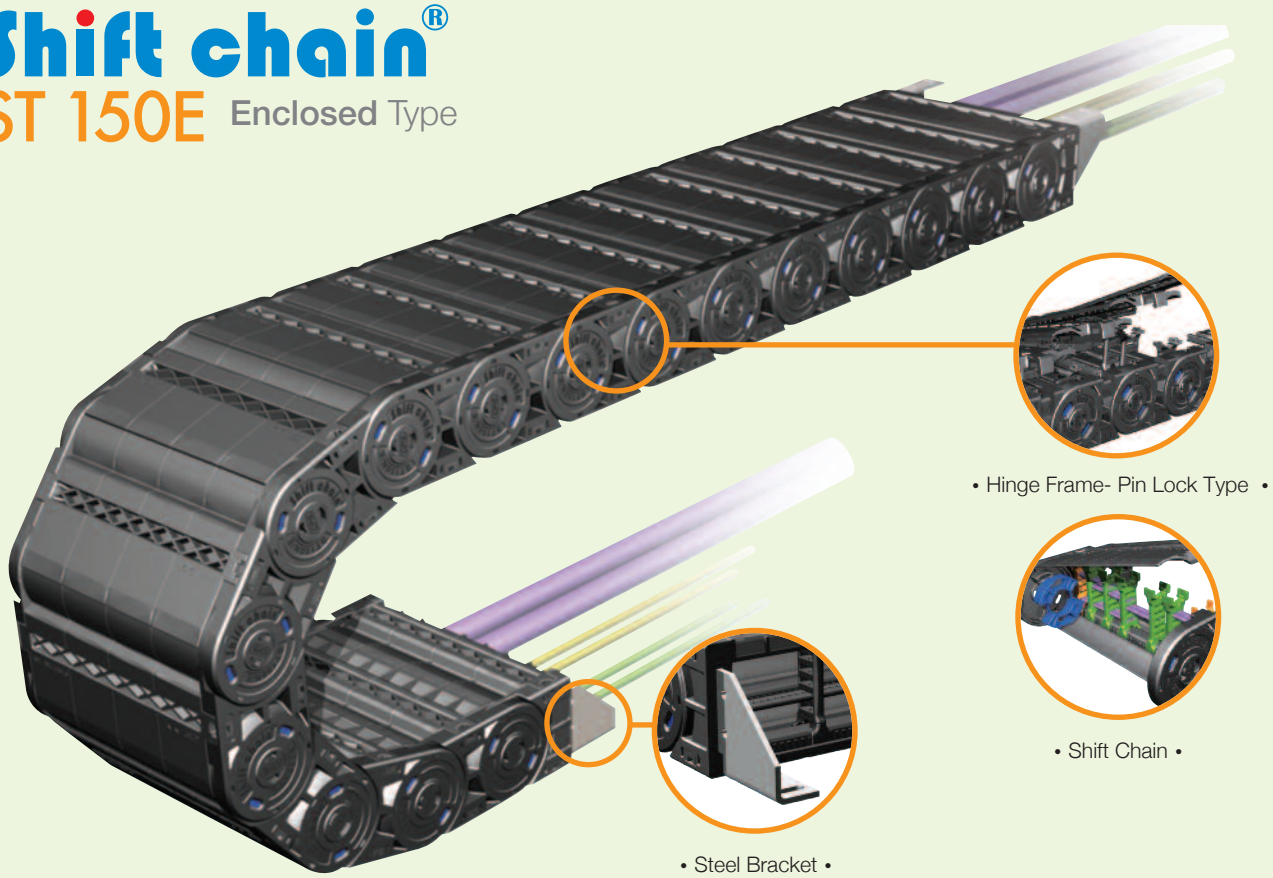
(Dimensions in mm)

Tie Wrap	050	075	100	125	150
A	58	75	98	122	141
B	65	82	105	129	148

The Tie Wrap separated from the Shift Chain bracket, when installed properly, protects the inserted cables from becoming entangled and twisted during operation

