

# asb Chain - Clean room type

## >> General information

| Item               | Value                                    |
|--------------------|------------------------------------------|
| Material           | CPS-Amid(PA6+GF), RoHs                   |
| Noise level        | 37dB(DIN EN 61672-1) with asb 035CR Type |
| Speed              | 5m/s                                     |
| Acceleration       | 15m/s²                                   |
| Temperature        | -30℃ ~+130℃                              |
| Special production | ESD, UV, Customized color                |
| Certificate        | CE, IPA, ATEX(Ex), TUV                   |

## >> Calculation table

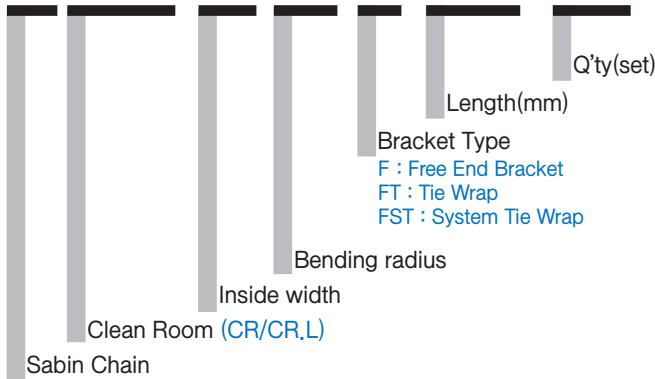
| Item                                | Value                               |
|-------------------------------------|-------------------------------------|
| Length of Cable Chain               | $L = \frac{1}{2} \times LS + LP$    |
| Bending Radius                      |                                     |
| The biggest Cable inserted          | Multiply 8~10 and the biggest cable |
| The biggest Hydraulic Hose inserted | Multiply 15~20 and the biggest hose |

## >> Dimension table

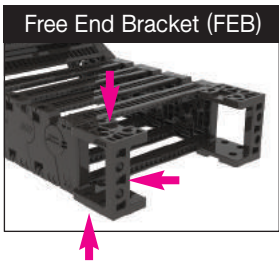
| asb Chain<br>CR Type | Pitch | Bending Radius<br>(R)                     | Weight<br>kg/m | Speed<br>m/s | Temperature<br>℃ | Size |    |     |    | Frame<br>style | Section -<br>composition |
|----------------------|-------|-------------------------------------------|----------------|--------------|------------------|------|----|-----|----|----------------|--------------------------|
|                      |       |                                           |                |              |                  | A    | B  | C   | D  |                |                          |
| asb<br>028CR         | 28    | 50, 70,<br>90, 120,<br>150                | 0.90           | 5            | -30 ~<br>+130    | 55   | 38 | 35  | 26 |                |                          |
|                      |       |                                           | 0.98           |              |                  | 70   |    | 50  |    |                |                          |
|                      |       |                                           | 1.02           |              |                  | 75   |    | 55  |    |                |                          |
|                      |       |                                           | 1.12           |              |                  | 95   |    | 75  |    |                |                          |
|                      |       |                                           | 1.27           |              |                  | 120  |    | 100 |    |                |                          |
|                      |       |                                           | 1.41           |              |                  | 145  |    | 125 |    |                |                          |
|                      |       |                                           | 1.59           |              |                  | 170  |    | 150 |    |                |                          |
| asb<br>028CR.L       |       |                                           | 1.74           |              |                  | 195  |    | 175 |    |                |                          |
|                      |       |                                           | 1.84           |              |                  | 220  |    | 200 |    |                |                          |
| asb<br>035CR         | 35    | 75, 100,<br>125, 150,<br>200              | 1.00           | 5            | -30 ~<br>+130    | 55   | 52 | 35  | 40 |                |                          |
|                      |       |                                           | 1.06           |              |                  | 70   |    | 50  |    |                |                          |
|                      |       |                                           | 1.09           |              |                  | 75   |    | 55  |    |                |                          |
|                      |       |                                           | 1.17           |              |                  | 95   |    | 75  |    |                |                          |
|                      |       |                                           | 1.29           |              |                  | 120  |    | 100 |    |                |                          |
|                      |       |                                           | 1.39           |              |                  | 145  |    | 125 |    |                |                          |
|                      |       |                                           | 1.53           |              |                  | 170  |    | 150 |    |                |                          |
| asb<br>035CR.L       |       |                                           | 1.65           |              |                  | 195  |    | 175 |    |                |                          |
|                      |       |                                           | 1.73           |              |                  | 220  |    | 200 |    |                |                          |
| asb<br>045CR         | 45    | 72, 100,<br>120, 140,<br>200, 250,<br>300 | 2.59           | 5            | -30 ~<br>+130    | 80   | 70 | 50  | 49 |                |                          |
|                      |       |                                           | 2.74           |              |                  | 105  |    | 75  |    |                |                          |
|                      |       |                                           | 2.90           |              |                  | 130  |    | 100 |    |                |                          |
|                      |       |                                           | 3.11           |              |                  | 155  |    | 125 |    |                |                          |
|                      |       |                                           | 3.23           |              |                  | 170  |    | 140 |    |                |                          |
|                      |       |                                           | 3.31           |              |                  | 180  |    | 150 |    |                |                          |
|                      |       |                                           | 3.41           |              |                  | 195  |    | 165 |    |                |                          |
|                      |       |                                           | 3.48           |              |                  | 205  |    | 175 |    |                |                          |
|                      |       |                                           | 3.90           |              |                  | 220  |    | 190 |    |                |                          |
|                      |       |                                           | 4.18           |              |                  | 230  |    | 200 |    |                |                          |
|                      |       |                                           | 4.64           |              |                  | 270  |    | 240 |    |                |                          |
|                      |       |                                           | 4.76           |              |                  | 280  |    | 250 |    |                |                          |
| asb<br>045CR.L       |       |                                           | 5.32           |              |                  | 330  |    | 300 |    |                |                          |

