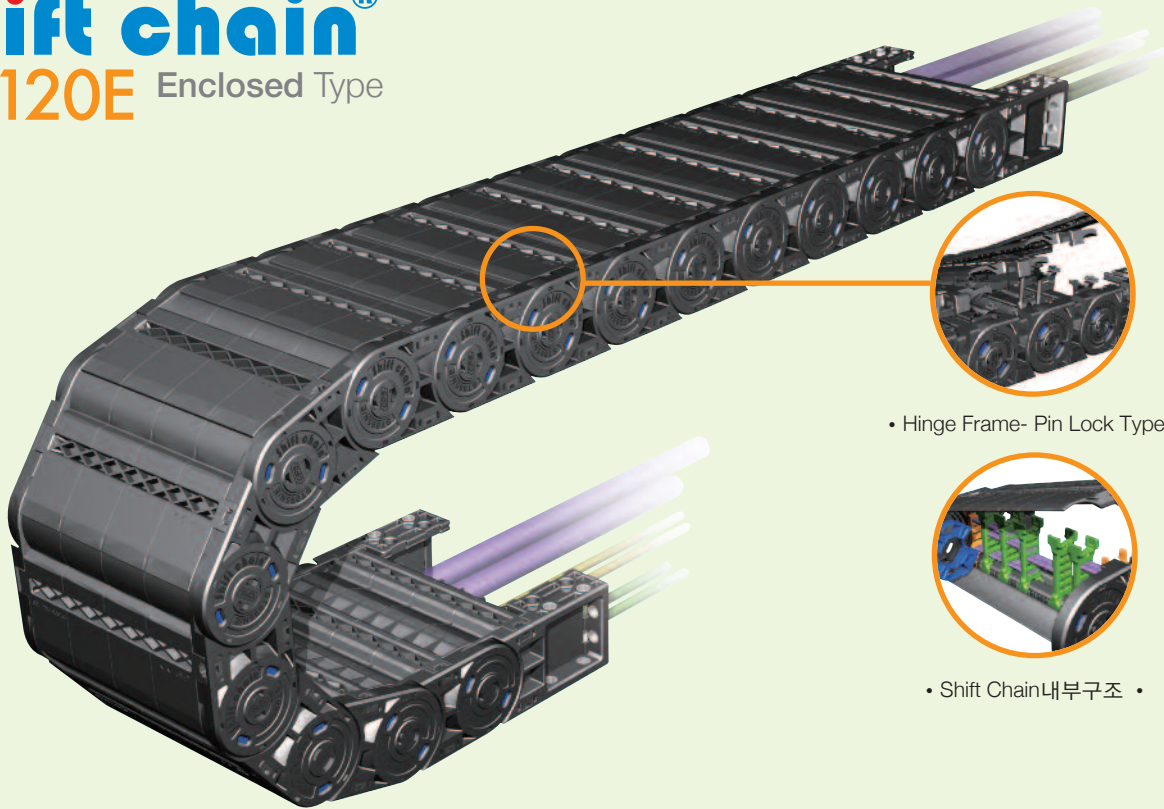


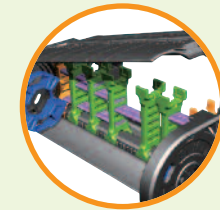


Min ●●●●●●● Max

Shift chain[®] ST 120E Enclosed Type



• Hinge Frame- Pin Lock Type •



• Shift Chain 내부구조 •

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 6.0m
Vertical curve below = max 120m
Side Mounted, Unsupported = max 3.0m

Applications

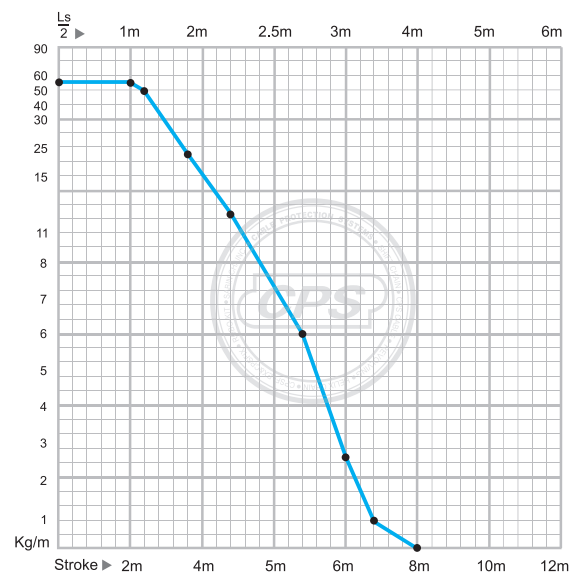
Shift Chain E-Type can be found on car manufacturer's welding line, robot carriages and press lines and on any machine where excess material can damage your inserted cables.

