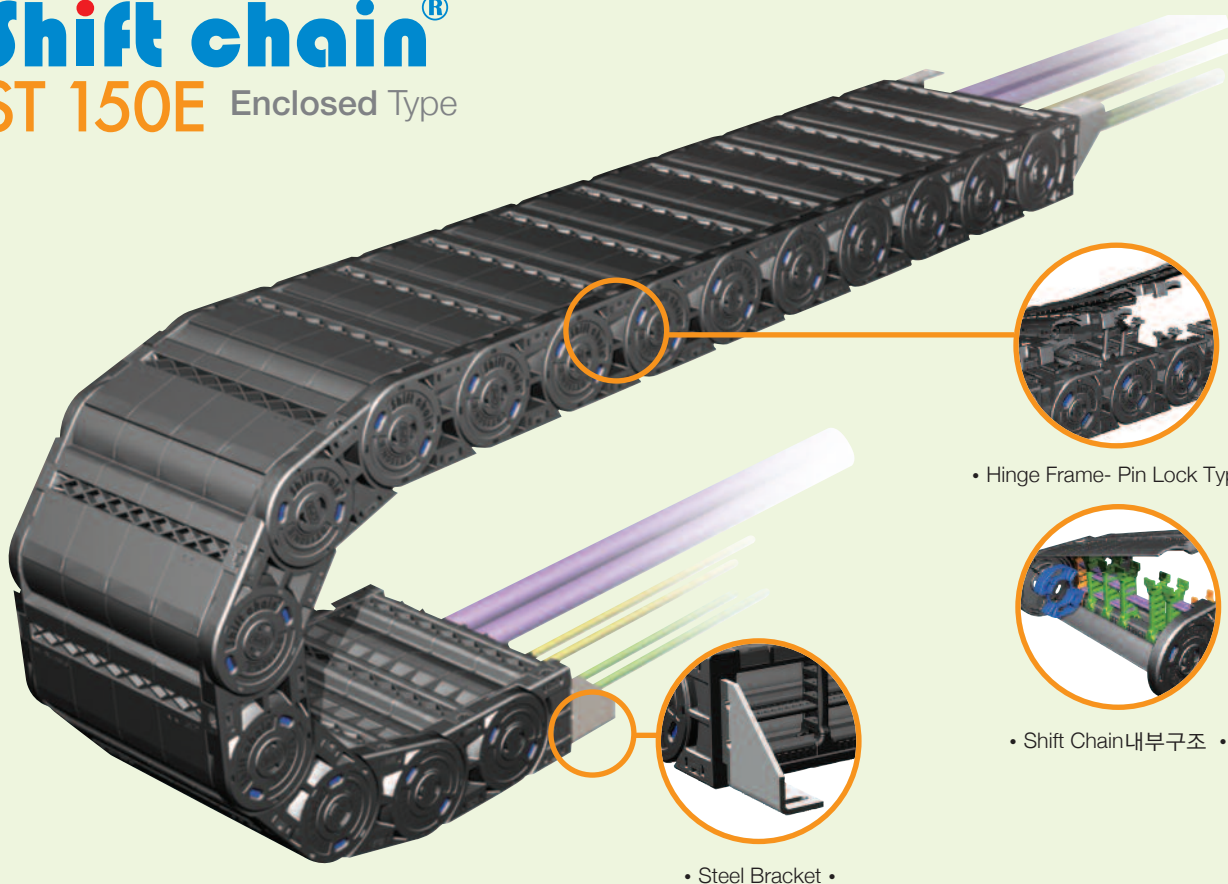


Min ●●●●●● Max

# Shift chain®

## ST 150E Enclosed Type



• Hinge Frame- Pin Lock Type •

• Shift Chain내부구조 •

• Steel Bracket •

### MATERIAL

● **Chain material:**  
CPS-polyamide 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**

