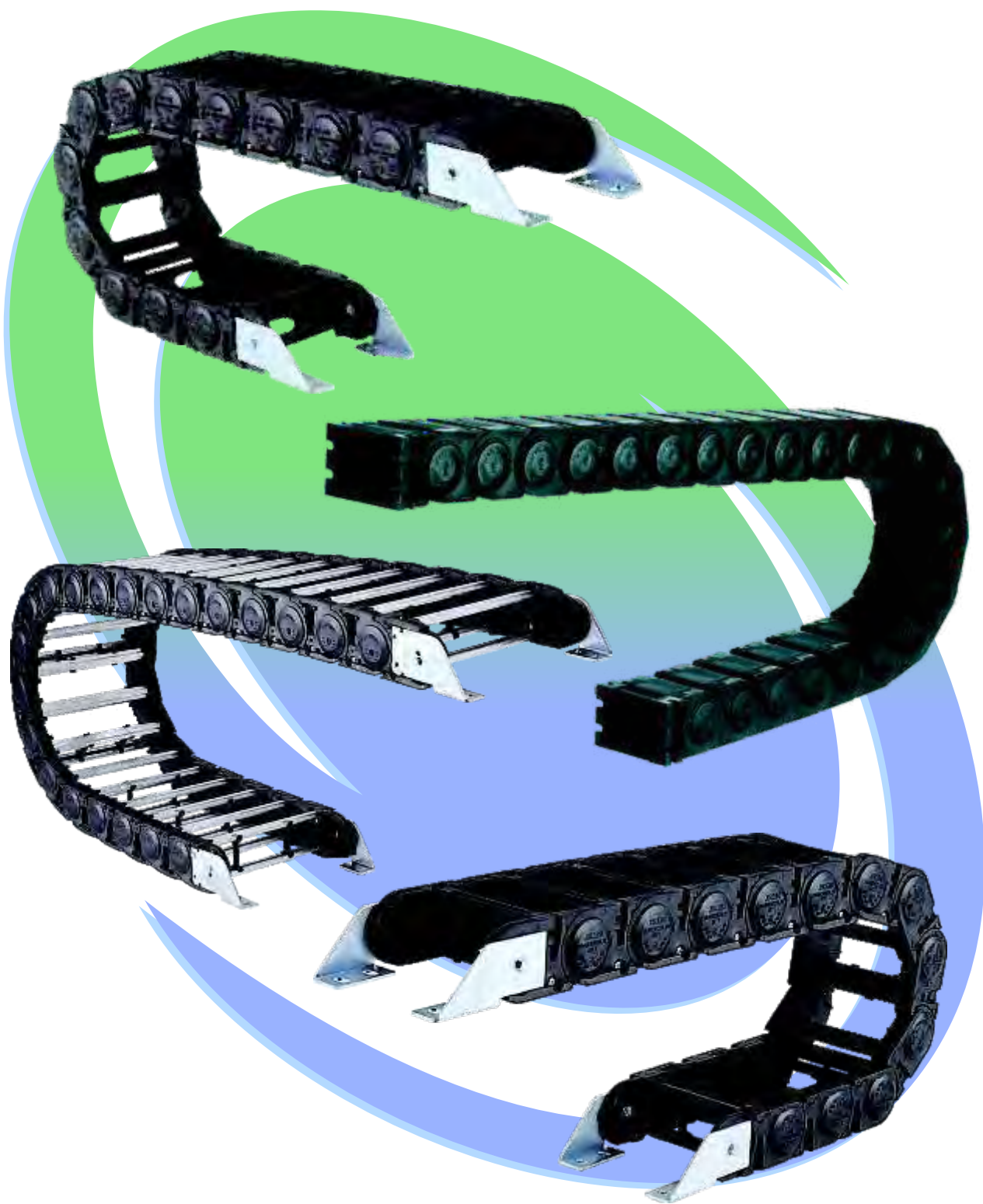


# TEKNIC

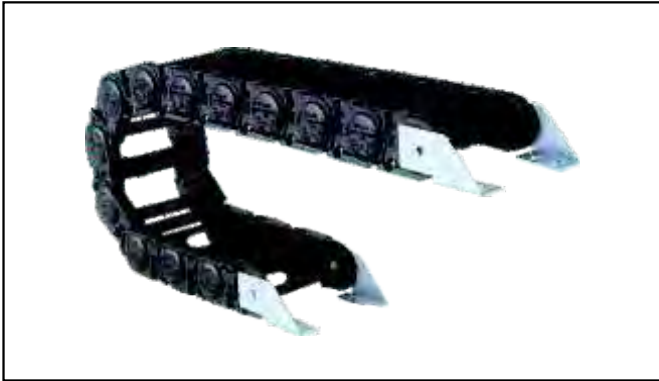
Cable Carriers - Plastic / Metal



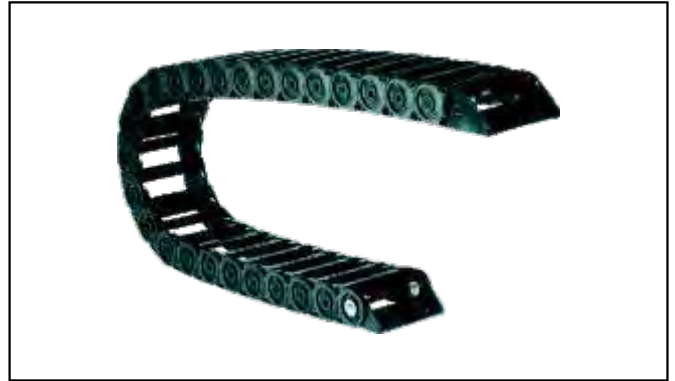
# Cable Carriers

plastic and metal-plastic  
open type & closed type

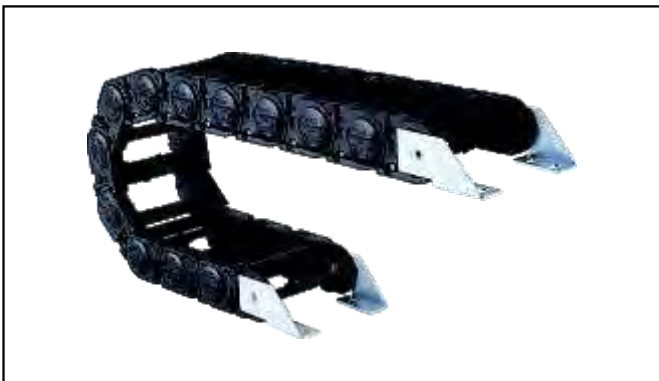
**Heavy Series Model 4710**



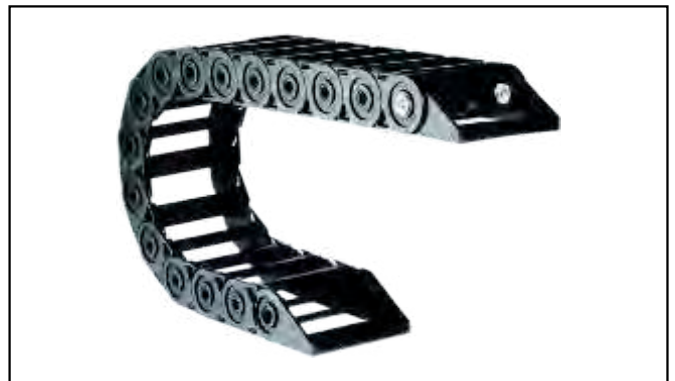
**Light Series Model 4230**



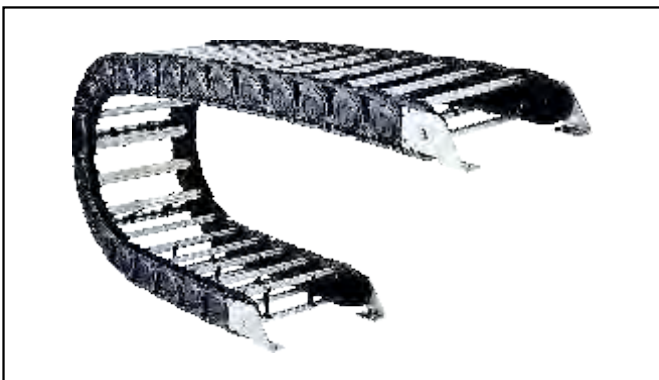
**Heavy Series Model 7710**



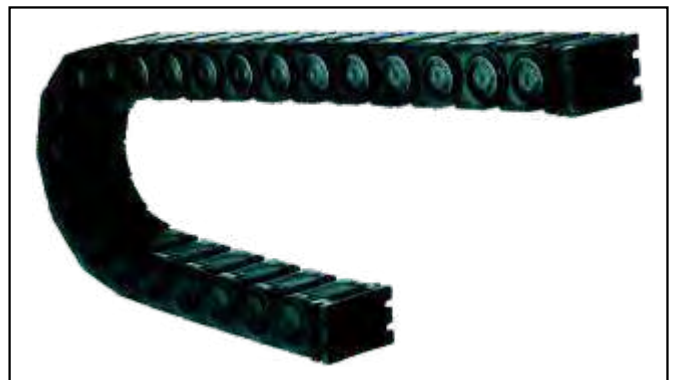
**Medium Series Model 6830**



**Heavy Series Model 9210**



**Closed Series Model 4760**



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## PLASTICHAIN - INTRODUCTION

TEKNIC India, known for their controlgear and industrial electronic products, used in CNC machine tool industry, and DECRIL France, known manufacturers of Drag Chains in France, have agreed to cooperate with each other for development of open and closed type of plastic and metal drag chains in India for the Indian and overseas market.

Plastichains provide a suitable protection to the various power lines of machinery in motion.

Protection is provided against cuts, tensions and distortions as well as any kinds of stresses that may be generated during the reciprocating movement.

Plastichain carriers differ from existing products by a unique system including a removable stop that enables the designer to determine a selected radius of curvature. With a chain link of a given size, several radii of curvature can be obtained according to the type of stop selected. They are available as closed or open versions.

Due to their design features, the plastic chain carriers withstand high travel speeds and allow high acceleration and deceleration.

Our cable carriers made of composite plastic material are designed to run either on plane surfaces of the machine frame or in suitable guide channels. Guide channels are a must for all lengths over the maximum allowed value. The guide channels also provide a lateral guiding with a limited amount of clearance, as absolutely necessary for the satisfactory behaviour of the carrier. Upstream of a fixed point, said channels must be complemented with either an inclined plane or a roller so that the chain can ascend naturally upon itself without touching the fixed end pieces in the reciprocating movement. Our polyamide plastic material is formulated with a patented composition suitable for working under adverse weather conditions in monsoons, under water or summer. The material does not get softened and maintains its strength.










When designing the carrier size best suited for your application, a 10% clearance is to be taken in excess to cable diameter (the dividing walls must be considered too in the calculation of the overall width).