산업현장, 외부위험 요소로부터 케이블의 보호가 필요한 용접라인, 도장라인 등에 적용. 건추리로봇, 공작기계, 용접기계, 로봇케리지 등의 외부위험 요소로부터 케이블의 보호가 요구되는 케이블 체인의 적용 사업장에 사용가능.

Calculation of the chain length

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

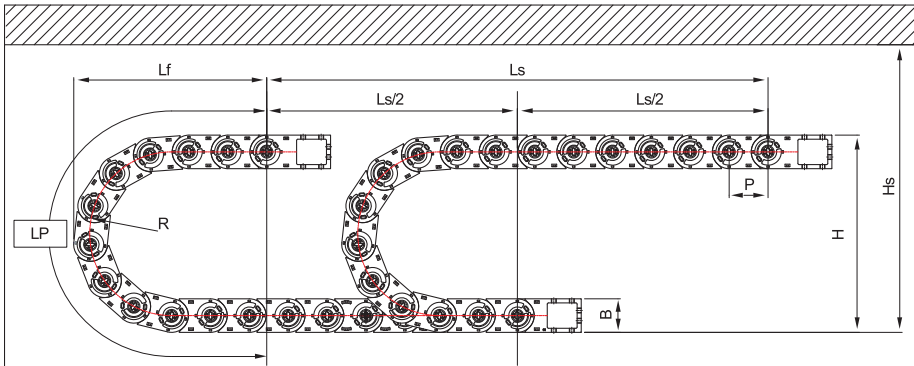
Load diagrams self-supporting length





Enclosed Type **ST 120E**

LAYOUT OF THE CHAIN



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

(Dimensions in mm)

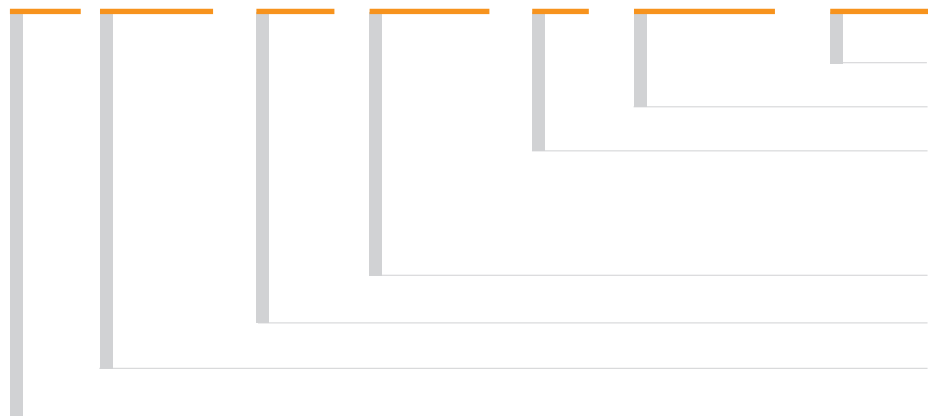
Bending radius R	200	250	300	350	400	500
Lp	1,109	1,266	1,423	1,580	1,737	2,051
L f	494	544	594	644	694	794
H	508	608	708	808	908	1,108

ST 120E Type

- Pitch P:** 120 mm
- Height B:** 108mm
- Height H:** 2R+108mm
- Hs** ≥ H+60mm

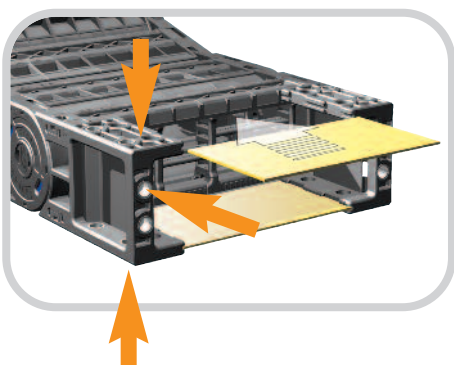
ORDERING (주문방법)

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



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

BRACKET TYPE (브라켓타입)



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.)

