

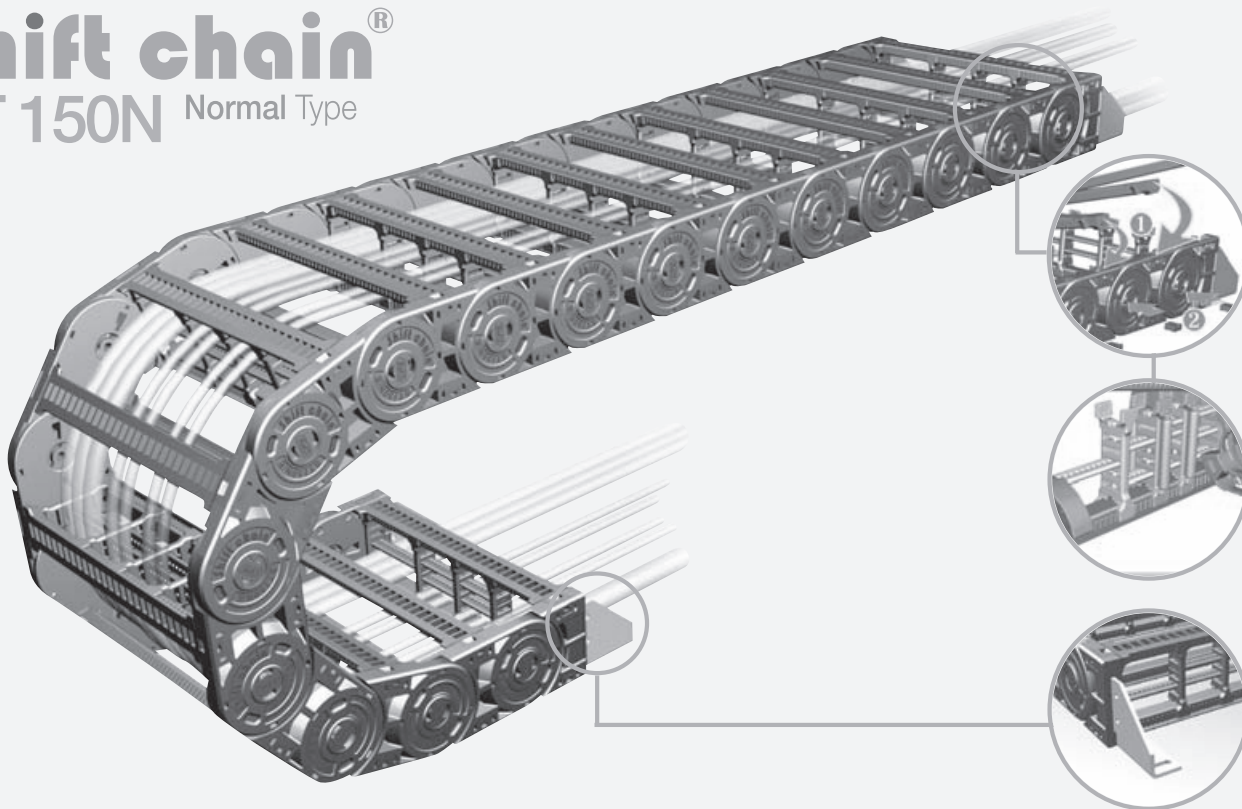


Shift chain®



Min ●●●●●●● Max

Shift chain® ST 150N Normal Type



• Steel Bracket •

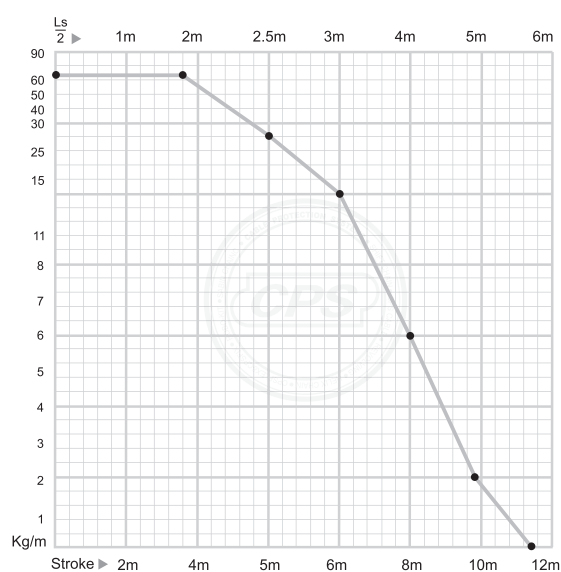
MATERIAL

- **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**
Gantry robot, Machining center, Textile machine, Welding machine, Feeder unit, Assembly Loader, Wood work machine, Fabric machine.
컨츄리로봇, 공작기계, 용접기계, 인쇄기계, 로봇케리지등 케이블 체인의 적용사업장에 사용가능.

● Calculation of the chain length

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

● Load diagrams self-supporting length

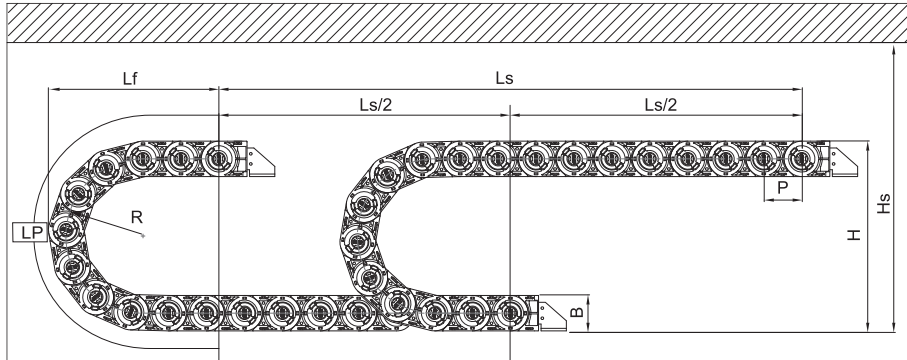




Shift chain[®] Using Material of High Quality!

ST 150N Normal Type

LAY OUT OF THE CHAIN



(Dimensions in mm)