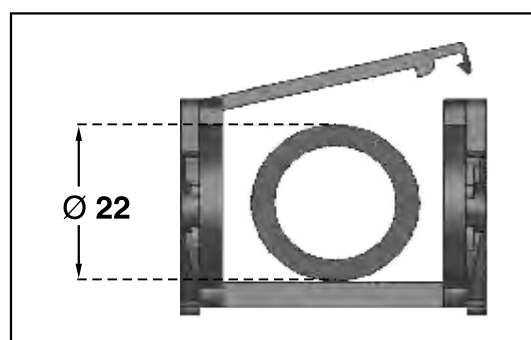
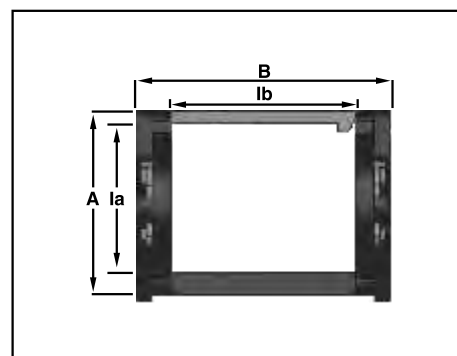
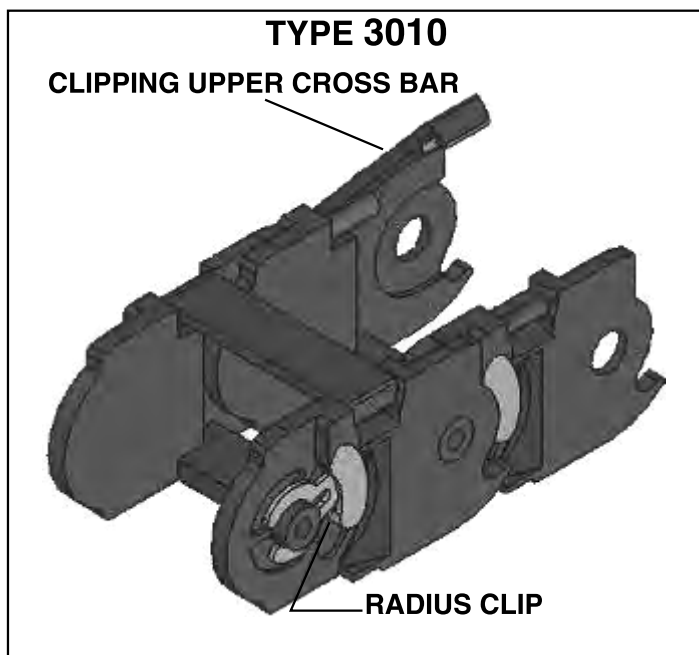
To ensure a satisfactory operation, be careful to lay the biggest cables and / or tubings close to the external side of the carrier. Please do not lay cables of much dissimilar diameters side by side in order to avoid overlapping risks.

### PROPERTIES OF COMPOSITE PLASTIC MATERIAL

|   | UNIT              | PA 66 FV 20 |
|---|-------------------|-------------|
| <b>PHYSICAL / THERMAL PROPERTIES</b>              |                   |             |
| • BULK DENSITY                                    | Kg/m <sup>3</sup> | 1300        |
| • HUMIDITY ABSORPTION                             | %                 | ± 2         |
| • LIMIT OXYGEN INDEX                              |                   | 23          |
| • FLAMMABILITY UNDER UL 94                        |                   | HB          |
| • MELTING POINT                                   | °C                | 280         |
| • HEAT DISTORTION TEMPERATURE UNDER LOAD 0.46 Mpa | °C                | 255         |
| <b>MECHANICAL PROPERTIES</b>                      |                   |             |
| • TENSILE MODULUS                                 | MPa               | 5500        |
| • STRESS AT BREAK                                 | MPa               | 105         |
| • BREAKING STRESS (FLEXURAL)                      | MPa               | 105         |
| • FRICTION RATE                                   |                   | 0.4         |
| <b>ELECTRICAL PROPERTIES</b>                      |                   |             |
| • VOLUME RESISTIVITY                              | ohm m             | 1E11        |
| • ELECTRICAL STRENGTH                             | Kv/mm             | 38          |
| • LEAK CURRENT RESISTANCE                         | V                 | >600        |