체인을 고정하는 끝부분으로 기존 Easy End Bracket과 Normal End Bracket을 하나로 통합한 방식으로 취부의 효율성을 높임.

또한 부자재를 삽입하여 브라켓부분이 완전밀폐가 될 수 있는 구조.

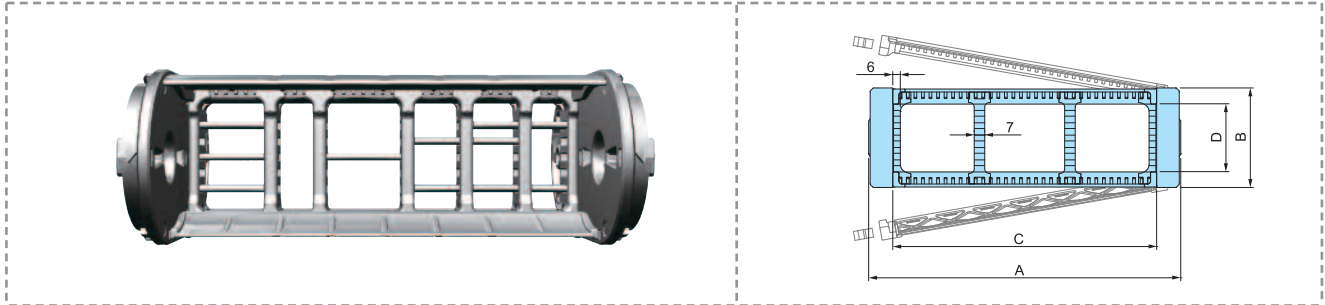
(부자재는 별도 주문)

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



Enclosed Type **ST 120E**

CHAIN CROSS SECTION

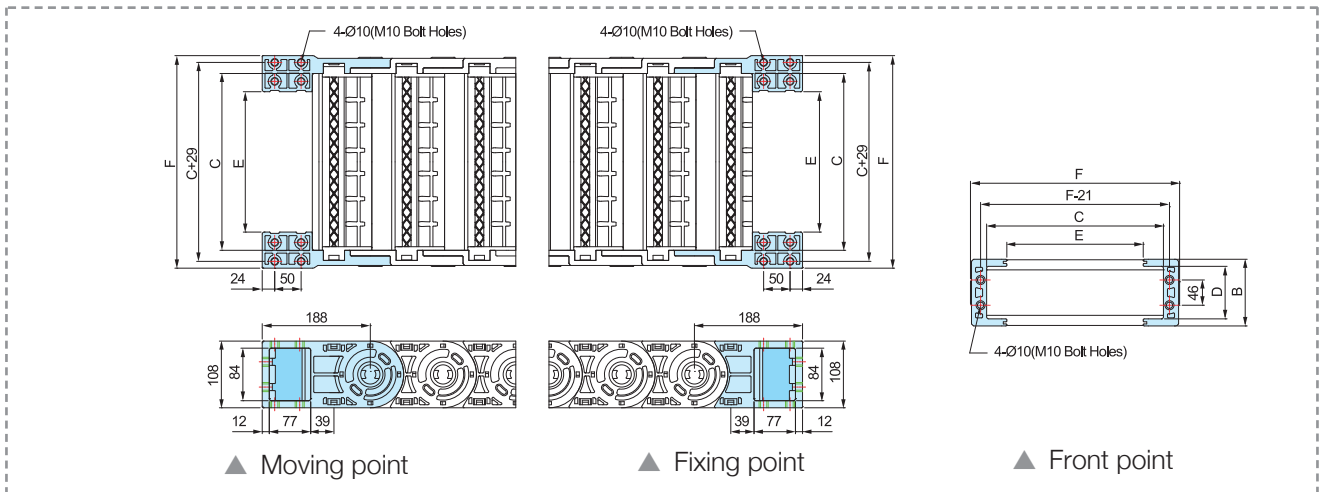


Chain Type	A	B	C	D	Bending Radius(R)	Weight in kg/m
ST 120E.150	192	108	150	76	200, 250, 300 350, 400, 500	5.79
ST 120E.200	242		200			6.43
ST 120E.250	292		250			7.07
ST 120E.300	342		300			7.71