## >> Ordering

asb 028CR, 075, R70 / F - 1000L : 10ST

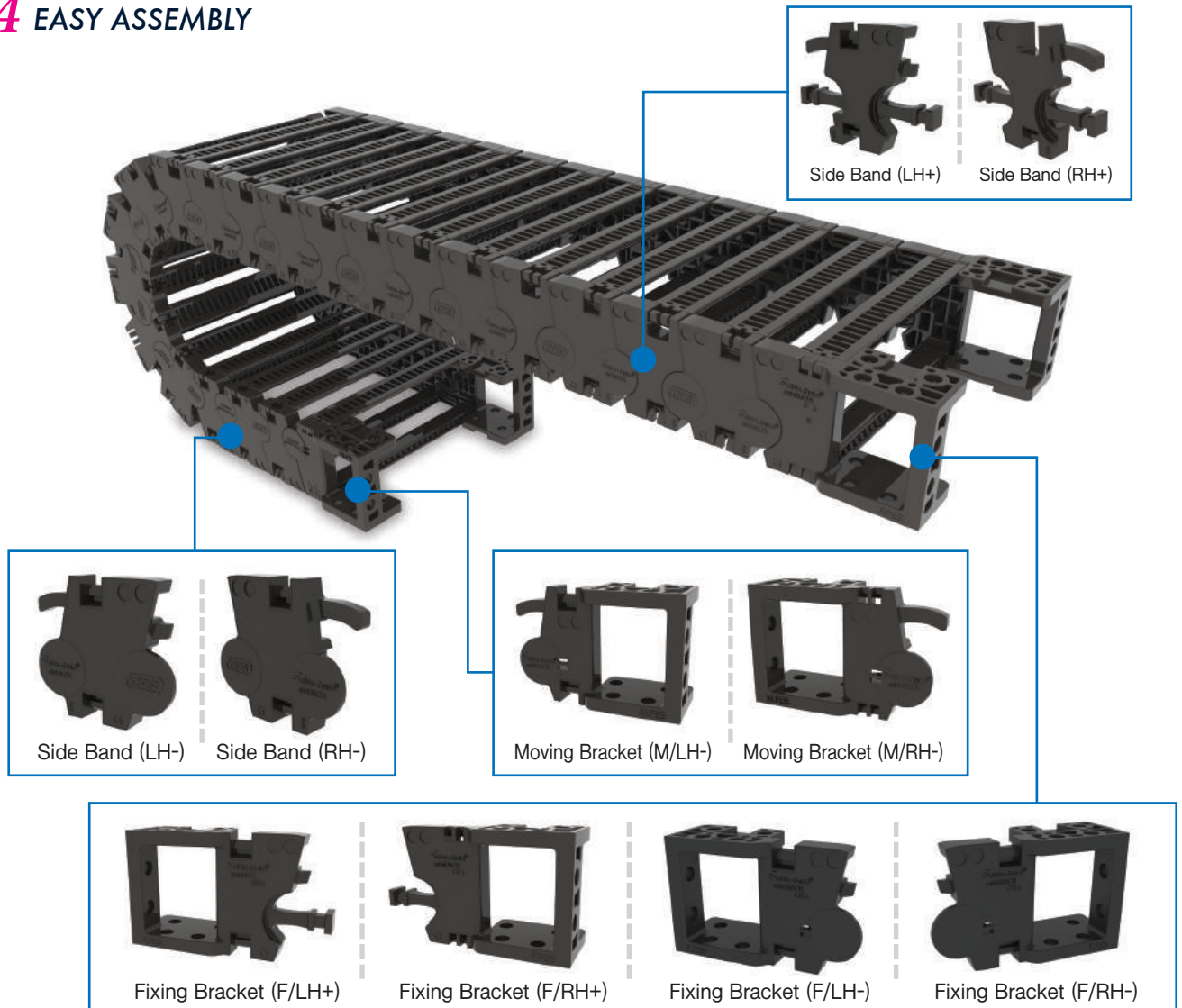


## >> Bracket type



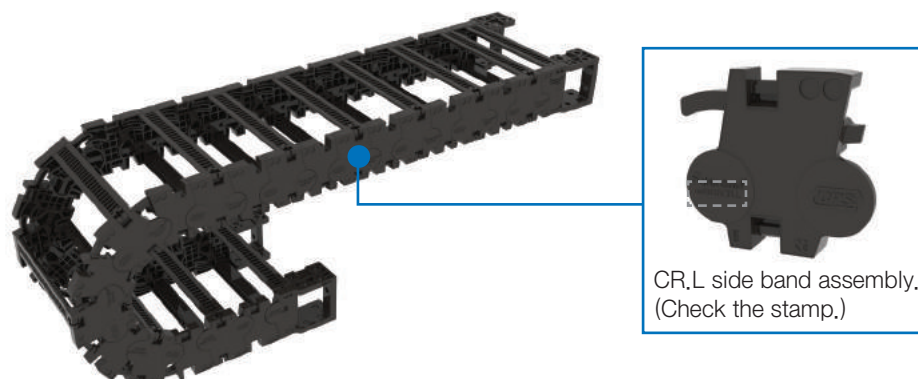
## >> Characteristics of asb Chain Cleanroom

- 1 THE QUIETEST CABLE CHAIN!
- 2 LOW DUST FOR CLEANROOM AREA!
- 3 NEXT GENERATION CHAIN WITH ORIGINAL TECHNOLOGY!
- 4 EASY ASSEMBLY



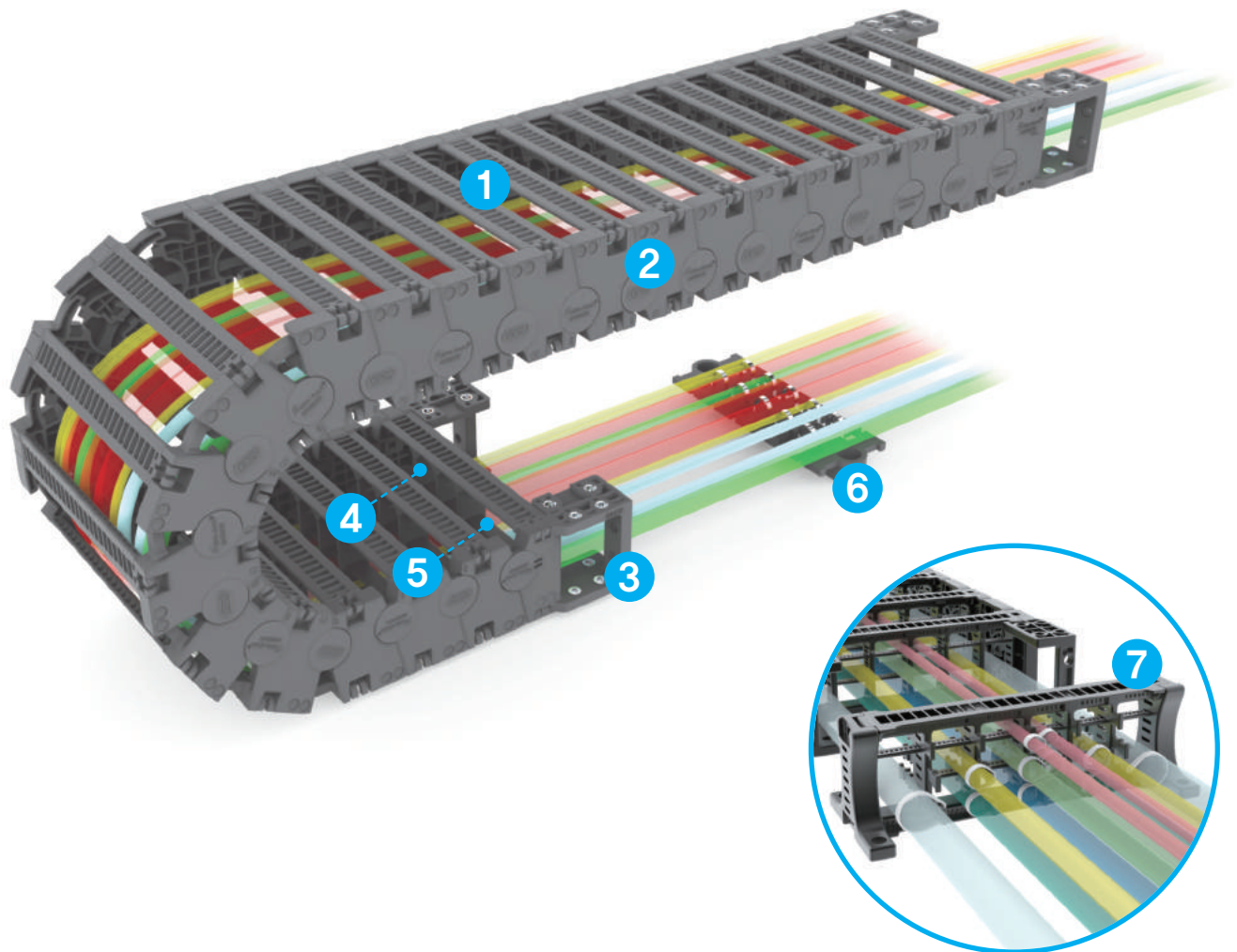
- ▶ Used M5 bolt with steel washers at FEB.
- ▶ All frame and other components of nsb CR is common for asb CR.

- CR,L type : Frames are assembled every second links.



# asb Chain - Clean room type

## >> Part of asb Chain Clean Room type



### ❶ Frame (Hinged Type) (FR)

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.

### ❷ Side Band (SB)

It's part of cable chain that each side band's connected by holding band.

### ❸ Free End Bracket (FEB)

A unit that connects at last side band (left&right). It can be fixed stronger using steel washers.

### ❹ Divider (DV-S, M, R, T)

A unit that divides inserted cables horizontally.

### ❺ Separator (SP)

A unit that divides inserted cables vertically to prevent twisting and breaking problem.

### ❻ Tie Wrap (TW)

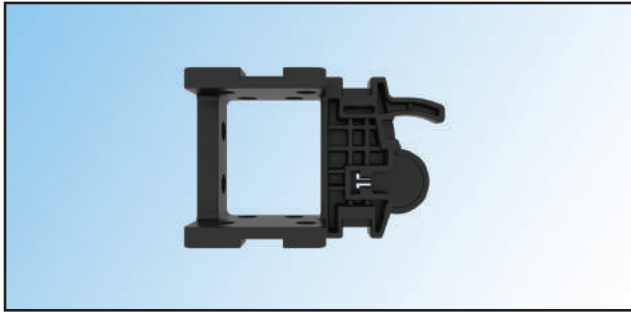
A unit that ties cables to maintain straightness of them. It can be assembled to bracket directly or installed separately from bracket.

### ❼ System Tie Wrap (STW)

System-Tie Wrap has to be assembled on fixing and moving point of bracket and can be assembled without any tie wrap plate. This tie wrap is used to stay the cables on several floors prevent the cables from being twisted and it can also be assemble without any tools or bolt. This tie wrap has two types, one is to assemble inside bracket the other one is outside.

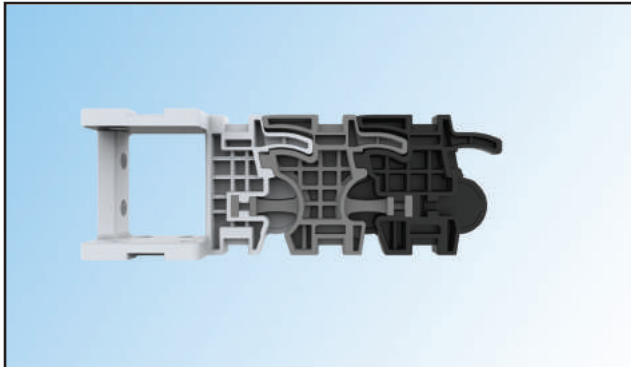
## >> Assembly procedure of asb Chain Clean room Type

The assembling process of CR-Type of asb Chain is like below and users must use rubber hammer with careful combination of Divider and Separator.