Bending radius R	205	305	405	505	605
Lp	1,215	1,510	1,807	2,106	2,405
L f	561	651	743	835	928
H	550	750	950	1,150	1,350

Ls: Stroke

Lp: Loop Length

L f: Loop Projection

Hs: Safe Space

ST 150N Type

Pitch P: 150mm

Height B: 140mm

Height H: 2R+140mm

Hs ≥ **H**+80mm

ORDERING (주문방법)

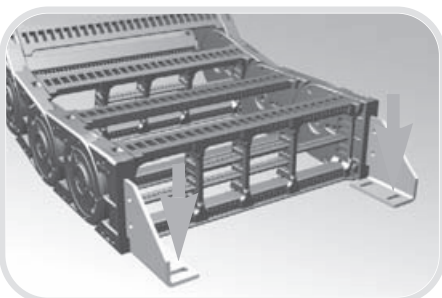
ST 150N. 400. R405 / B₁- 3000L :10ST



주문수량	Q' ty(set)
체인길이	Length(mm)
브라켓	End Bracket (B1, B2, B3)
곡률반경	Bending Radius
내폭	Inside Width
표준형타입	Normal Type

Shift Chain

BRACKET TYPE (브라켓타입)



SEB (Steel End Bracket)

For ST150N, 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.

체인을 고정하는 끝부분으로 ST150N사양은 ST체인의 다른사양과는 달리 스틸브라켓을 사용하며 브라켓의 설치형태에 따라 B1, B2, B3 등으로 구분설치가가능하다.