▲ 특수 프레임 적용 가능. (C:115,240,290)

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

FREE END BRACKET



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	

▲ 특수 프레임 적용 가능. (C:115,240,290)

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

2014 NEW PRODUCT

Unity Systems®

Enclosed Type ST 120E

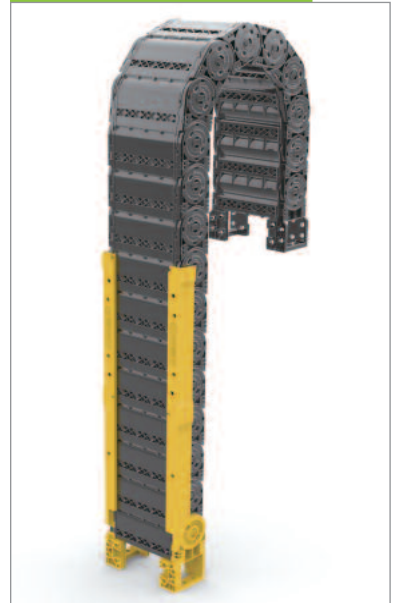
This type of bracket is to protect deflection of chain which will support the weight of certain section start from bracket, also will protect the damage of chain.

케이블 보호 장치에 전해지는 하중을 지지하여 케이블 체인의 처짐이 없이 일정구간을 끈게 유지하므로, 케이블 체인의 파손을 방지하는 Guide Channel 일체형 브라켓입니다.

▼ Horizon Type 수평형

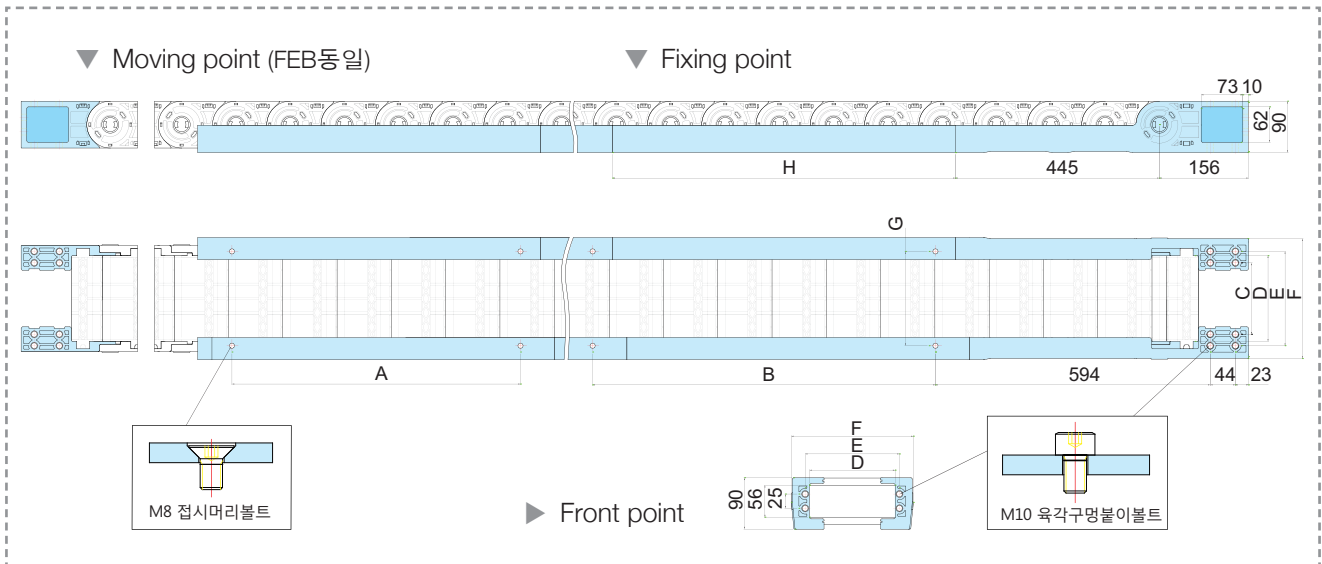


▼ Vertical Type 수직형



GUIDE CHANNEL TYPE END BRACKET

(Dimensions in mm)