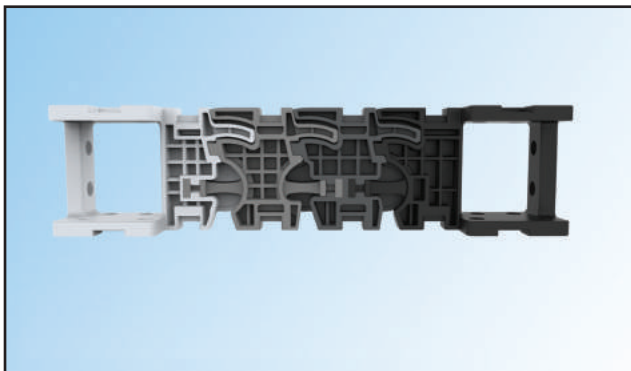
1

Always start assembling from Fixing bracket.



2

Assemble (+)side band and (-)side band in consecutive order.



3

Even number of assembled side band :

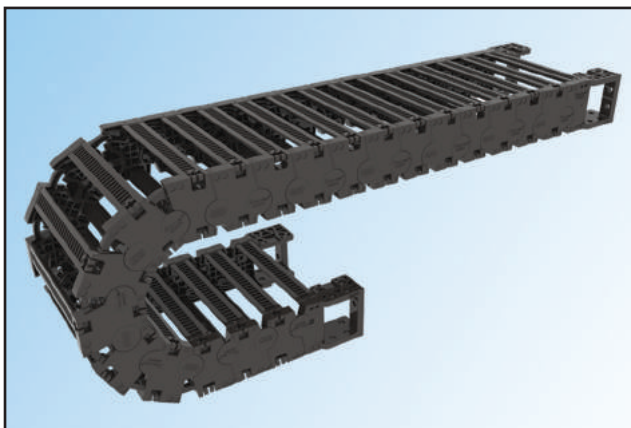
In case of even number of links, Moving bracket must be (+)bracket.



3-1

Odd number of assembled side band :

In case of odd number of links, Moving bracket must be (-)bracket.



4

Complete to assemble asb Chain CR-Type, Sabin Chain.

- CR,L type : Frames are assembled every second link.

# asb Chain - Clean room type

## >> Part list of asb Chain Clean Room type

- Composition of Cable chain(Standard)  
= Side band(RH) + Frame + Side band(LH) + Bending radius Unit + Free end bracket
  - M divider(normal divider) should be applied every second frames to make a section composition.
  - CR,L means that you assemble frame every second link instead of every link.
- ※ Please refer to below part list and description to understand composition of cable chain.

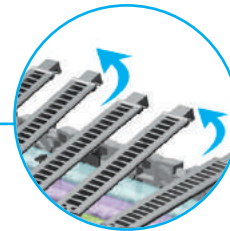
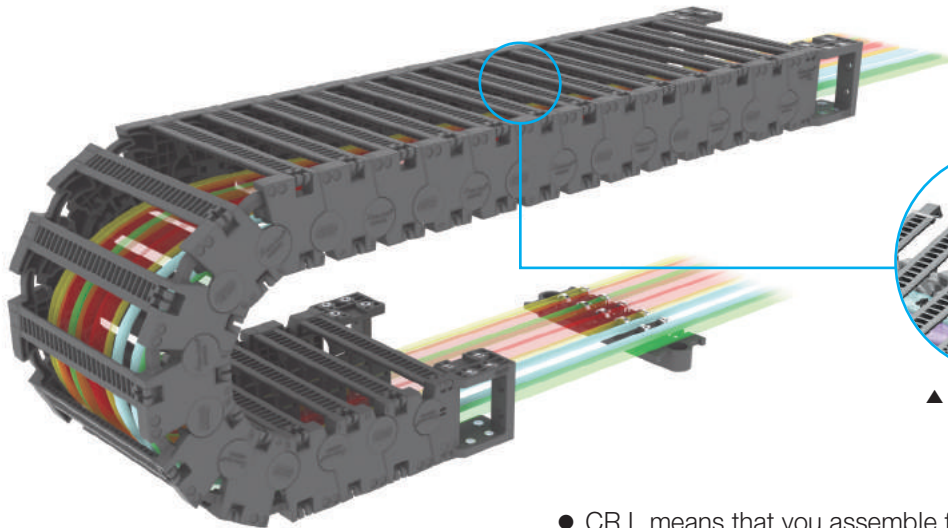
| Model    | Classification   | Part number                                                                                                                     | Description                                                                                                                                                                                                                                    |
|----------|------------------|---------------------------------------------------------------------------------------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| asb028CR | SIDE BAND        | asb-SB028CR,R*(LH)<br>asb-SB028CR,R*(RH)                                                                                        | Left side band of asb028CR<br>Right side band of asb028CR                                                                                                                                                                                      |
|          | FRAME            | sb-FR/M,35<br>sb-FR/M,50<br>sb-FR/M,55<br>sb-FR/M,75<br>sb-FR/M,100<br>sb-FR/M,125<br>sb-FR/M,150<br>sb-FR/M,175<br>sb-FR/M,200 | Frame, 35mm<br>Frame, 50mm<br>Frame, 55mm<br>Frame, 75mm<br>Frame, 100mm<br>Frame, 125mm<br>Frame, 150mm<br>Frame, 175mm<br>Frame, 200mm                                                                                                       |
|          | FREE END BRACKET | asb-FEB028CR                                                                                                                    | End bracket of asb028CR                                                                                                                                                                                                                        |
|          | DIVIDER          | sb-DV028/M<br>sb-DV028/S                                                                                                        | Normal divider<br>To fix separstors at the both side section                                                                                                                                                                                   |
|          | SEPARATOR        | S-SP/M,35<br>S-SP/M,50<br>S-SP/M,55<br>S-SP/M,75<br>S-SP/M,100<br>S-SP/M,125<br>S-SP/M,150<br>S-SP/M,175<br>S-SP/M,200          | Separator, 35mm<br>Separator, 50mm<br>Separator, 55mm<br>Separator, 75mm<br>Separator, 100mm<br>Separator, 125mm<br>Separator, 150mm<br>Separator, 175mm<br>Separator, 200mm                                                                   |
|          | TIE WRAP         | S-TW036/025CR,35<br>S-TW036/025CR,55<br>S-TW036/025CR,75<br>S-TW036/025CR,100<br>S-TW036/025CR,125                              | Tie wrap for end bracket to fix cables, 35mm<br>Tie wrap for end bracket to fix cables, 55mm<br>Tie wrap for end bracket to fix cables, 75mm<br>Tie wrap for end bracket to fix cables, 100mm<br>Tie wrap for end bracket to fix cables, 125mm |
|          | SYSTEM TIE WRAP  | sb-DV028/W<br>S-TW,EB028                                                                                                        | Divider for fixing cables at end bracket<br>System tie wrap to arrange for cables right after moving bracket or fixing bracket                                                                                                                 |
|          |                  |                                                                                                                                 |                                                                                                                                                                                                                                                |
|          |                  |                                                                                                                                 |                                                                                                                                                                                                                                                |
|          |                  |                                                                                                                                 |                                                                                                                                                                                                                                                |

| Model    | Classification   | Part number                                                                                                                            | Description                                                                                                                                                                                                                                                                                                                                       |
|----------|------------------|----------------------------------------------------------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| asb035CR | SIDE BAND        | asb-SB035CR,R*(LH)<br>asb-SB035CR,R*(RH)                                                                                               | Left side band of asb035CR<br>Right side band of asb035CR                                                                                                                                                                                                                                                                                         |
|          | FRAME            | sb-FR/M,35<br>sb-FR/M,50<br>sb-FR/M,55<br>sb-FR/M,75<br>sb-FR/M,100<br>sb-FR/M,125<br>sb-FR/M,150<br>sb-FR/M,175<br>sb-FR/M,200        | Frame, 35mm<br>Frame, 50mm<br>Frame, 55mm<br>Frame, 75mm<br>Frame, 100mm<br>Frame, 125mm<br>Frame, 150mm<br>Frame, 175mm<br>Frame, 200mm                                                                                                                                                                                                          |
|          | FREE END BRACKET | asb-FEB035CR                                                                                                                           | End bracket of asb035CR                                                                                                                                                                                                                                                                                                                           |
|          | DIVIDER          | sb-DV035/M<br>sb-DV035/S                                                                                                               | Normal divider<br>To fix separstors at the both side section                                                                                                                                                                                                                                                                                      |
|          | SEPARATOR        | S-SP/M,35<br>S-SP/M,50<br>S-SP/M,55<br>S-SP/M,75<br>S-SP/M,100<br>S-SP/M,125<br>S-SP/M,150<br>S-SP/M,175<br>S-SP/M,200                 | Separator, 35mm<br>Separator, 50mm<br>Separator, 55mm<br>Separator, 75mm<br>Separator, 100mm<br>Separator, 125mm<br>Separator, 150mm<br>Separator, 175mm<br>Separator, 200mm                                                                                                                                                                      |
|          | TIE WRAP         | S-TW050/035N,50<br>S-TW050/035N,75<br>S-TW050/035N,100<br>S-TW050/035N,125<br>S-TW050/035N,150<br>S-TW050/035N,175<br>S-TW050/035N,200 | Tie wrap for end bracket to fix cables, 50mm<br>Tie wrap for end bracket to fix cables, 75mm<br>Tie wrap for end bracket to fix cables, 100mm<br>Tie wrap for end bracket to fix cables, 125mm<br>Tie wrap for end bracket to fix cables, 150mm<br>Tie wrap for end bracket to fix cables, 175mm<br>Tie wrap for end bracket to fix cables, 200mm |
|          | SYSTEM TIE WRAP  | sb-DV035/W<br>S-TW,EB035                                                                                                               | Divider for fixing cables at end bracket<br>System tie wrap to arrange for cables right after moving bracket or fixing bracket                                                                                                                                                                                                                    |
|          |                  |                                                                                                                                        |                                                                                                                                                                                                                                                                                                                                                   |
|          |                  |                                                                                                                                        |                                                                                                                                                                                                                                                                                                                                                   |
|          |                  |                                                                                                                                        |                                                                                                                                                                                                                                                                                                                                                   |