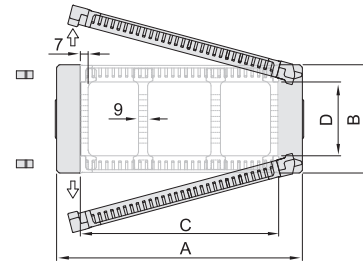
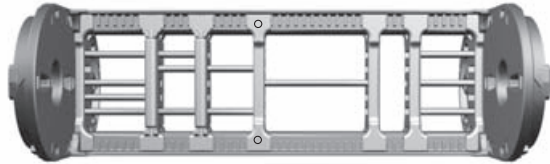




Shift chain®

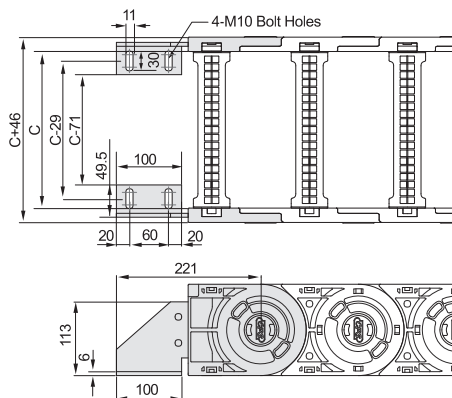


CHAIN CROSS SECTION

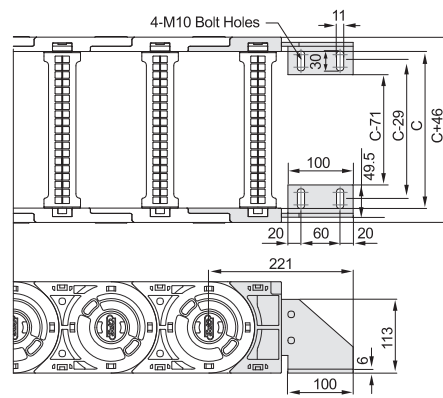


Chain Type	A	B	C	D	Bending Radius(R)	Weight in kg/m
ST 150N.075	121	140	75	110	205, 305, 405, 505, 605	5.85
ST 150N.100	146		100			5.96
ST 150N.125	171		125			6.08
ST 150N.150	196		150			6.18
ST 150N.175	221		175			6.30
ST 150N.200	246		200			6.51
ST 150N.250	296		250			6.78
ST 150N.300	346		300			7.14
ST 150N.350	396		350			7.51
ST 150N.400	446		400			7.88
ST 150N.450	496		450			8.18
ST 150N.500	546		500			8.37
ST 150N.550	596		550			9.11
ST 150N.600	646		600			9.26

END BRACKET (STEEL TYPE)



ST150N Moving point



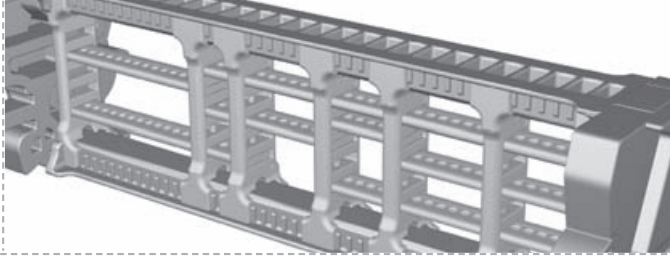
ST150N Fixing point

Chain Type	B	C	D	E	Hole Type
ST 150N.075	140	75	110		M10 Bolt Holes
ST 150N.100		100			
ST 150N.125		125			
ST 150N.150		150			
ST 150N.175		175			
ST 150N.200		200			
ST 150N.250		250			
ST 150N.300		300			
ST 150N.350		350			
ST 150N.400		400			
ST 150N.450		450			
ST 150N.500		500			
ST 150N.550		550			
ST 150N.600		600			