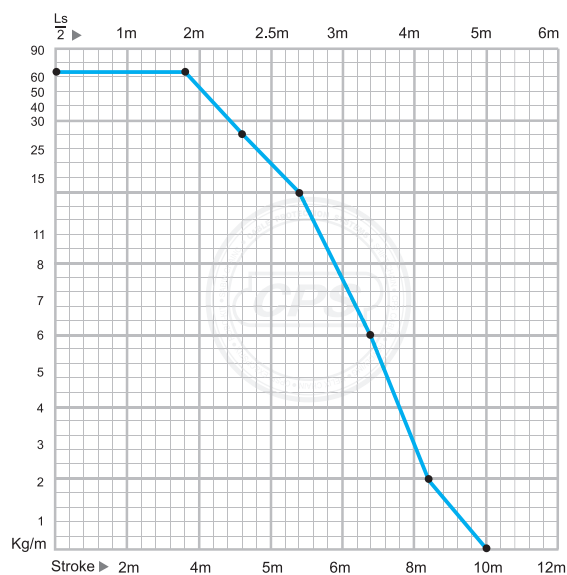
Shift Chain E-Type can be found on car manufacturer's welding line, robot carriages and press lines and on any machine where excess material can damage your inserted cables

산업현장, 외부위험 요소로부터 케이블의 보호가 필요한 용접라인, 도장라인등에 적용. 컨츄리로봇, 공작기계, 용접기계, 로봇케리지 등의 외부위험 요소로부터 케이블의 보호가 요구되는 케이블 체인의 적용 사업장에 사용가능.

● **Calculation of the chain length**

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

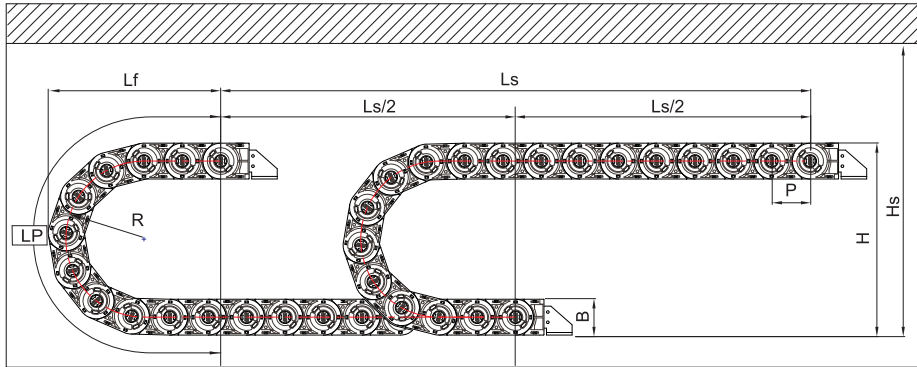
● **Load diagrams self-supporting length**





## 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
Lf	651	743	835	928
H	752	952	1,152	1,352

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

### ST 150E Type

- Pitch P:** 150 mm
- Height B:** 141mm
- Height H:** 2R+142mm
- Hs** ≥ H+80mm

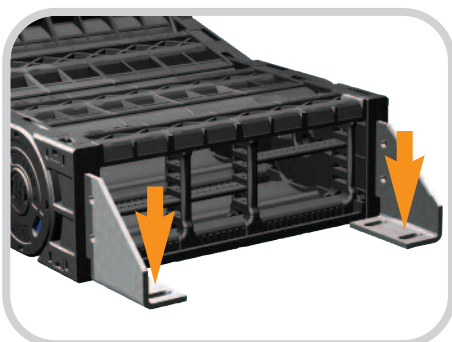
### ORDERING (주문방법)

## ST 150E. 400. R305 / B<sub>1</sub>- 4500L : 10ST



- 주문수량 Q'ty(set)
  - 체인길이 Length(mm)
  - 브라켓타입 Bracket Type B<sub>1</sub>, B<sub>2</sub>, B<sub>3</sub>
  - 곡률반경 Bending Radius
  - 내폭 Inside Width
  - 밀폐형태입 Enclosed Type
- ### Shift Chain

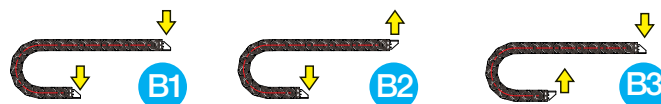
### BRACKET TYPE (브라켓타입)