Chain Type	C	D	E	F	G	GC TYPE	H	B	A
	FEB fix hole(inner)	Frame length dimension	FEB width	FEB width	GC hole width		GC length	GC fixing hole	GC hole dimension
ST 120E.150	122	150	179	214	165	GC600	600	601	505
ST 120E.200	172	200	229	264	215				
ST 120E.250	222	250	279	314	265				
ST 120E.300	272	300	329	364	315	GC800	800	801	705



Enclosed Type **ST 120E**

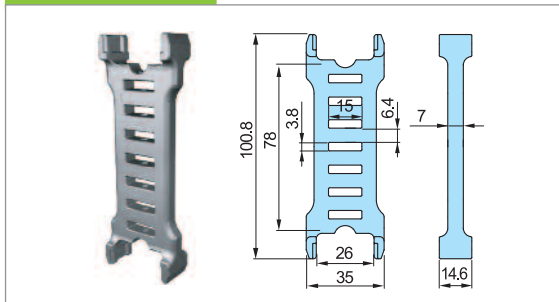
DIVIDERS

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.

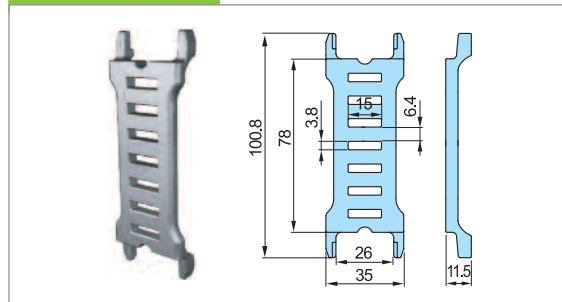
디바이더(세로분리대)와 세퍼레이터(가로분리대)는 체인내에 많은 케이블들이 입선될 시 케이블들을 서로 분리하여 케이블상호간의 마찰로 인한 **피복손상 및 단선을 방지하는 역할**을 하며 케이블과 10%이상의 여유공간을 확보해야합니다.

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

ST 120E DV-M

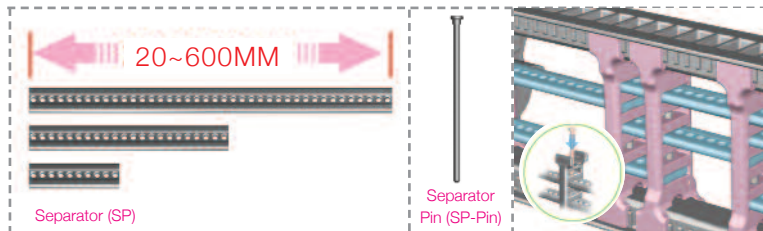


ST 120E DV-S



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

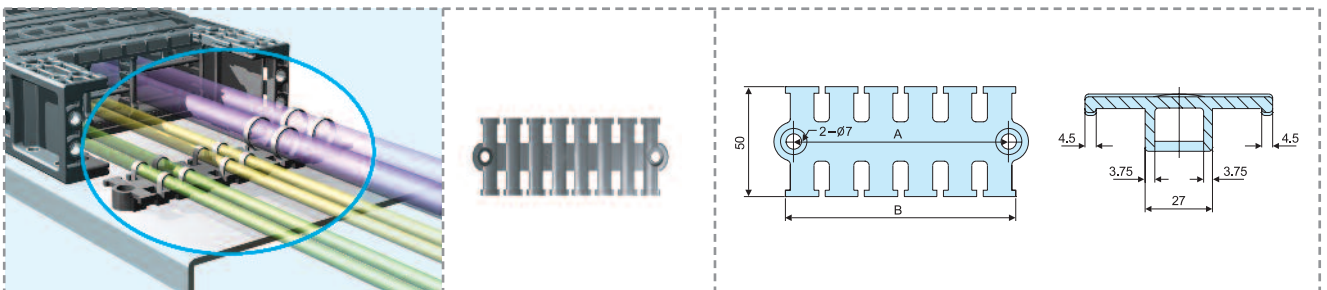
SEPARATORS (SP)



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 절단**하여 원하는 길이로 사용가능합니다. 크기가 각각 다른 케이블을 크기에 맞게끔 공간분할이 용이하고 **세퍼레이터 핀으로 결합**하여 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.