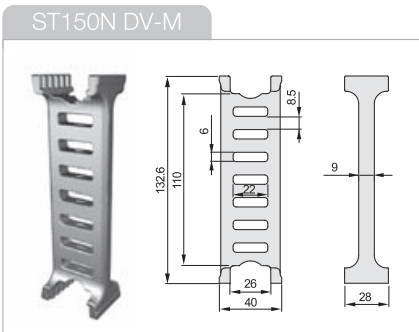
ST 150N Normal Type

DIVIDERS

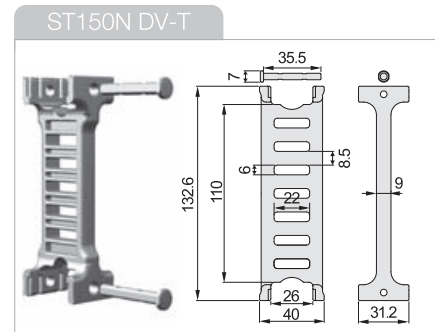
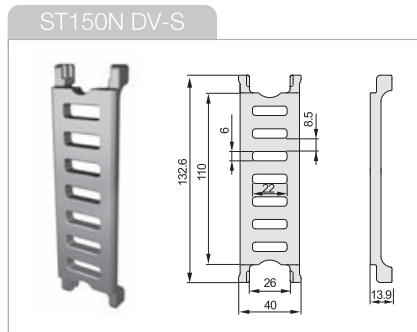


Dividers (Vertical) and Separators (Horizontal) divide the inner chamber of the cable chain to give each cable diameter its own center and keep the cables separated from each other. The use of separator in some cases, can also reduce the width requirements as two or more levels can be made within the 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 역할을 하며 케이블과 10%이상의 여유공간을 확보해야 합니다. 또한 케이블을 체인내 2단이상 입선시 반드시 세퍼레이터를 디바이더에 결합하여 사용하여 케이블의 꼬임방지 및 피복손상을 방지할 수 있습니다.

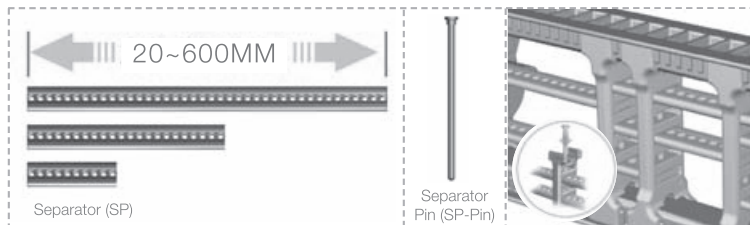


▶ Assemble divider every Two links. / 2링크마다 결합



▶ DV/T : Frame 300~600적용(상하 프레임에 연결)

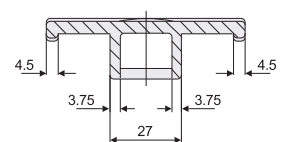
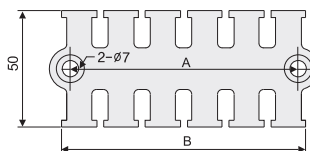
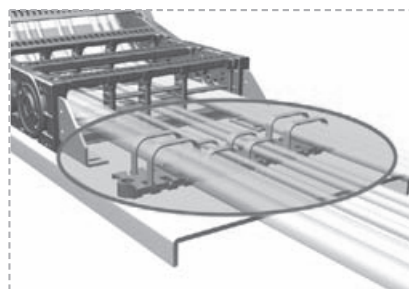
SEPARATORS (SP)



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)

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 바깥쪽으로 설치함으로써 체인의 움직임으로 인해 케이블의 유동을 방지하고자 고정하는 시스템으로 케이블의 피복손상 및 단선을 방지하는 역할을 합니다.

