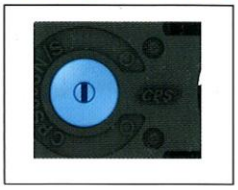
Oskoyi Ballbearing

Using Material of High Quality

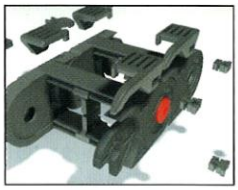
• Instructions for the installation of cable

1 생산일자 표시(Marking production Date).



The CPS cable chain shows the production date on the outside of each link on the side band.

2 조립및 분해가 매우쉽게 제작(Designed to assemble and disassmble each link simply).



The CPS cable chains are designed with a single pivot pin, which reduces the time for both installation & repair.

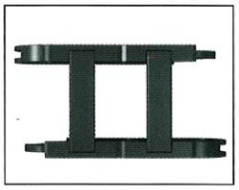
3 저분진(Low-mote design).

The CPS cable chain is especially designed to be link less with no frictional parts to minimise.

4 저소음(Low-noise design).

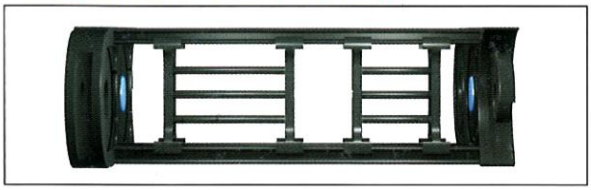
The CPS cable chain is especially designed as link-less type with no friction parts to decrease the noise.

5
(Nylon frames for all type of cable chains).



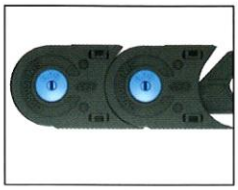
Using Nylon frames is more convanient than aluminum rod frames. Using nylon frames eliminates the chance of rods becoming detached from the side frame, also reduces setting up time and protects against abrasion & disentangled apperance of a bolt.

6
(Expansion of interior space).



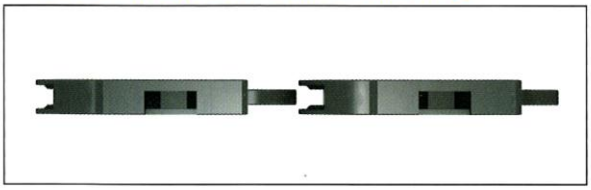
The CPS cable chains are designed to expand inner height in order to use longer self supporting length.

7
(One pivot pin connection).



Link connecting style has been changed three pin type to one pin type. In case of three pin type, the cable chains were hung down and got a damage both the cable chains and cables inside when the chains overloaded. Since one pin type takes each link's course to same direction, that makes chains are raising the cohesion and it can bear a strong shock from the outside as well as overcome hanging down. Also this type of pin is easily assembled and disassembled with a simple tool.

8
(Poke Pin style for Link connecting).



Link connecting style(half in out) is widely used. However, CPS cable chain selects Poke Pin connecting style, since there is no come off each link when get twisted. By this reason, CPS cable chain keep up its life time longer than other brand chains and have a reputation for the quality from many engineers in Hyundai Motors, Kia Motors and Daewoo Motors.

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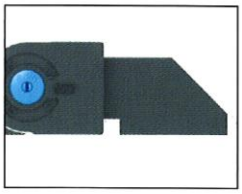
• Instructions for the installation of cable

9슬라이드타입 체인-스키드 분해,조립간단
(Slide type- skid).

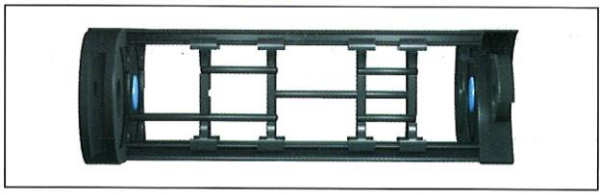
CPS developed new type of skid for slide type cable chains. This skid can be assembled with a screwdriver very simply, so that can reduce time for repair as well as reduce the coefficient of friction, giving a unevenness method to the bottom of skid.

10 일체형 브라켓
(End Bracket- One united body style).



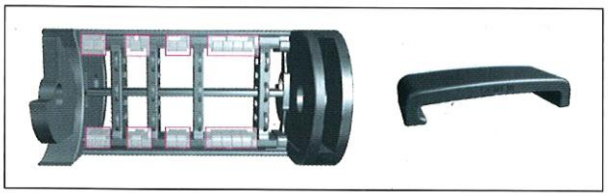
CPS end breakets designed one united body style, so it's more stable and stronger than connecting with bolt. Sometimes, customers use the end bracket which is inserted, not fixed with the cable chain. In this case, it can be found the bracket come off from the side band. Only CPS end bracket solve these all problems.

11Separator의 다양화 실현
(Various kind of Separators).



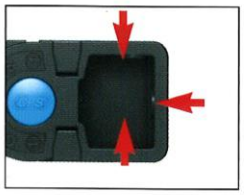
In order to install mulipule cables, hoses with different diameter inside of the chain, seperators can be used to create variatble sized compartments to accomadate your particular cable, hose requirements.

12 스토퍼 적용 (Stoper).