Min ●●●●●● Max

Shift chain®
ST 150E Enclosed Type



• Hinge Frame- Pin Lock Type •

• Shift Chain •

• Steel Bracket •

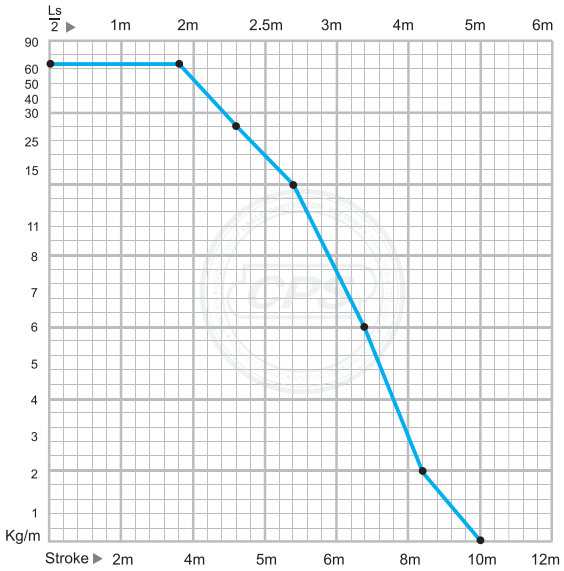
MATERIAL

- **Chain material:**
  CPS-amide with glass fiber reinforced UL94-HB
- **Low Noise & Low Mote**
- **Speed :** 10m / sec
- **Temperature :** -30°C ~ +130°C
- **Other installation Length**
  Vertical curve above = max 7.0m
  Vertical curve below = max 150m
  Side Mounted, Unsupported = max 4.0m
- **Applications**

  Shift Chain E-Type can be found on car manufacturer's welding line, robot carriages and press lines and on any machine where excess material can damage your inserted cables
- **Calculation of the chain length**

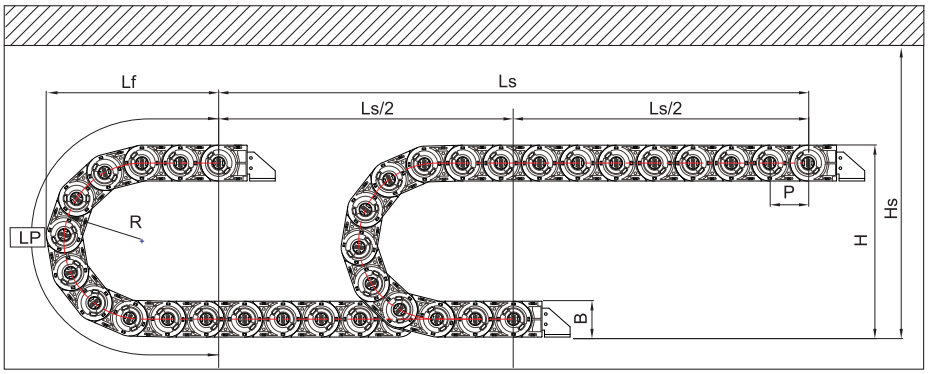
$$[\quad L = \frac{Ls}{2} + Lp \quad]$$

- **Load diagrams self-supporting length**



Enclosed Type ST 150E

LAYOUT OF THE CHAIN



(Dimensions in mm)

Bending radius R	305	405	505	605
Lp	1,510	1,807	2,106	2,405
L f	651	743	835	928
H	752	952	1,152	1,352

Ls: Stroke
Lp: Loop Length
L f: Loop Projection
Hs: Safe Space

ST 150E Type

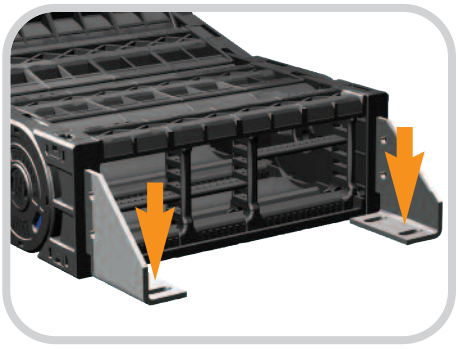
Pitch P: 150 mm
Height B: 141mm
Height H: 2R+142mm
Hs≧ H+80mm

ORDERING

ST 150E. 400. R305 / B_1- 4500L : 10ST

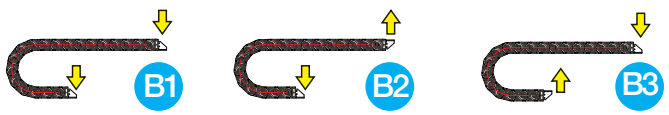
Q'ty(set)
Length(mm)
Bracket Type B1, B2, B3
Bending Radius
Inside Width
Enclosed Type
Shift Chain

BRACKET TYPE



SEB (Steel End Bracket)

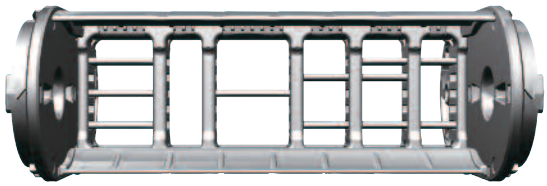
For ST150E, its end parts of cable chain being fixed are used with steel bracket, and it is possible to be installed B1, B2, B3 types of brackets.