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



Shift chain®

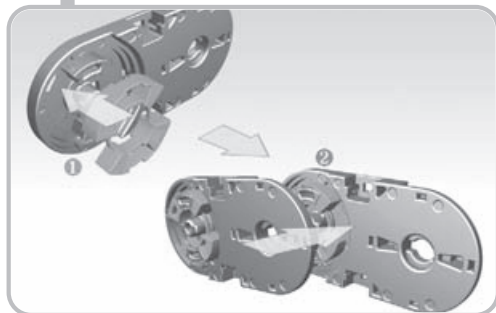


ASSEMBLY PROCEDURE / NORMAL Type

The assembling process of Shift Chain N-Type is like below and you must use rubber hammer with careful combination of Divider and Separator. Be careful of different assembling process depending on product specification such as ST044N, 055N Type, ST072N, 095N, 120N Type, ST150N Type, etc.

Shift Chain N-Type의 조립순서는 아래와 같이 진행하며 케이블의 입선수량에 따라 디바이더와 세퍼레이터의 조합을 유의하면서 반드시 고무망치를 사용하여 조립합니다. 또한 044N, 055N Type과 072N, 095N, 120N Type 그리고 150N Type 등 제품사양에 따라 조립구성이 달라지는점을 유의하며 조립하시기 바랍니다.

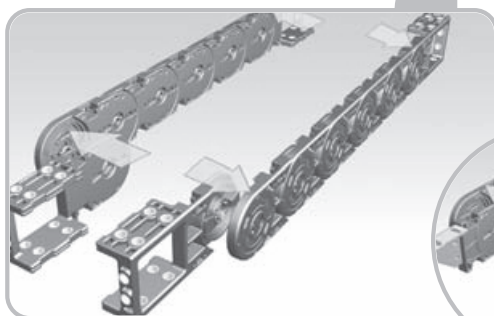
1



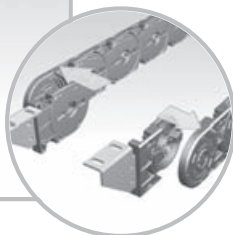
- Insert BR unit to each side band, connect the side bands as many as you need, then do the same process to the other side of side band.

사이드밴드에 BR링을 삽입(①)하고 BR링이 삽입된 사이드밴드를 원하는 길이만큼 연결(②). 좌,우 사이드밴드 동일하게 연결.

2

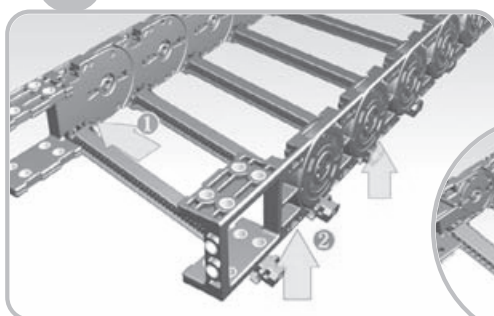


- Assemble the end brackets on both ends using the same method. 사이드밴드 양쪽 끝부분에 FEB를 결합.

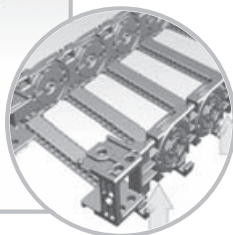


- For ST150N, assemble steel brackets on both ends. ST 150N은 스틸 브라켓을 사용하여 결합.

3

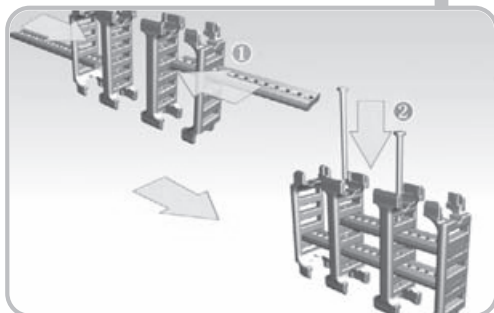


- Attach frames to one side groove on the side band, and then the other side. 프레임은 사이드밴드 측면 홈에 끼우고(①), 다른측면의 사이드밴드홈에 결합(②).



- ST 044N, 055N are Hinge Type or Hook Type without frame pin. 044, 055 Type의 경우 동일한 Hinge Type이나 프레임 고정핀없이 Hook 고정방식.