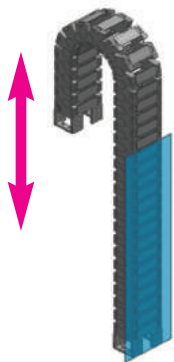
| Model    | Classification   | Part number                                                                                                                                                                                   | Description                                                                                                                                                                                                                                     |
|----------|------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| asb045CR | SIDE BAND        | asb-SB045CR,R*(LH)<br>asb-SB045CR,R*(RH)                                                                                                                                                      | Left side band of asb045CR<br>Right side band of asb045CR                                                                                                                                                                                       |
|          | FRAME            | sb-FR/M.50<br>sb-FR/M.75<br>sb-FR/M.100<br>sb-FR/M.125<br>sb-FR/M.140<br>sb-FR/M.150<br>sb-FR/M.165<br>sb-FR/M.175<br>sb-FR/M.190<br>sb-FR/M.200<br>sb-FR/M.240<br>sb-FR/M.250<br>sb-FR/M.300 | Frame, 50mm<br>Frame, 75mm<br>Frame, 100mm<br>Frame, 125mm<br>Frame, 140mm<br>Frame, 150mm<br>Frame, 165mm<br>Frame, 175mm<br>Frame, 190mm<br>Frame, 200mm<br>Frame, 240mm<br>Frame, 250mm<br>Frame, 300mm                                      |
|          | FREE END BRACKET | asb-FEB045CR<br>sb-FEB/WH045                                                                                                                                                                  | End bracket of asb045CR<br>Steel washer for end bracket                                                                                                                                                                                         |
|          | DIVIDER          | sb-DV045/M<br>sb-DV045/S<br>sb-DV045/R<br>sb-DV045/T                                                                                                                                          | Normal divider<br>To fix separstors at the both side section<br>T divider<br>T divider pin                                                                                                                                                      |
|          | SEPARATOR        | sb-SP/400,400<br>SP-PIN045                                                                                                                                                                    | Separator, 400mm<br>Separator pin to fix                                                                                                                                                                                                        |
|          | TIE WRAP         | S-TW50<br>S-TW75<br>S-TW100<br>S-TW125<br>S-TW150                                                                                                                                             | Tie wrap for end bracket to fix cables, 50mm<br>Tie wrap for end bracket to fix cables, 75mm<br>Tie wrap for end bracket to fix cables, 100mm<br>Tie wrap for end bracket to fix cables, 125mm<br>Tie wrap for end bracket to fix cables, 150mm |
|          | SYSTEM TIE WRAP  | sb-DV045/W<br>S-TW,EB045                                                                                                                                                                      | Divider for fixing cables at end bracket<br>System tie wrap to arrange for cables right after moving bracket or fixing bracket                                                                                                                  |
|          |                  |                                                                                                                                                                                               |                                                                                                                                                                                                                                                 |
|          |                  |                                                                                                                                                                                               |                                                                                                                                                                                                                                                 |
|          |                  |                                                                                                                                                                                               |                                                                                                                                                                                                                                                 |

# asb 028CR/asb 028CR.L

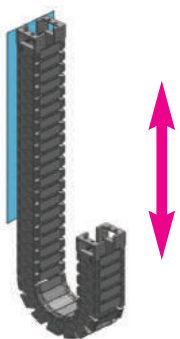


▲ Hinge hook type

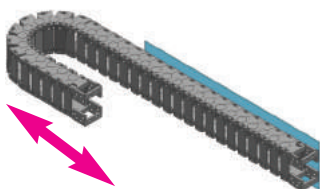
- CR,L means that you assemble frame every second link instead of every link.



Vertical with curve above



Vertical with curve below



Horizontal application mounted on its side

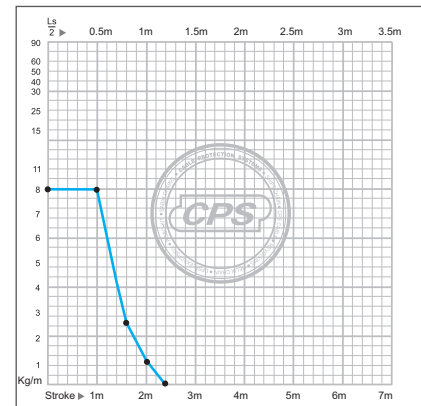
## » Calculation of the chain length

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

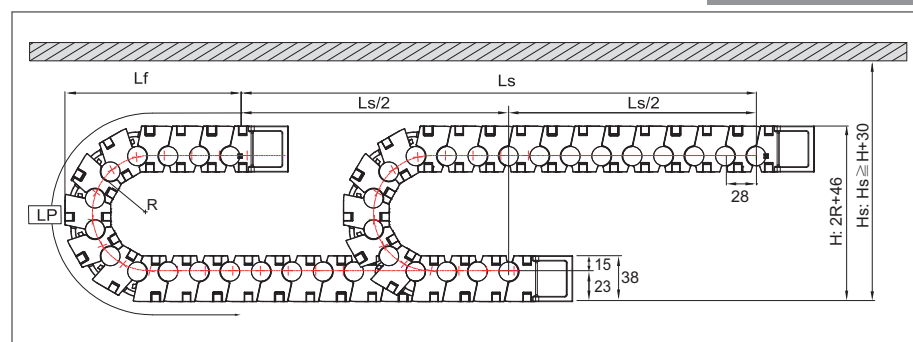
## » Other installation length

Vertical curve above = max 2,0m  
Vertical curve below = max 40m  
Side Mounted, Unsupported = max 1,0m

## » Load diagrams self-supporting length



## » Layout of the chain

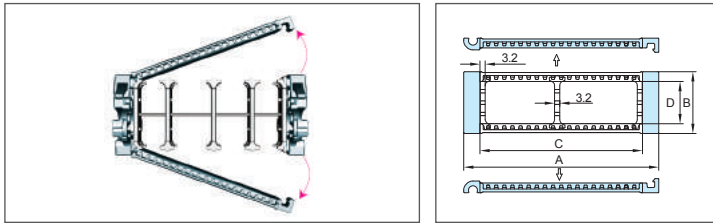


Ls: Stroke Hs: Safe Space

| Bending Radius (R) | Lp<br>Loop Length | Lf<br>Loof Projection | H<br>Moving Height |
|--------------------|-------------------|-----------------------|--------------------|
| 50                 | 311               | 149                   | 146                |
| 70                 | 367               | 135                   | 186                |
| 90                 | 422               | 182                   | 226                |
| 120                | 533               | 221                   | 286                |
| 150                | 589               | 232                   | 346                |

(Dimensions in mm)