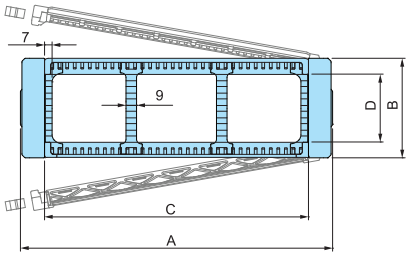


▶ Above products are patent registered item which can be protected by industrial property right.

Enclosed Type ST 150E

CHAIN CROSS SECTION

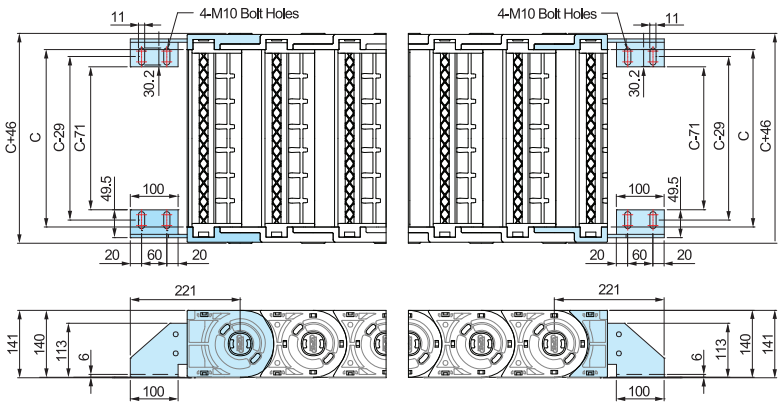




Chain Type	A	B	C	D	Bending Radius(R)	Weight in kg/m
ST 150E.200	246	141	200	110	305, 405, 505, 605	8.16
ST 150E.250	296		250			8.76
ST 150E.300	346		300			10.50
ST 150E.350	396		350			12.33
ST 150E.400	446		400			14.16

▲ Application of special frame. (C:115,240,290)

FREE END BRACKET



▲ Moving point ▲ Fixing point

Chain Type	F	C	D	Hole Type
ST 150E.200	141	200	110	M10 Bolt Holes
ST 150E.250		250		
ST 150E.300		300		
ST 150E.350		350		
ST 150E.400		400		

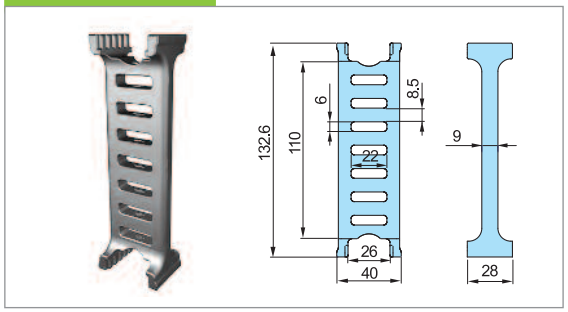
▲ Application of special frame. (C:115,240,290)

Enclosed Type ST 150E

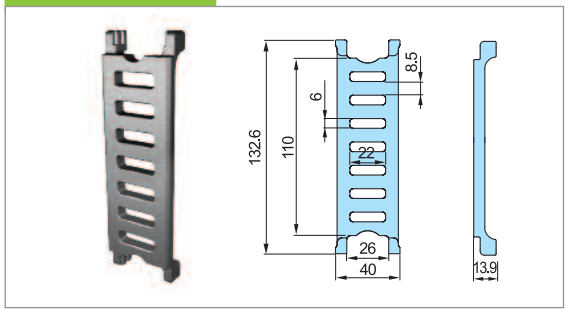
DIVIDERS

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 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.