4



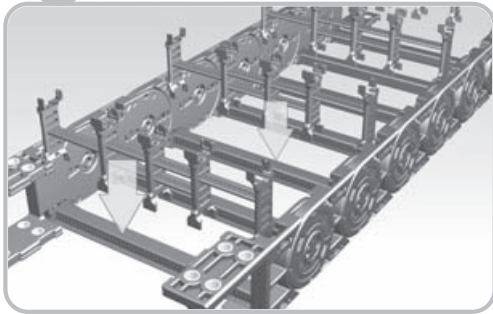
- For ST072N, 095N, 120N, and 150N, connect the pin of separator in hole of divider after inserting separator in hole of divider. For ST044N and ST055N, separator fixing pins are not used.

디바이더를 종류별로 구분하여 미리 절단된 세퍼레이터를 디바이더 홈에 결합시킨 후 세퍼레이터 고정핀을 디바이더 홈에 결합(ST072N, 095N, 120N, 150N). 044N, 055N Type은 세퍼레이터 고정핀 사용안함.



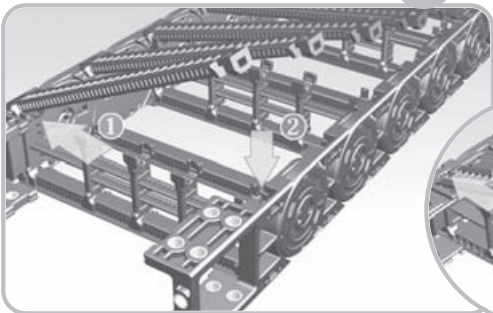
ASSEMBLY PROCEDURE / NORMAL Type

5

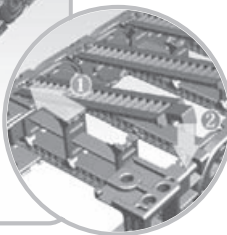


- Fix the separator and divider patterns to the bottom-side frames as needed.
세퍼레이터가 결합된 디바이더를 하측프레임에 결합.

6

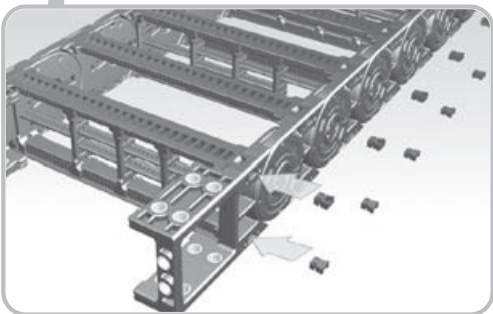


- Attach frames to one side groove on the side band, and then the other side.
프레임을 사이드밴드 측면 홈에 끼우고(①) 다른측면의 사이드밴드홈에 결합(②).



ST044N, 055N Frame Type

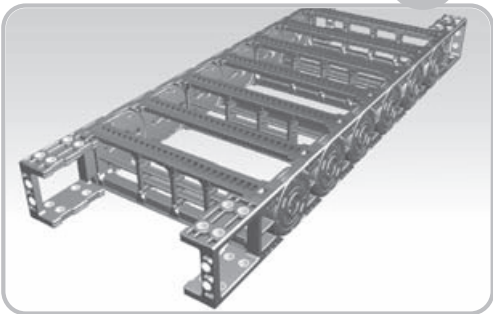
7



- Insert frame pins to secure the frames and complete carrier. (ST072N, 095N, 120N, 150N are applied with frame pin, and ST044N, 055N are Hinge Type or Hook Type without frame pin.)

결합된 프레임과 사이드밴드의 측면의 홈에 프레임 고정핀으로 결합.
(프레임 고정핀은 ST072N, 095N, 120N, 150N Type에 적용되며 044N, 055N Type의 경우 Hinge Type이나 프레임 고정핀 없이 Hook 고정방식.)

8



- Assembled Shift Chain N-Type is assembled.
Shift Chain N-Type조립완료.