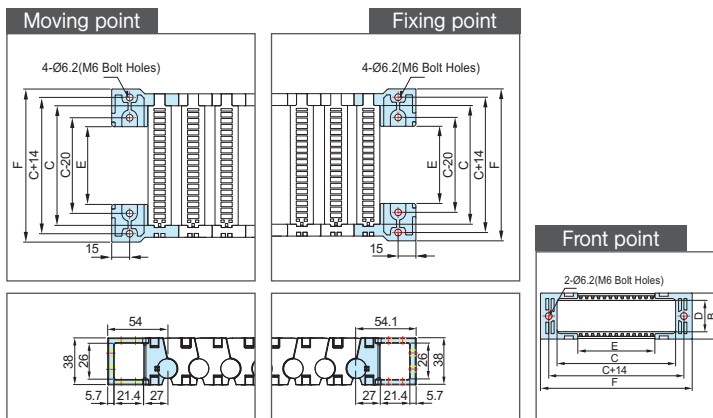
## » Chain cross section



| Chain Type               | A<br>Width (Outer) | B<br>Height (Outer) | C<br>Frame | D<br>Height (Inner) | Weight kg/m |
|--------------------------|--------------------|---------------------|------------|---------------------|-------------|
| asb 028CR<br>asb 028CR,L | 55                 | 38                  | 35         | 26                  | 0.90        |
|                          | 70                 |                     | 50         |                     | 0.98        |
|                          | 75                 |                     | 55         |                     | 1.02        |
|                          | 95                 |                     | 75         |                     | 1.12        |
|                          | 120                |                     | 100        |                     | 1.27        |
|                          | 145                |                     | 125        |                     | 1.41        |
|                          | 170                |                     | 150        |                     | 1.59        |
|                          | 195                |                     | 175        |                     | 1.74        |
|                          | 220                |                     | 200        |                     | 1.84        |

(Dimensions in mm)

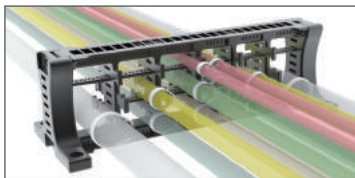
## » Free end bracket



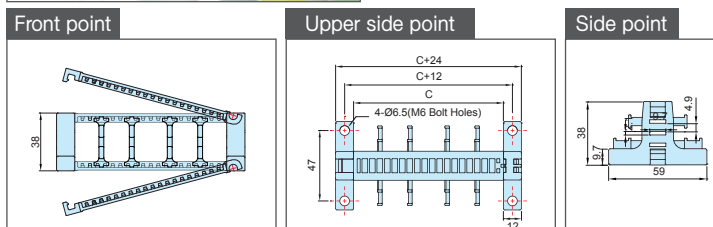
| Chain Type               | F<br>Width(Outer) | B<br>Height(Outer) | C<br>Frame | D<br>Height(Inner) | E<br>M,EB Bolt hole width | Hole Type           |
|--------------------------|-------------------|--------------------|------------|--------------------|---------------------------|---------------------|
| asb 028CR<br>asb 028CR,L | 63                | 38                 | 35         | 26                 | 0                         | M6<br>Bolt<br>Holes |
|                          | 78                |                    | 50         |                    | 15                        |                     |
|                          | 83                |                    | 55         |                    | 20                        |                     |
|                          | 103               |                    | 75         |                    | 40                        |                     |
|                          | 128               |                    | 100        |                    | 65                        |                     |
|                          | 153               |                    | 125        |                    | 90                        |                     |
|                          | 178               |                    | 150        |                    | 115                       |                     |
|                          | 203               |                    | 175        |                    | 140                       |                     |
|                          | 228               |                    | 200        |                    | 165                       |                     |

(Dimensions in mm)

## » System tie wrap (STW)

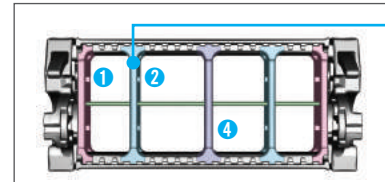


It is a unit to classify each cable for preventing entanglement of cables. It can either be installed to free end bracket or installed separately according its application environment.

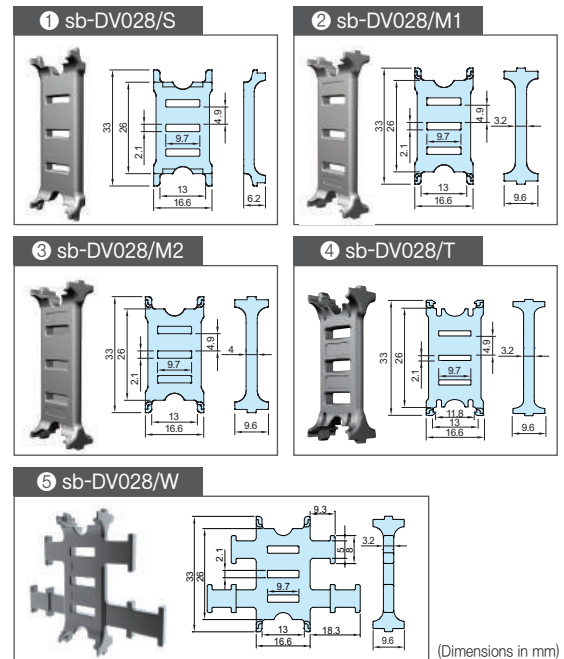


| Chain Type               | Ordering No.   | C Frame | Hole Type     |
|--------------------------|----------------|---------|---------------|
| asb 028CR<br>asb 028CR,L | S-TW,EB028,35  | 35      | M6 Bolt Holes |
|                          | S-TW,EB028,50  | 50      |               |
|                          | S-TW,EB028,55  | 55      |               |
|                          | S-TW,EB028,75  | 75      |               |
|                          | S-TW,EB028,100 | 100     |               |
|                          | S-TW,EB028,125 | 125     |               |
|                          | S-TW,EB028,150 | 150     |               |
|                          | S-TW,EB028,175 | 175     |               |
|                          | S-TW,EB028,200 | 200     |               |

## » Dividers(DV)

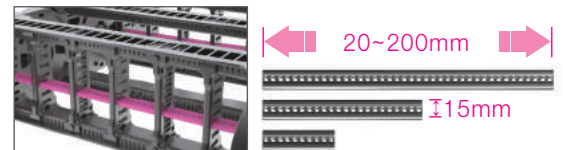


Assemble divider every second frame.  
DV.T : Applied to Frame 125~200.  
DV.M : Normal divider.  
DV.W : Applicable to System Tie Wrap or FEB.



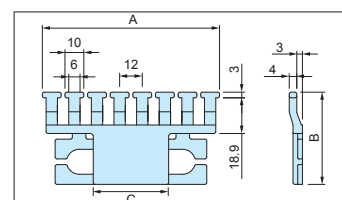
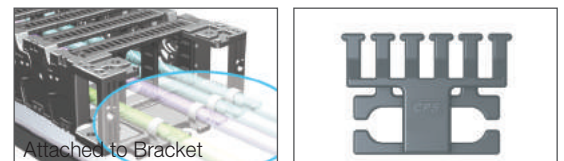
(Dimensions in mm)

## » Separators(SP)



| Chain Type               | Ordering NO. | Frame |
|--------------------------|--------------|-------|
| asb 028CR<br>asb 028CR,L | S-SP/M,35    | 35    |
|                          | S-SP/M,50    | 50    |
|                          | S-SP/M,55    | 55    |
|                          | S-SP/M,75    | 75    |
|                          | S-SP/M,100   | 100   |
|                          | S-SP/M,125   | 125   |
|                          | S-SP/M,150   | 150   |
|                          | S-SP/M,175   | 175   |
|                          | S-SP/M,200   | 200   |

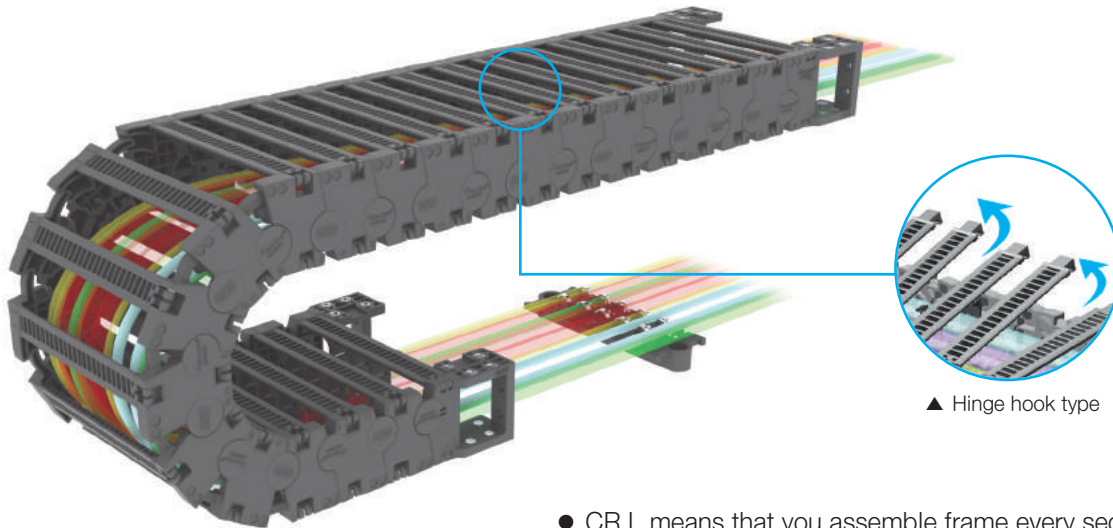
## » Tie wrap (TW)



| Chain Type               | Ordering No.      | A   | B    | C  |
|--------------------------|-------------------|-----|------|----|
| asb 028CR<br>asb 028CR,L | S-TW036/025CR,35  | 46  | 35,4 | -  |
|                          | S-TW036/025CR,50  | 69  | 48,9 | 15 |
|                          | S-TW036/025CR,55  | 70  | 48,9 | 20 |
|                          | S-TW036/025CR,75  | 94  | 48,9 | 40 |
|                          | S-TW036/025CR,100 | 118 | 48,9 | 65 |
|                          | S-TW036/025CR,125 | 142 | 48,9 | 90 |

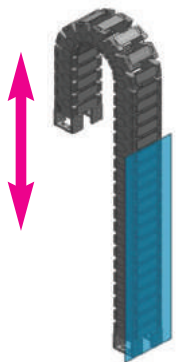


# asb 035CR/asb 035CR.L

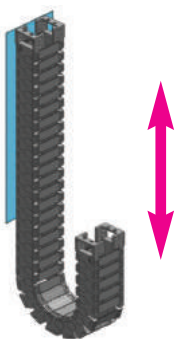


▲ Hinge hook type

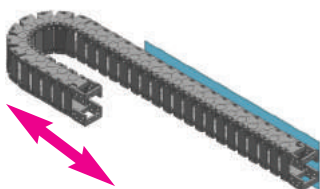
- CR,L means that you assemble frame every second link instead of every link.