ST 150E DV-M



ST 150E DV-S



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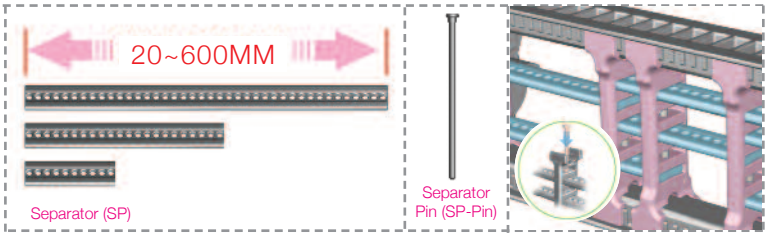
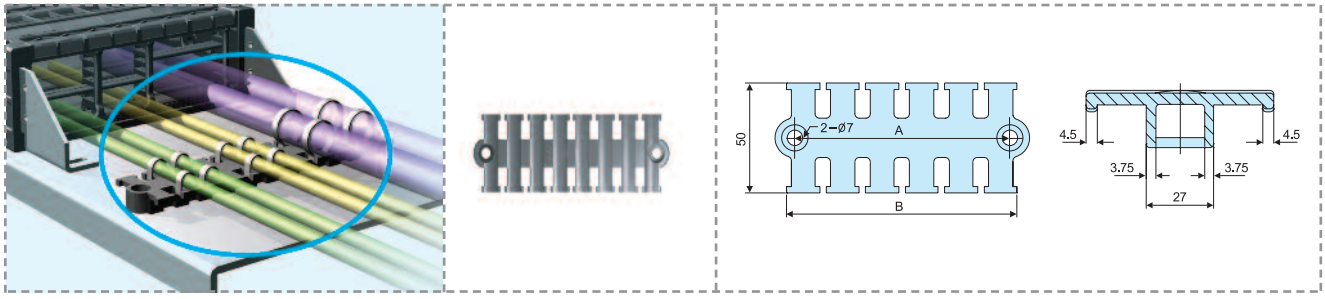
SEPARATORS (SP)



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

TIE WRAP



(Dimensions in mm)

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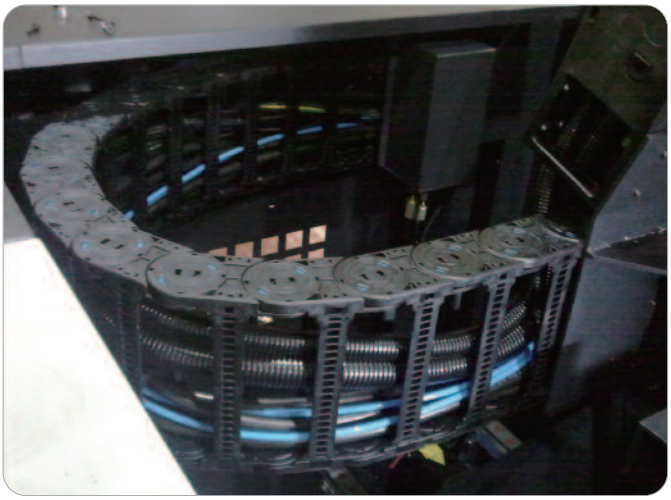
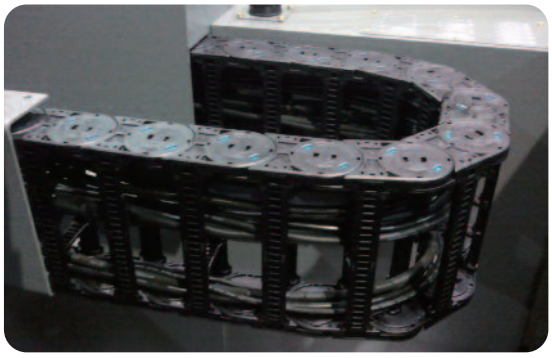
The Tie Wrap separated from the Shift Chain bracket, when installed properly, protects the inserted cables from becoming entangled and twisted during operation