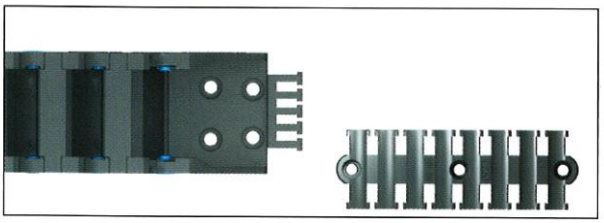
This item control the position of divider and fixing the location, it can be applied to the frame accordingly by the width.

13 Easy 브라켓 (Easy End Bracket).



The Easy Bracket of CPS can be fixed on all directions such as up, down & side.

14Tiewrap 브라켓 (Tiewrap end bracket).



Tiewrap type end bracket developed in order to fix the cables, hoses on the bracket of each moving point and fixing point. Tiewrap is combined with end bracket for small size cable chain. In case of big size cable chain, the tiewrap is separated from its end bracket, since the cables or hoses have to be fixed into a distance of about 20~30x outer diameter of cable backward. This method well as prevents cables inside of chain get tangled.

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Chain Request for selecting sorts

Selecting criterion for cable chain

1. STROKE(total traveling distance of the equipment):
   Judge whether chain for selecting droops or not.

2. Bending Radius(곡률반경) R
   Rotation diameter of chain must be bigger than the biggest one of cables or hoses to be in the cable chain.

   R min > 8~10× Cable outer diameter
   R min > 15~20× Hose outer diameter

3. Internal size of chain
   Select sorts of chain by checking inserted cable q'ty and diameter.
   Slect the internal size of chain after selecting 1,2

4. The length of chain
   Must select the length of chain by checking the starting point of chain when traveling.

Calculation of the length for chain

$$L = LS/2 + LP \ (LP = \pi \times R + 4P)$$

L : The length of chain — LS/2: The half of total stroke
LS: Total stroke, total traveling distance of the equipment
LP; Loop length — P: Length of each pitch
π: 3.14 — R: Bending radius of chain

Calculation of the heigth of installation for chain

$$H = 2R + B$$

H: Length of the upper end & lower end for chain when forming round (Round 형성시 체인 상부끝과 하부끝의 총 길이)
R: Bending radius of chain — B: The height for outer width for chain
체인설치시 적정 높이: H + @ @: 체인사양에 따라 변동 (ex. CPS068N, CPS077N은 +40mm)
Proper height of installing chain: H + @ @: It depends on the sort of chain(ex. CPS068N,077N =+40mm)

Calculation of the bending radius for cable chain

$$R = (H - B)/2$$

Firstly checking the total height of chain, and then subtract the height of outer height from it, Finally divide it by 2.

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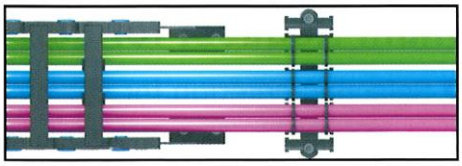
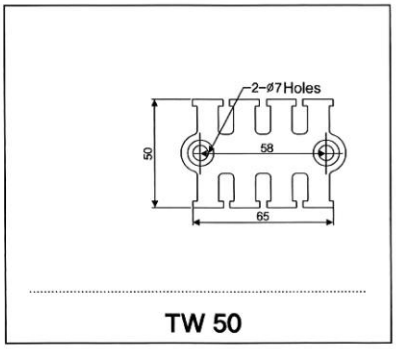


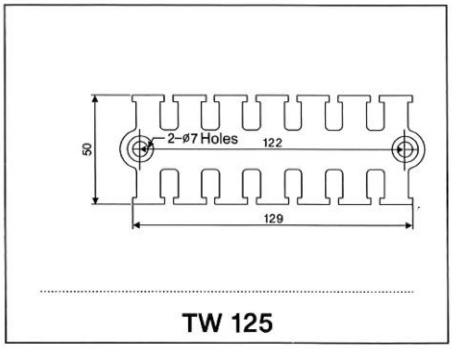
Tiewrap System

Tiewrap System (케이블 고정 시스템)

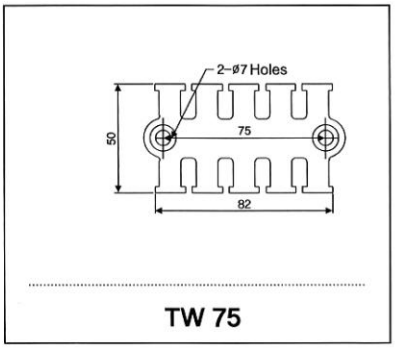
The cables and hoses should be fixed a backward from 30mm X maximum diameter of cable or hose in moving point so as to block up cutting the cables or hoses when move cable chain.
Tiewrap system is a valuable tool for fixing the cables or hoses which installed in the cable chain.