### 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 B<sub>1</sub>, B<sub>2</sub>, B<sub>3</sub> types of brackets.

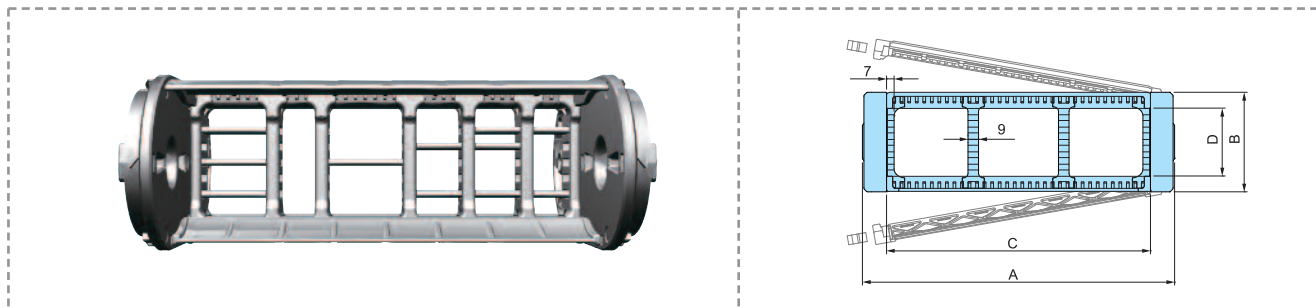
체인을 고정하는 끝부분으로 ST150E사양은 ST체인의 다른사양과는 달리 스틸브라켓을 사용하며 브라켓의 설치형태에 따라 B<sub>1</sub>, B<sub>2</sub>, B<sub>3</sub> 등으로 구분설치가 가능하다.



▶ Above products are patent registered item which can be protected by industrial property right. (상기제품은 특허등록 제품으로 산업재산권의 보호를 받는 제품입니다.)

## Enclosed Type **ST 150E**

### CHAIN CROSS SECTION

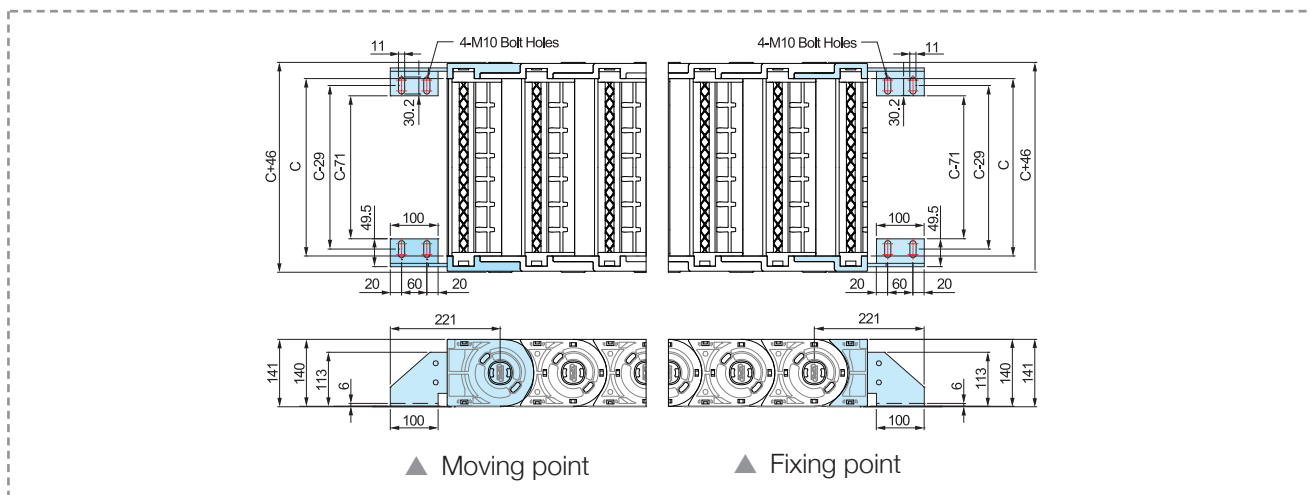


Chain Type	A	B	C	D	Bending Radius(R)	Weight in kg/m
ST 150E.200	246		200			8.16
ST 150E.250	296		250			6.98
ST 150E.300	346	141	300	110	305, 405, 505, 605	10.50
ST 150E.350	396		350			12.33
ST 150E.400	446		400			14.16

▲ 특수 프레임 적용 가능. (C:115,240,290)

▲ 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		200		M10 Bolt Holes
ST 150E.250		250		
ST 150E.300	141	300	110	
ST 150E.350		350		
ST 150E.400		400		

▲ 특수 프레임 적용 가능. (C:115,240,290)