Vertical with curve above



Vertical with curve below



Horizontal application mounted on its side

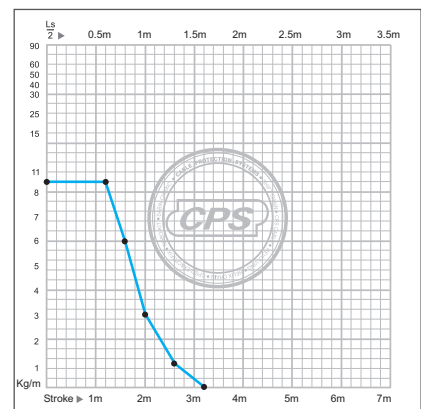
## » Calculation of the chain length

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

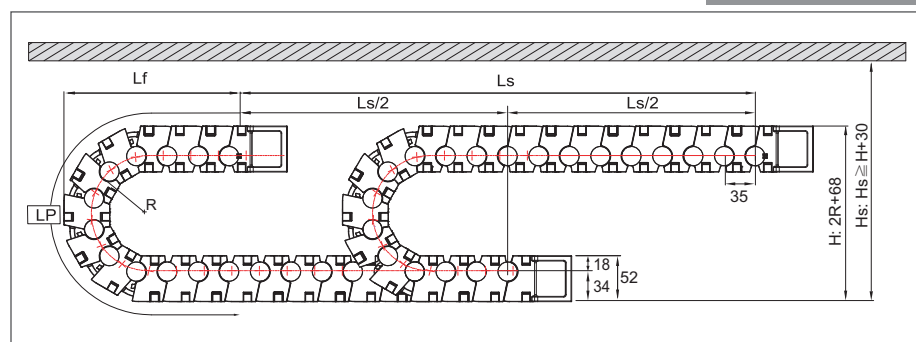
## » Other installation length

Vertical curve above = max 3,0m  
Vertical curve below = max 50m  
Side Mounted, Unsupported = max 1,0m

## » Load diagrams self-supporting length



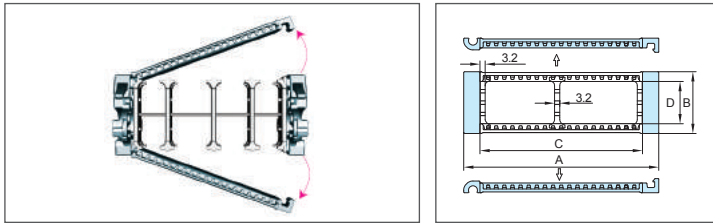
## » Layout of the chain



| Bending Radius (R) | Lp<br>Loop Length | Lf<br>Loof Projection | H<br>Moving Height |
|--------------------|-------------------|-----------------------|--------------------|
| 75                 | 471               | 226                   | 218                |
| 100                | 550               | 251                   | 268                |
| 125                | 628               | 276                   | 318                |
| 150                | 706               | 301                   | 368                |
| 200                | 863               | 351                   | 468                |

(Dimensions in mm)

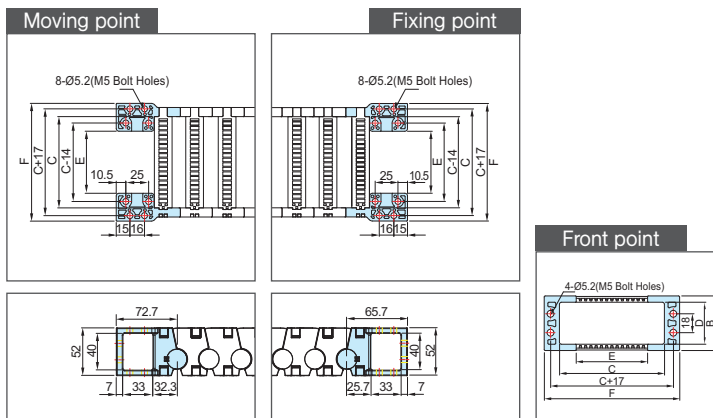
## » Chain cross section



| Chain Type               | A<br>Width (Outer) | B<br>Height (Outer) | C<br>Frame | D<br>Height (Inner) | Weight kg/m |
|--------------------------|--------------------|---------------------|------------|---------------------|-------------|
| asb 035CR<br>asb 035CR,L | 55                 | 52                  | 35         | 40                  | 1.00        |
|                          | 70                 |                     | 50         |                     | 1.06        |
|                          | 75                 |                     | 55         |                     | 1.09        |
|                          | 95                 |                     | 75         |                     | 1.17        |
|                          | 120                |                     | 100        |                     | 1.29        |
|                          | 145                |                     | 125        |                     | 1.39        |
|                          | 170                |                     | 150        |                     | 1.53        |
|                          | 195                |                     | 175        |                     | 1.65        |
|                          | 220                |                     | 200        |                     | 1.73        |

(Dimensions in mm)

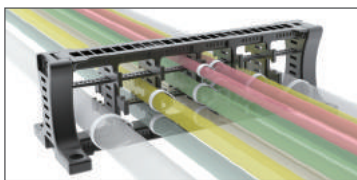
## » Free end bracket



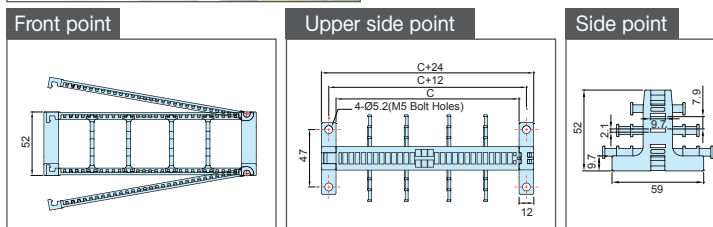
| Chain Type               | F<br>Width(Outer) | B<br>Height(Outer) | C<br>Frame | D<br>Height(Inner) | E<br>M,EB Bolt hole width | Hole Type           |
|--------------------------|-------------------|--------------------|------------|--------------------|---------------------------|---------------------|
| asb 035CR<br>asb 035CR,L | 64                | 52                 | 35         | 40                 | 3                         | M5<br>Bolt<br>Holes |
|                          | 79                |                    | 50         |                    | 18                        |                     |
|                          | 84                |                    | 55         |                    | 23                        |                     |
|                          | 104               |                    | 75         |                    | 43                        |                     |
|                          | 129               |                    | 100        |                    | 68                        |                     |
|                          | 154               |                    | 125        |                    | 93                        |                     |
|                          | 179               |                    | 150        |                    | 118                       |                     |
|                          | 204               |                    | 175        |                    | 143                       |                     |
|                          | 229               |                    | 200        |                    | 168                       |                     |

(Dimensions in mm)

## » System tie wrap (STW)

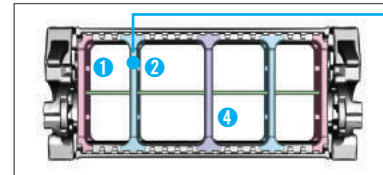


It is a unit to classify each cable for preventing entanglement of cables. It can either be installed to free end bracket or installed separately according its application environment.