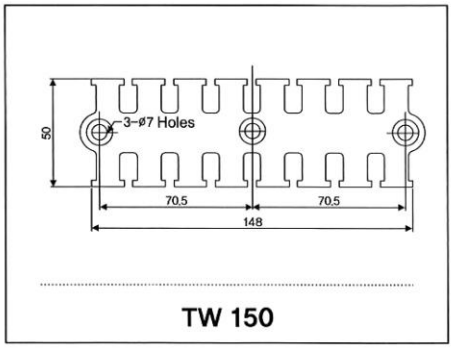
TW 50



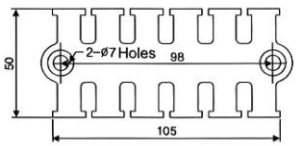
TW 125



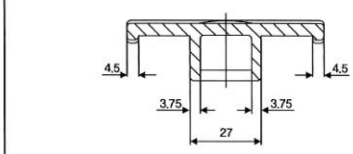
TW 75

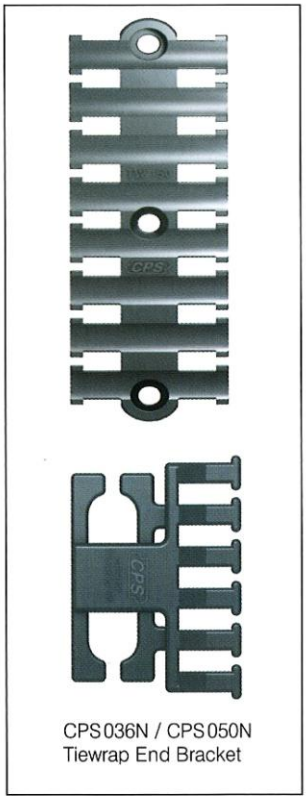


TW 150



TW 100





CPS036N / CPS050N
Tiewrap End Bracket

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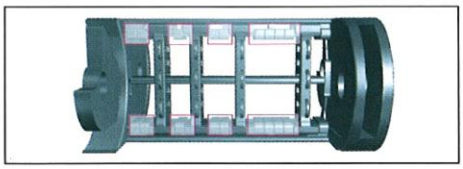
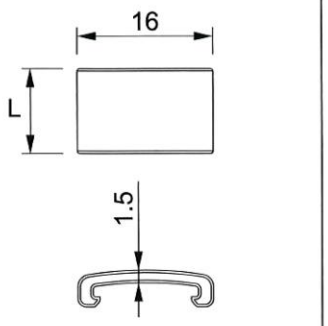


Stoper System

Stoper System (디바이더 고정 시스템)

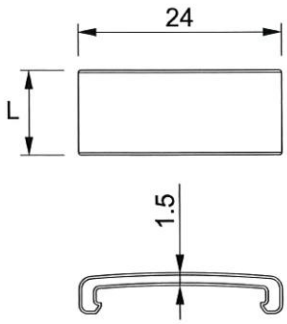
Stoper fixing the location of divider which is settled in side of cable chain and control the position of divider by the inserted cable's size and quantity.
The items are classified as ST-M1, ST-M2, ST-S1, ST-S2 and please refer following drawings.

ST-M1.10

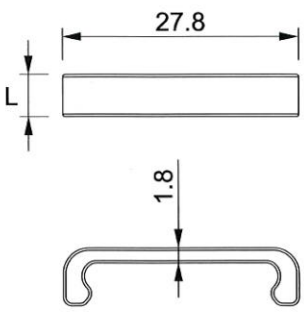


ST-M1.10: CPS 036N
ST-M2.10: CPS 050N
(L: 5, 10, 15, 20)

ST-M2.10

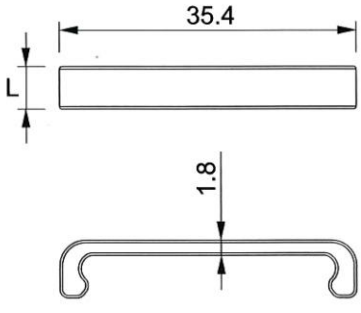


ST-S1.05



ST-S1.05: CPS 068,077
ST-S2.05: CPS 095,120
(L: 5, 10, 15, 20)

ST-S2.05



بلبرینگ اسکوئی

(اسکو صنعت تاوریژ)

OBC
Oskoyi Ballbearing Company

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CPS Cable Chain MINI–Type	Pitch	Bending Radius R	Weight kg/m	Speed m/sec	Temperature °C	Clearance A	B	C	D	Frame style	Divider possible with frame
CPS015.06	15	18,28,38	0.100	10	−30 ~ +130	12.6	13	6	10		
CPS015.10	15		0.106			16.6	13	10	10		
CPS015.15	15		0.111			21.6	13	15	10		
CPS015.20	15		0.115			26.6	13	20	10		
CPS020.15	20	28,38,48	0.24	10	−30 ~ +130	24	20	15	14.5		
CPS020.20	20		0.26			29	20	20	14.5		
CPS020.30	20		0.28			39	20	30	14.5		
CPS020.40	20		0.31			49	20	40	14.5		
CPS030.15	30	38,48, 75, 100	0.38	10	−30 ~ +130	29	26	15	19		
CPS030.25	30		0.40			39	26	25	19		
CPS030.35	30		0.42			49	26	35	19		
CPS030.50	30		0.44			64	26	50	19		
CPS033.27	33	35,45,75, 100,120	0.55	10	−30 ~ +130	45	31	27	23		
CPS033.37	33		0.59			55	31	37	23		
CPS033.47	33		0.61			65	31	47	23		
CPS033.67	33		0.68			85	31	67	23		
CPS033.77	33		0.70			95	31	77	23		