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



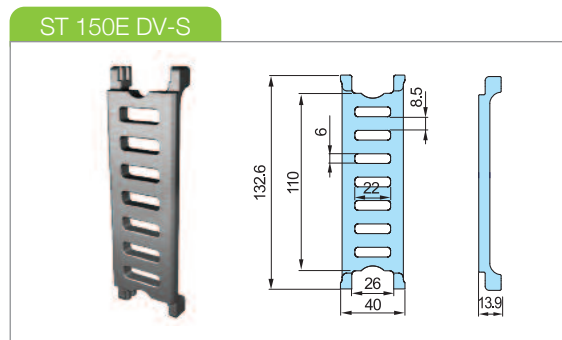
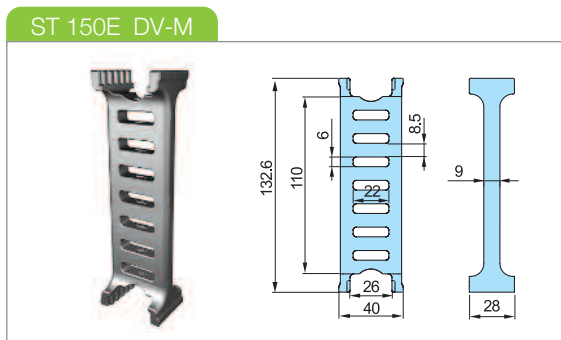
## Enclosed Type **ST 150E**

### 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.

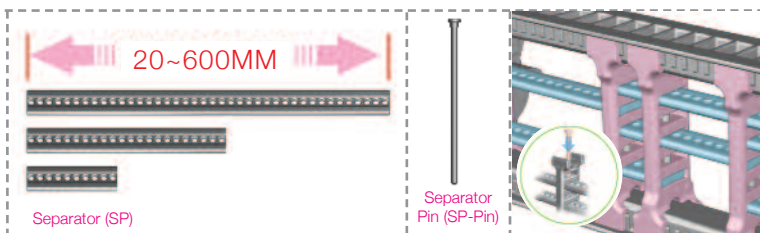
디바이더(세로분리대)와 세퍼레이터(가로분리대)는 체인내에 많은 케이블들이 입선될 시 케이블들을 서로 분리하여 케이블상호간의 마찰로 인한 **피복손상 및 단선**을 방지하는 역할을 하며 케이블과 10%이상의 여유공간을 확보해야합니다.

또한 케이블을 체인내 2단이상 입선시 반드시 세퍼레이터를 디바이더에 결합하여 사용해야 케이블의 꼬임방지와 피복손상을 방지할 수 있습니다.



▶ Assemble divider every Two links. / 2링크마다 결합.

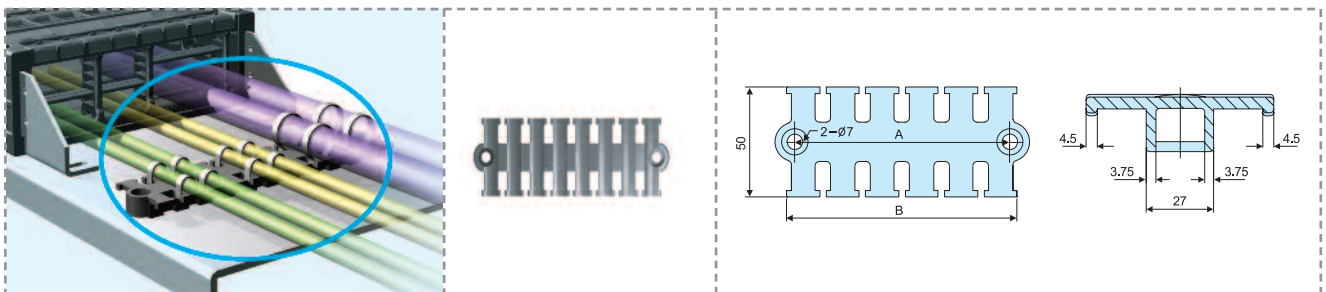
### SEPARATORS (SP)



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

세퍼레이터의 사용길이는 최소20mm부터 최대600mm까지 사용가능하며 5mm간격으로 절단하여 원하는 길이로 사용가능합니다. 크기가 각각 다른 케이블을 크기에 맞게끔 공간분할이 용이하고 세퍼레이터 핀으로 결합하여 어떠한 경우에도 안전하게 케이블의 입선공간을 유지하여 안전하게 케이블을 보호할 수 있습니다.

### 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

Tie Wrap은 Shift Chain의 브라켓을 기준으로 바깥으로 설치함으로써 체인의 움직임으로 인해 **케이블의 유동을 방지하고자 고정하는 시스템**으로 케이블의 피복손상 및 단선을 방지하는 역할을 합니다.