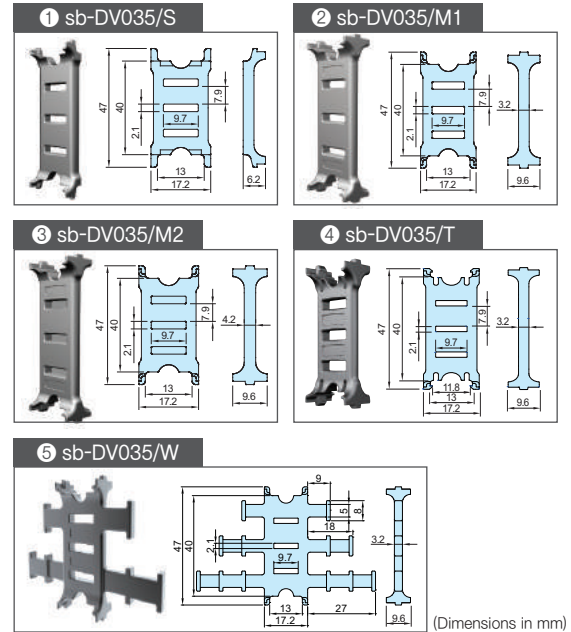


| Chain Type               | Ordering No.   | C Frame | Hole Type     |
|--------------------------|----------------|---------|---------------|
| asb 035CR<br>asb 035CR,L | S-TW,EB028,35  | 35      | M5 Bolt Holes |
|                          | S-TW,EB028,50  | 50      |               |
|                          | S-TW,EB028,55  | 55      |               |
|                          | S-TW,EB028,75  | 75      |               |
|                          | S-TW,EB028,100 | 100     |               |
|                          | S-TW,EB028,125 | 125     |               |
|                          | S-TW,EB028,150 | 150     |               |
|                          | S-TW,EB028,175 | 175     |               |
|                          | S-TW,EB028,200 | 200     |               |
|                          |                |         |               |

## » Dividers(DV)

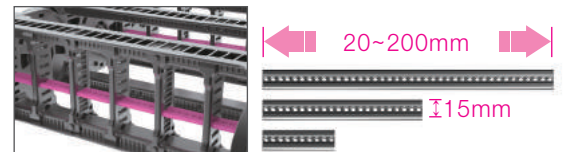


Assemble divider every second frame.  
DV.T : Applied to Frame 125~200.  
DV.M : Normal divider.  
DV.W : Applicable to System Tie Wrap or FEB.



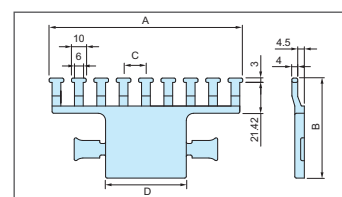
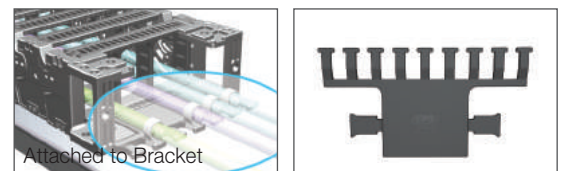
(Dimensions in mm)

## » Separators(SP)



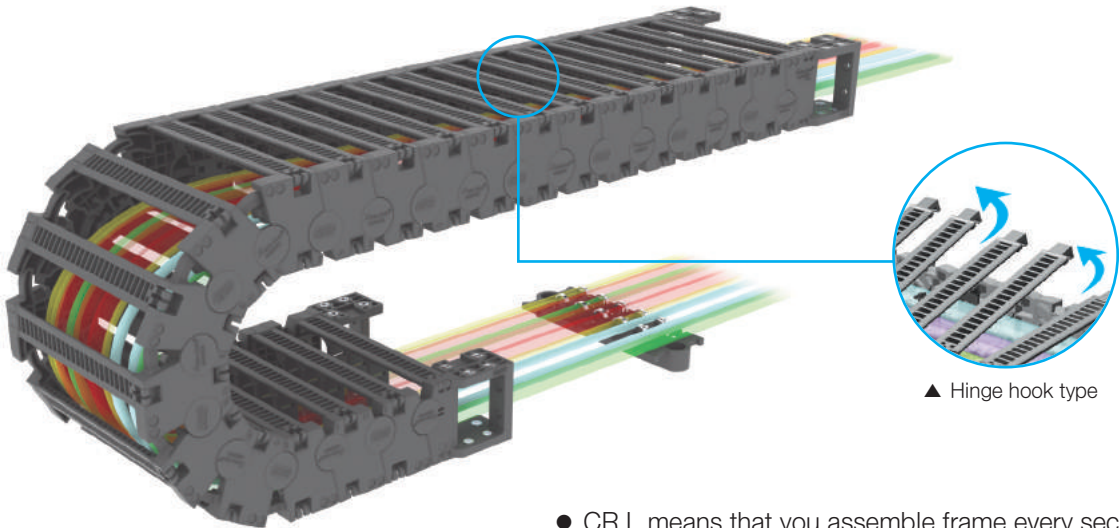
| Chain Type               | Ordering NO. | Frame |
|--------------------------|--------------|-------|
| asb 035CR<br>asb 035CR,L | S-SP/M,35    | 35    |
|                          | S-SP/M,50    | 50    |
|                          | S-SP/M,55    | 55    |
|                          | S-SP/M,75    | 75    |
|                          | S-SP/M,100   | 100   |
|                          | S-SP/M,125   | 125   |
|                          | S-SP/M,150   | 150   |
|                          | S-SP/M,175   | 175   |
|                          | S-SP/M,200   | 200   |
|                          |              |       |

## » Tie wrap (TW)



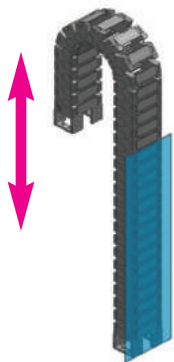
| Chain Type               | Ordering No.     | A   | B    | C     | D   |
|--------------------------|------------------|-----|------|-------|-----|
| asb 035CR<br>asb 035CR,L | S-TW050/035N,50  | 82  | 64.5 | 12.00 | 5   |
|                          | S-TW050/035N,55  | 82  |      | 12.00 | 10  |
|                          | S-TW050/035N,75  | 107 |      | 12.13 | 30  |
|                          | S-TW050/035N,100 | 132 |      | 15.25 | 55  |
|                          | S-TW050/035N,125 | 157 |      | 14.70 | 80  |
|                          | S-TW050/035N,150 | 182 |      | 14.35 | 105 |
|                          | S-TW050/035N,175 | 203 |      | 12.31 | 130 |
|                          | S-TW050/035N,200 | 232 |      | 13.88 | 155 |
|                          |                  |     |      |       |     |
|                          |                  |     |      |       |     |

# asb 045CR/asb 045CR.L

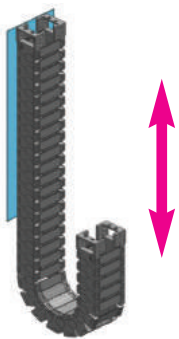


▲ Hinge hook type

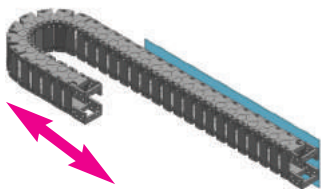
● CR,L means that you assemble frame every second link instead of every link.



Vertical with curve above



Vertical with curve below



Horizontal application mounted on its side

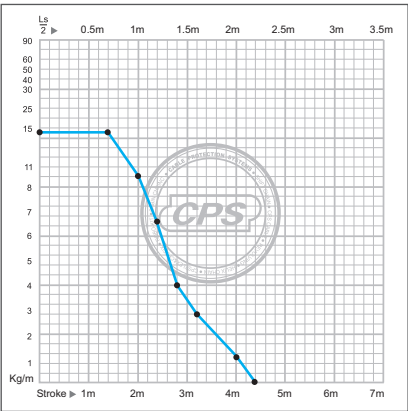
### >> Calculation of the chain length

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

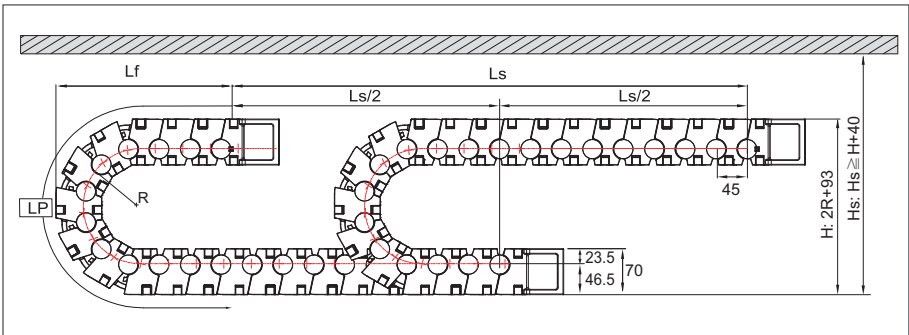
### >> Other installation length

Vertical curve above = max 6,0m  
Vertical curve below = max 100m  
Side Mounted, Unsupported = max 2,5m