Medium–Type	Pitch	Bending Radius R	Weight	Speed	Temperature	Clearance				Frame style	Divider possible with frame
CPS036.035	36	70,90,120,150	1.21	10	−30 ~ +130	59	38	35	27		
CPS036.055	36		1.29			79	38	55	27		
CPS036.075	36		1.39			99	38	75	27		
CPS036.100	36		1.50			124	38	100	27		
CPS050.050	50	100,125,150,200	1.98	10	−30 ~ +130	78	52	50	38		
CPS050.075	50		2.22			103	52	75	38		
CPS050.100	50		2.44			128	52	100	38		
CPS050.125	50		2.59			153	52	125	38		
CPS050.150	50		2.93			178	52	150	38		
CPS036N.035	36	50,70,90, 120,150	1.18	10	−30 ~ +130	59	38	35	28		
CPS036N.055	36		1.21			79	38	55	28		
CPS036N.075	36		1.29			99	38	75	28		
CPS036N.100	36		1.40			124	38	100	28		
CPS036N.125	36		1.47			149	38	125	28		
CPS050N.050	50	75,100,125, 150,200	1.86	10	−30 ~ +130	78	52	50	40		
CPS050N.075	50		1.98			103	52	75	40		
CPS050N.100	50		2.10			128	52	100	40		
CPS050N.110	50		2.16			138	52	110	40		
CPS050N.125	50		2.28			153	52	125	40		
CPS050N.150	50		2.36			178	52	150	40		
CPS050N.175	50		2.50			203	52	175	40		
CPS050N.200	50		2.58			228	52	200	40		

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CPS Cable Chain System–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
CPS068N	68	75,100,150,200 ,250,300	3.57	10	−30 ~ +130	80~430	60	50~400	40		
CPS077N	77	100,120,140,200, 250,300	3.72			80~430	70	50~400	50		
CPS095N	95	135,150,200,230, 280,400	5.29			115~440	82	75~400	54		
CPS120N	120	180,200,250,300, 350,400,500	5.68			115~440	108	75~400	80		
Medium–Type	**Pitch**	**Bending Radius R**	**Weight**	**Speed**	**Temperature**	**Clearance**				**Frame style**	**Divider possible with frame**
CPS036S.035	36	70,90,120,150	1.25	10	−30 ~ +130	67	41	35	28		
CPS036S.055	36		1.31			87	41	55	28		
CPS036S.075	36		1.36			107	41	75	28		
CPS036S.100	36		1.46			132	41	100	28		
CPS068S	68	100,150,200,250, 300	3.89	10	−30 ~ +130	96~446	65	50~400	40		
CPS077S	77	120,140,200,250, 300	4.11			96~446	75	50~400	50		
CPS095S	95	135,150,200,230, 280,400	5.81			129~454	89	75~400	54		
CPS120S	120	180,200,250,300, 350,400,500	6.26			129~454	115	75~400	80		
Enclose–Type	**Pitch**	**Bending Radius R**	**Weight**	**Speed**	**Temperature**	**Clearance**				**Frame style**	**Divider possible with frame**
CPS036E.035	36	70,90,120,150	1.23	10	−30 ~ +130	59	38	35	27		
CPS036E.055	36		1.35			79	38	55	27		
CPS036E.075	36		1.46			99	38	75	27		
CPS036E.100	36		1.63			124	38	100	27		
CPS050E.050	50	100,125,150,200	2.07	10	−30 ~ +130	78	52	50	30.5		
CPS050E.075	50		2.35			103	52	75	30.5		
CPS050E.100	50		2.61			128	52	100	30.5		
CPS050E.150	50		3.23			178	52	150	30.5		

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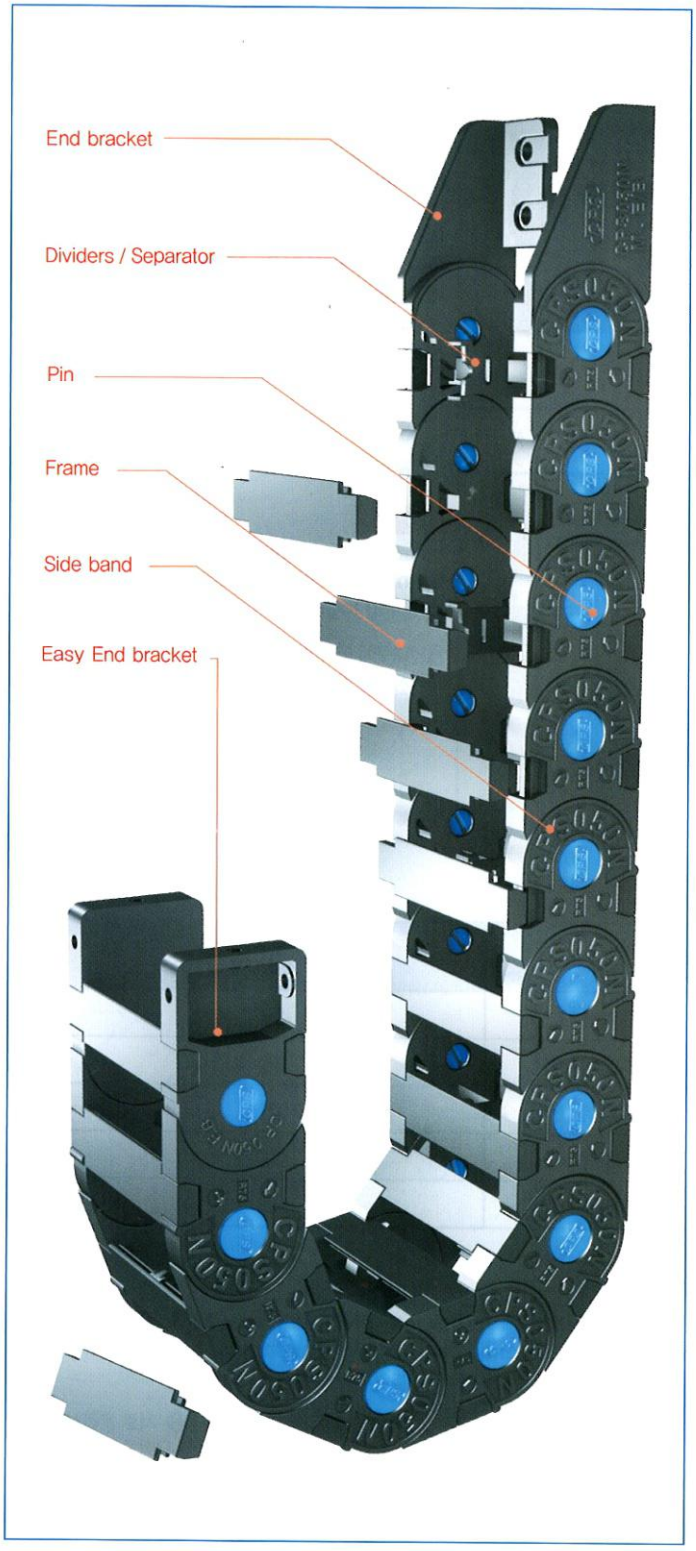
MEDIUM Type