APPLICATION IMAGE

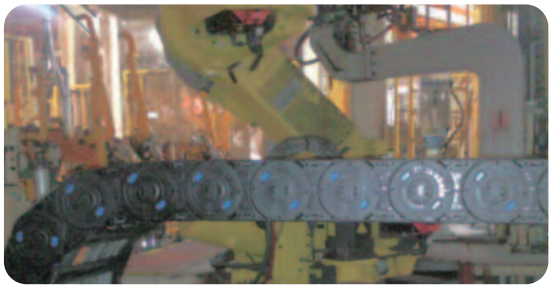


ST- N



ST- N DMC

ST- N



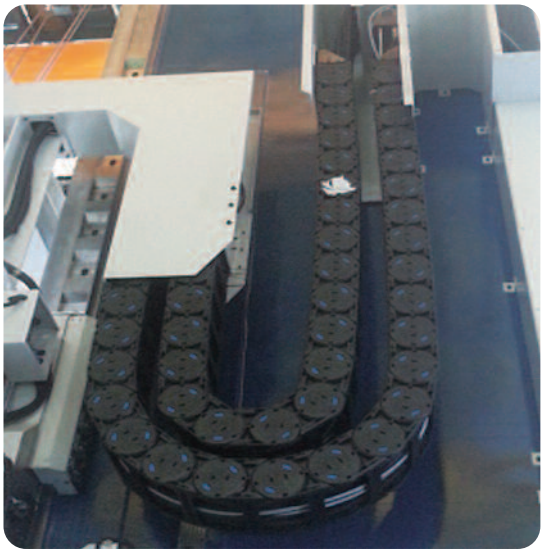
ST- N

ST- N

ST- N

APPLICATION IMAGE

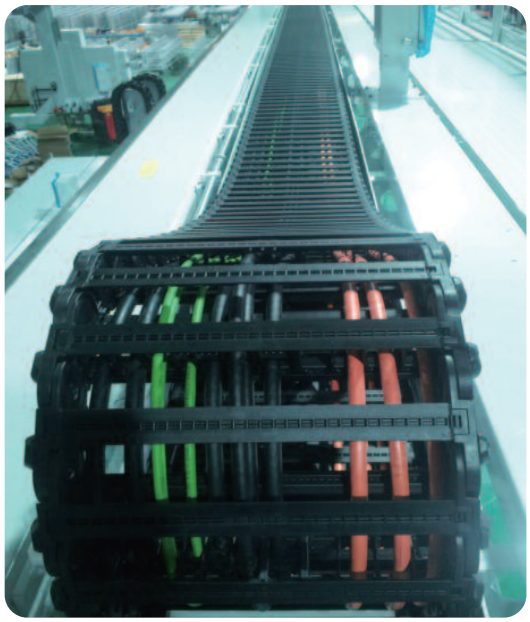
ST- N



ST- N

ST- S

ST- S



ST- S

ST- ES

APPLICATION IMAGE

ST- RS

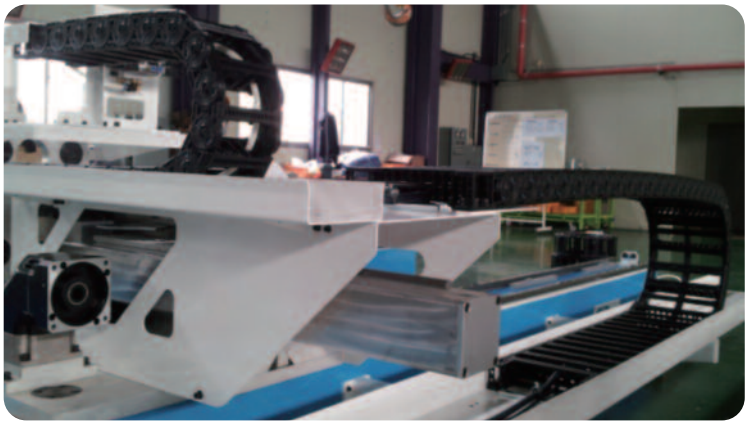
ST- RS

ST- RS

ST- RS

ST- RS

APPLICATION IMAGE

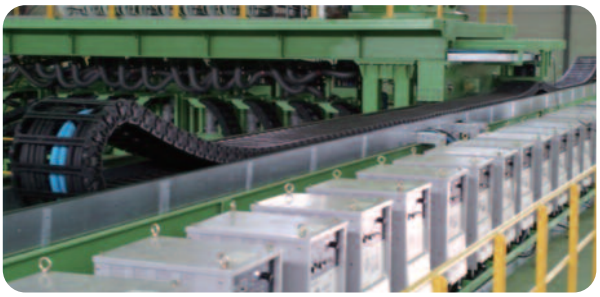


ST- N

ST- N

ST- N

ST- N



ST- S

ST- RS