### >> Load diagrams self-supporting length



### >> Layout of the chain

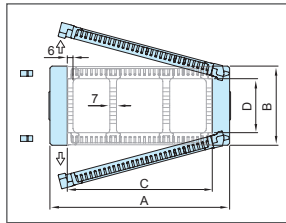
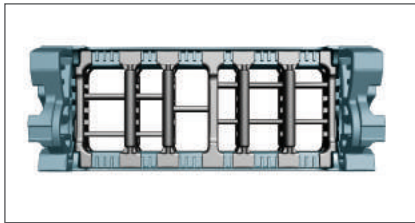


| Bending Radius (R) | Lp<br>Loop Length | Lf<br>Loof Projection | H<br>Moving Height |
|--------------------|-------------------|-----------------------|--------------------|
| 75                 | 587               | 279                   | 243                |
| 100                | 665               | 304                   | 293                |
| 120                | 728               | 324                   | 333                |
| 140                | 791               | 344                   | 373                |
| 200                | 979               | 404                   | 493                |
| 250                | 1,136             | 454                   | 593                |
| 300                | 1,293             | 504                   | 693                |

(Dimensions in mm)



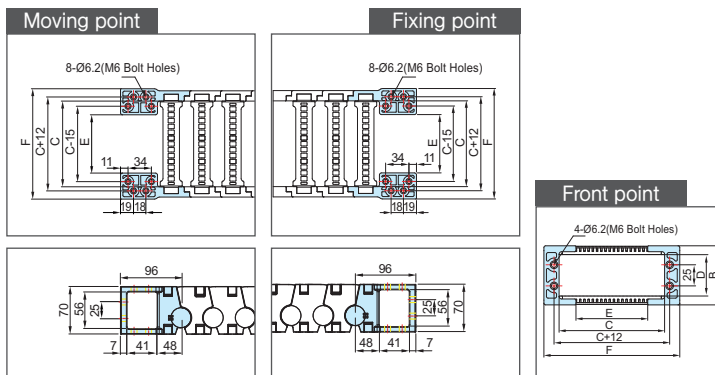
## » Chain cross section



| Chain Type               | A<br>Width (Outer) | B<br>Height (Outer) | C<br>Frame | D<br>Height (Inner) | Weight kg/m |
|--------------------------|--------------------|---------------------|------------|---------------------|-------------|
| asb 045CR<br>asb 045CR.L | 80                 | 70                  | 50         | 49                  | 2.59        |
|                          | 105                |                     | 75         |                     | 2.74        |
|                          | 130                |                     | 100        |                     | 2.90        |
|                          | 155                |                     | 125        |                     | 3.11        |
|                          | 170                |                     | 140        |                     | 3.23        |
|                          | 180                |                     | 150        |                     | 3.31        |
|                          | 195                |                     | 165        |                     | 3.41        |
|                          | 205                |                     | 175        |                     | 3.48        |
|                          | 220                |                     | 190        |                     | 3.90        |
|                          | 230                |                     | 200        |                     | 4.18        |
|                          | 270                |                     | 240        |                     | 4.64        |
|                          | 280                |                     | 250        |                     | 4.76        |
|                          | 330                |                     | 300        |                     | 5.32        |

(Dimensions in mm)

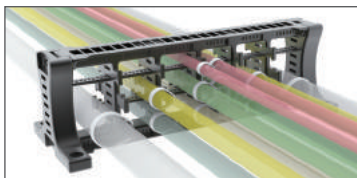
## » Free end bracket



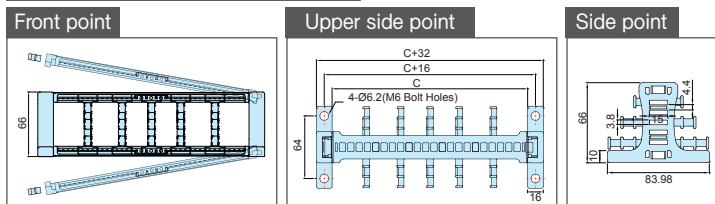
| Chain Type               | F<br>Width(Outer) | B<br>Height(Outer) | C<br>Frame | D<br>Height(Inner) | E<br>M,EB Bolt hole width | Hole Type           |
|--------------------------|-------------------|--------------------|------------|--------------------|---------------------------|---------------------|
| asb 045CR<br>asb 045CR.L | 86                | 70                 | 50         | 49                 | 10                        | M6<br>Bolt<br>Holes |
|                          | 111               |                    | 75         |                    | 35                        |                     |
|                          | 136               |                    | 100        |                    | 60                        |                     |
|                          | 161               |                    | 125        |                    | 85                        |                     |
|                          | 176               |                    | 140        |                    | 100                       |                     |
|                          | 186               |                    | 150        |                    | 110                       |                     |
|                          | 201               |                    | 165        |                    | 125                       |                     |
|                          | 211               |                    | 175        |                    | 135                       |                     |
|                          | 226               |                    | 190        |                    | 150                       |                     |
|                          | 236               |                    | 200        |                    | 160                       |                     |
|                          | 276               |                    | 240        |                    | 200                       |                     |
|                          | 286               |                    | 250        |                    | 210                       |                     |
|                          | 336               |                    | 300        |                    | 260                       |                     |

(Dimensions in mm)

## » System tie wrap (STW)

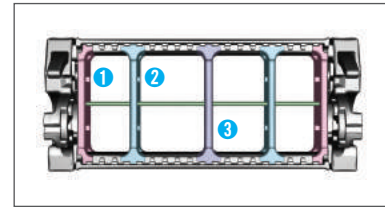


It is a unit to classify each cable for preventing entanglement of cables. It can either be installed to free end bracket or installed separately according its application environment.

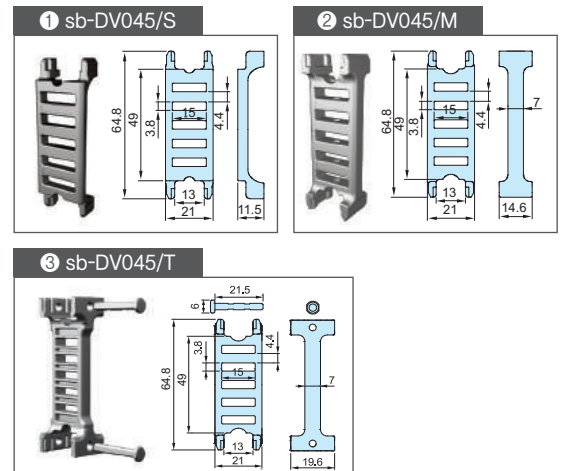


| Chain Type               | Ordering No.   | C Frame | Hole Type     |
|--------------------------|----------------|---------|---------------|
| asb 045CR<br>asb 045CR.L | S-TW,EB045.50  | 50      | M6 Bolt Holes |
|                          | S-TW,EB045.75  | 75      |               |
|                          | S-TW,EB045.100 | 100     |               |
|                          | S-TW,EB045.125 | 125     |               |
|                          | S-TW,EB045.140 | 140     |               |
|                          | S-TW,EB045.150 | 150     |               |
|                          | S-TW,EB045.165 | 165     |               |
|                          | S-TW,EB045.175 | 175     |               |
|                          | S-TW,EB045.190 | 190     |               |
|                          | S-TW,EB045.200 | 200     |               |
|                          | S-TW,EB045.240 | 240     |               |
|                          | S-TW,EB045.250 | 250     |               |
|                          | S-TW,EB045.300 | 300     |               |

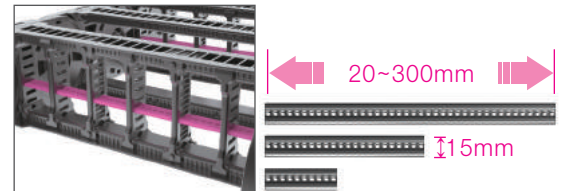
## » Dividers(DV)



Assemble divider every second frame.  
DV.T : Applied to Frame 200~300.  
DV.M : Normal Divider.

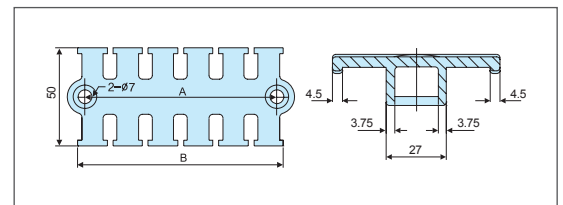
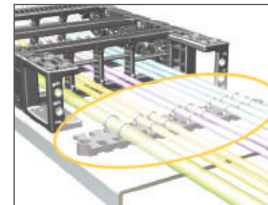


## » Separators(SP)



| Chain Type               | Ordering NO.  |
|--------------------------|---------------|
| asb 045CR<br>asb 045CR.L | sb-SP/400.400 |

## » Tie wrap (TW)



| Chain Type               | Ordering No. | A   | B   |
|--------------------------|--------------|-----|-----|
| asb 045CR<br>asb 045CR.L | S-TW50       | 58  | 65  |
|                          | S-TW75       | 75  | 82  |
|                          | S-TW100      | 98  | 105 |
|                          | S-TW125      | 122 | 129 |
|                          | S-TW150      | 141 | 148 |

(Dimensions in mm)