CPS 050N Type

1 Chain material
CPS–polyamide with glass fiber reinforced,
UL94–HB

2 Low Noise : 43 dB (DIN EN 61672–1)

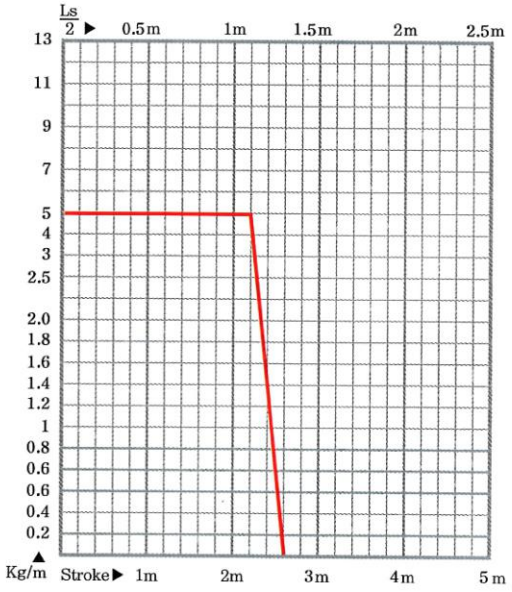
3 Speed : 10m/sec

4 Temperature : –30℃ ~ +130℃

5 Other installation Length
Vertical curve above= max 3.0m
Vertical curve below= max 50m
Side Mounted, Unsupported= max 1.0m

6 Applications : Gantry robot, Machining center,
Textile machine, Welding machine,
Feeder unit, Assembly loader,
Wood work machine, Fabric machine.

7 Load diagrams
self-supporting length



8 Calculation of the chain length

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

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CPS 050N

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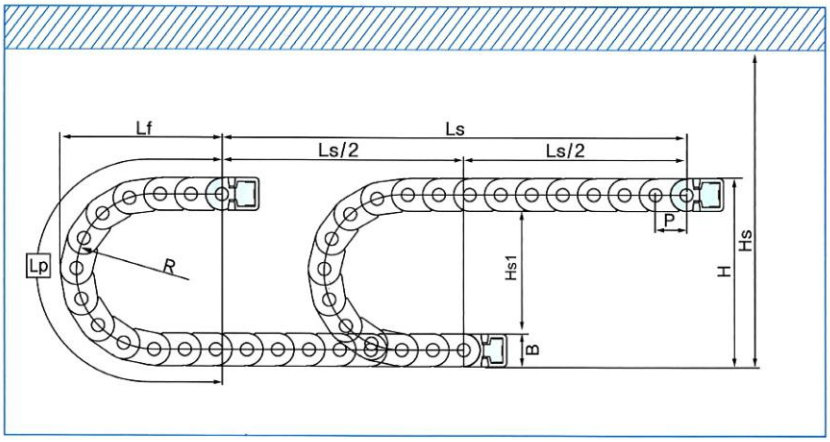
Lay out of the CPS cable chain

- Ls : stroke
- Lp : loop length
- Lf : loop projection
- Hs : safe space



Type CPS 050N

Pitch P : 50mm
Height B : 52 mm
Height H : 2R+B
Hs ≧ H+35mm
Hs1 ≦ −35mm

(dimensions in mm)

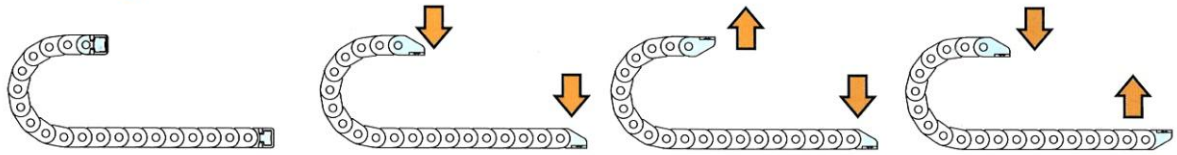
Bending radius R	75	100	125	150	200
Lp	436	514	593	671	828
Lf	200	226	252	276	327
H	203	253	303	353	453

Ordering

CPS 050N . 075 . R100 / B_2 T − 900L : 10ST

- Q'ty(SET)
- Length(㎜)
- Tiewrap bracket(T)
- Bracket Type(B_0, B_1, B_2, B_3)
- Bending radius(R)
- Inside Width
- Chain Type

Bracket Type



B_0 B_1 B_2 B_3

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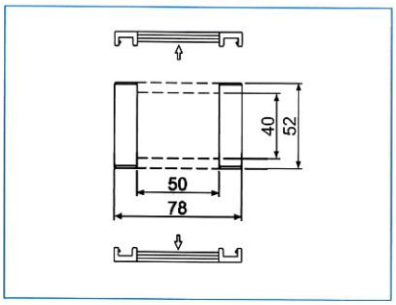
CPS 050N

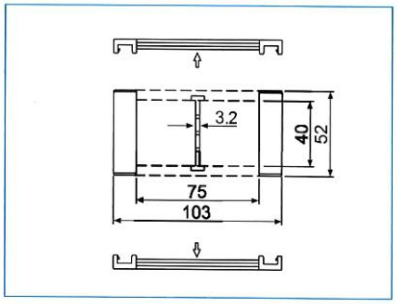
Chain cross section

Up, Downside open frame

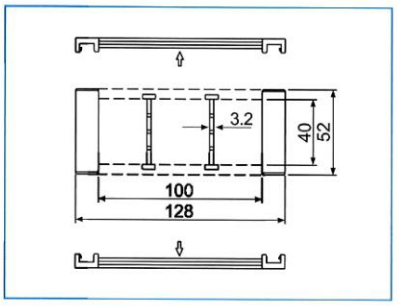
- Type CPS050N.050



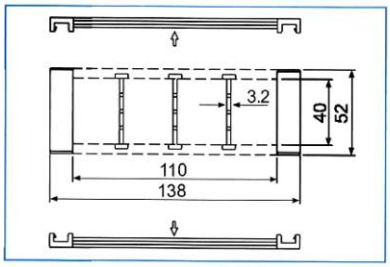
- Type CPS050N.075



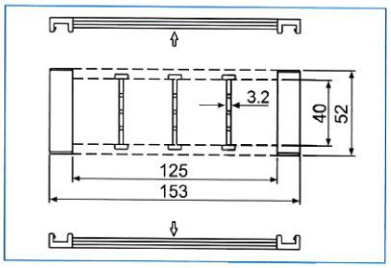
- Type CPS050N.100



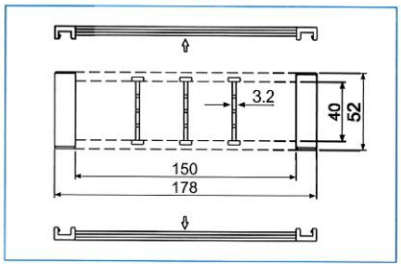
- Type CPS050N.110



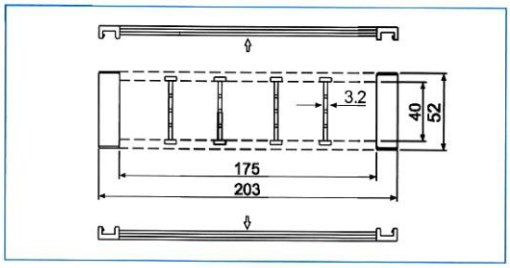
- Type CPS050N.125



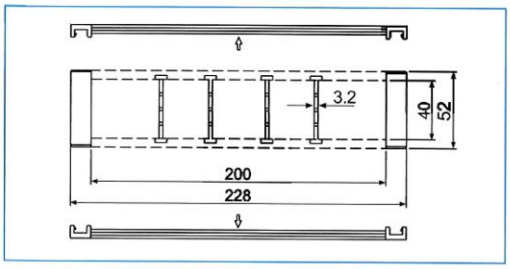
- Type CPS050N.150



- Type CPS050N.175



- Type CPS050N.200



Chain Radius, Weight

Chain Type	Bending Radius(R)	Weight in kg/m
CPS 050N.050	75, 100, 125, 150, 200	1.86
CPS 050N.075		1.98
CPS 050N.100		2.10
CPS 050N.110		2.16
CPS 050N.125		2.28
CPS 050N.150		2.36
CPS 050N.175		2.50
CPS 050N.200		2.58

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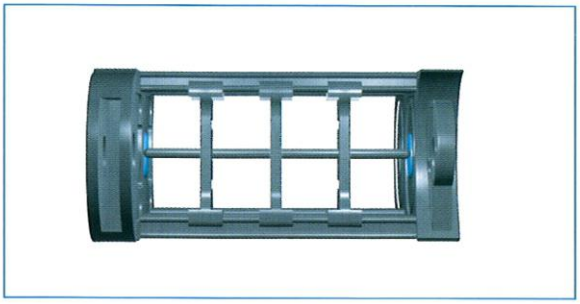
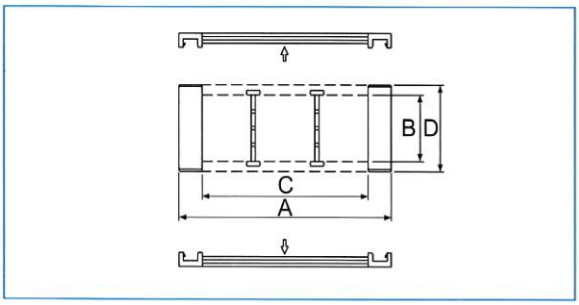
Chain Width, Height

Type CPS 050N



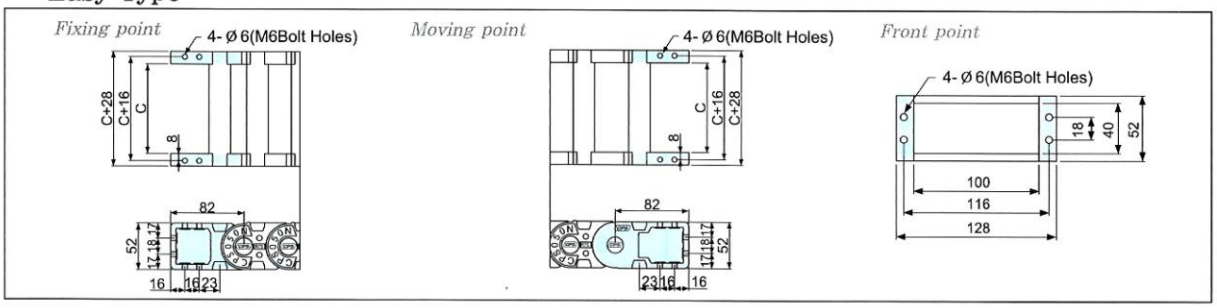
Up, down open frame



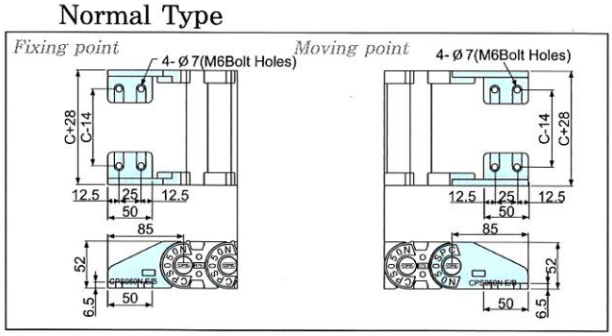
CPS 050N TYPE				
Chain Type	A	B	C	D
CPS 050N.050	78	40	50	52
CPS 050N.075	103		75	
CPS 050N.100	128		100	
CPS 050N.110	138		110	
CPS 050N.125	153		125	
CPS 050N.150	178		150	
CPS 050N.175	203		175	
CPS 050N.200	228		200	

End Bracket (Tiewrap Type)

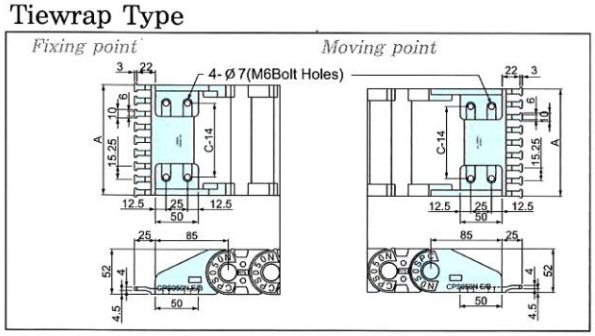
Easy Type



Normal Type



Tiewrap Type



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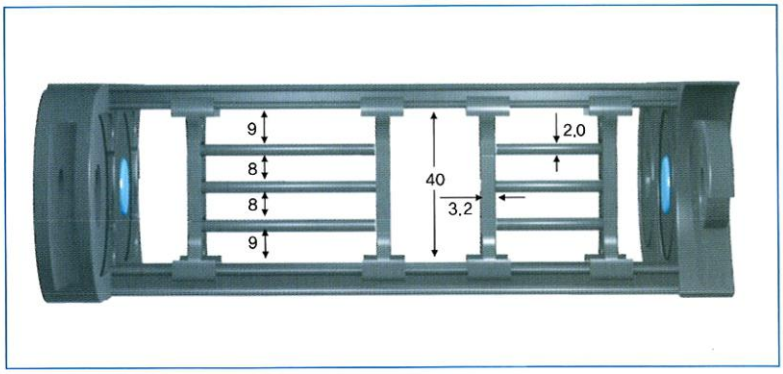
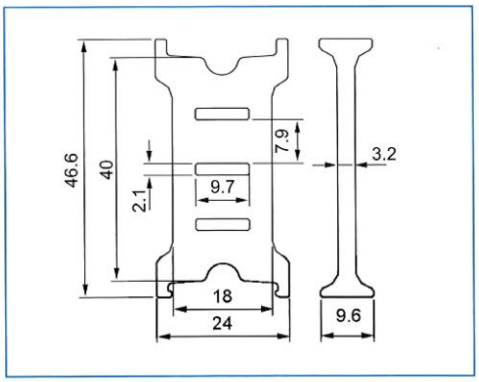
Interior Section



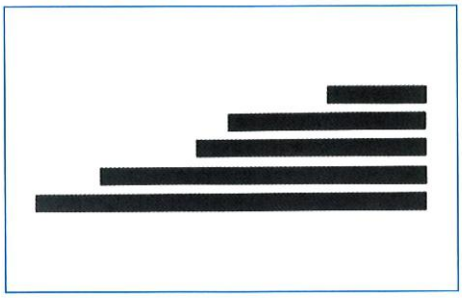
TIP!
Dividers & Separator are differently installed into the inside of cable chain depending on number & size of cable and inside space of cable chain can be divided into max.4 story by separator.

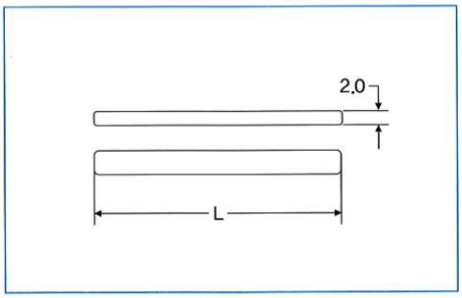
- Dividers : Type DV050N



TIP!
Installing dividers enables cables to divide from each other and also prevent them tangling together.

- Separators





Type	Length (L) / mm
S-SP/M.050	50
S-SP/M.075	75
S-SP/M.100	100
S-SP/M.110	110
S-SP/M.125	125
S-SP/M.150	150
S-SP/M.175	175
S-SP/M.200	200

TIP! The inserted separators into dividers have the function that separate cables and lessen the interference of cables so as to prevent them tangling and disconnection.

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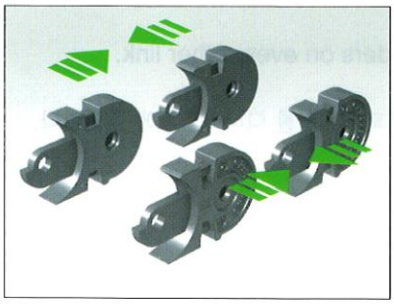
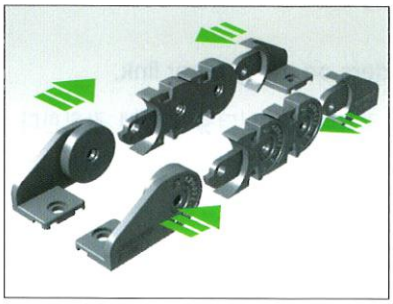
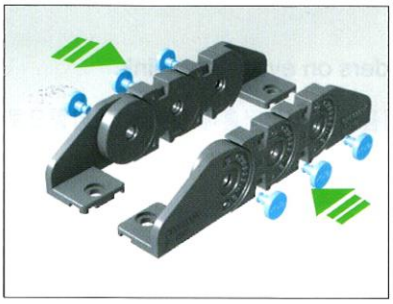
Assembly Guide of CPS Cablechain



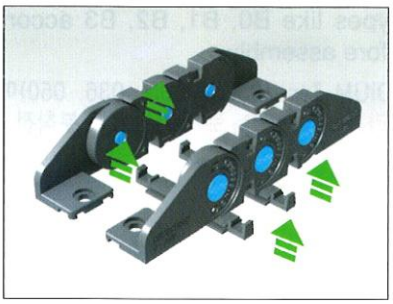
Connect each body.



Fix the End Brackets in the end of both sides.



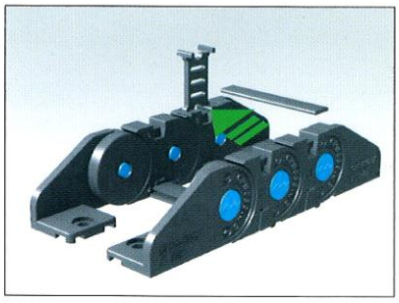
Assemble the link pin on the side



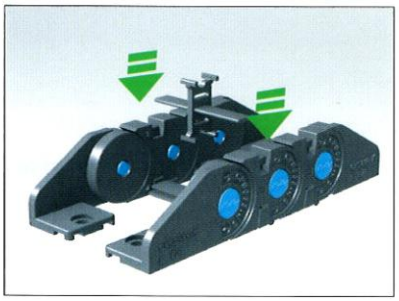
Assemble the frames on the one side of cable chain.

Using Material of High Quality

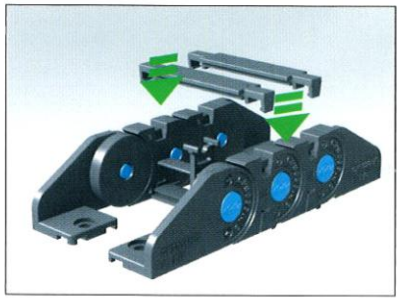
CPS 050N



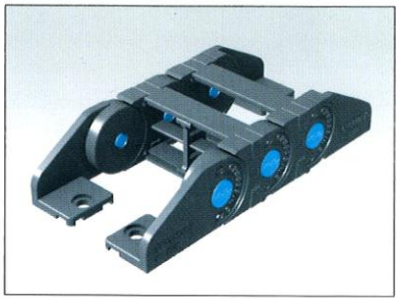
Put the dividers on every other link.



Put the dividers on every other link.



Put the dividers on every other link.



TIP!

Above mentioned assembling way applies to only Medium type (036N, 050N, 036, 050) and be sure to check brackets have 2 different types like B0, B1, B2, B3 according to connecting way before assembly.

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