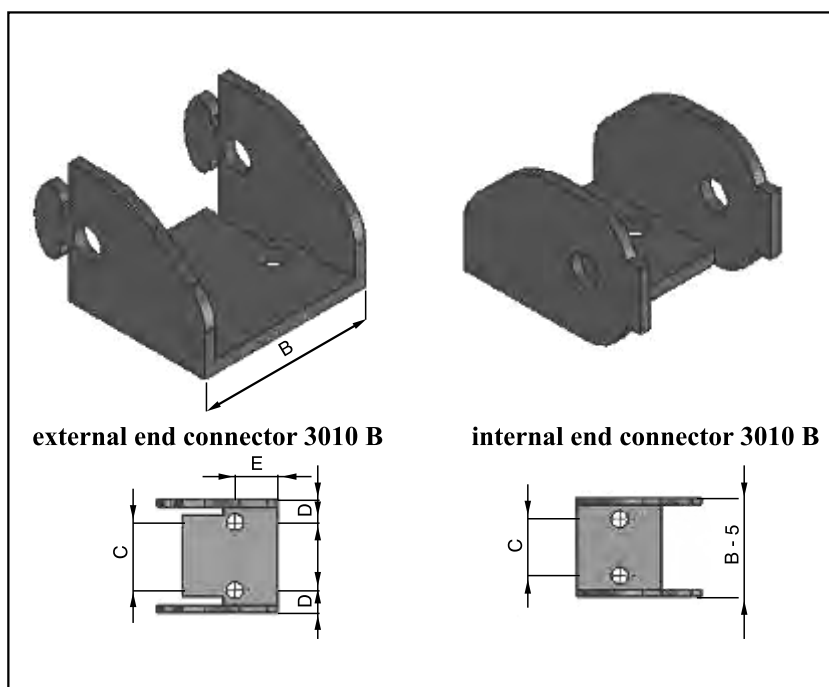
**SPECIFICATION OF TEKNIC DECRIL MODELS**

| Cable Carrier Chains Specification  | MODELS   | Outside Width | Outside Height | Inside Width | Inside Height | Pitch | Bending Radius (BR) |     |     | Average Self-Supporting Length | Reverse BR | Snap-On Cross Bars | Closed Chains |            | Dividers |     |
|---|----------|---------------|----------------|--------------|---------------|-------|---------------------|-----|-----|--------------------------------|------------|--------------------|---------------|------------|----------|-----|
|   |          |               |                |              |               |       |                     |     |     |                                |            |                    | Vertical      | Horizontal |          |     |
|    | 3010/A   | 30            | 30             | 20           | 24            | 30    | 35                  | 55  | 75  | 95                             | -          | no                 | yes           | -          | -        |     |
|   | 3010/B   | 40            | 30             | 30           | 24            | 30    | 35                  | 55  | 75  | 95                             | -          | no                 | yes           | -          | -        |     |
|   | 3010/D   | 60            | 30             | 50           | 24            | 30    | 35                  | 55  | 75  | 95                             | -          | no                 | yes           | -          | -        |     |
|    | 4230/A   | 54            | 40             | 40           | 34            | 42    | 55                  | 105 | 155 | -                              | -          | no                 | yes           | yes        | yes      |     |
|   | 4230/B   | 74            | 40             | 60           | 34            | 42    | 55                  | 105 | 155 | -                              | -          | no                 | yes           | yes        | yes      |     |
|   | 4230/C   | 94            | 40             | 80           | 34            | 42    | 55                  | 105 | 155 | -                              | -          | no                 | yes           | yes        | yes      |     |
|   | 4230/D   | 114           | 40             | 100          | 34            | 42    | 55                  | 105 | 155 | -                              | -          | no                 | yes           | yes        | yes      |     |
|    | 4710/A   | 56            | 40             | 32           | 31            | 47    | 55                  | 75  | 95  | 125                            | 145        | 190                | yes           | yes        | -        | -   |
|   | 4710/B   | 75            | 40             | 51           | 31            | 47    | 55                  | 75  | 95  | 125                            | 145        | 190                | yes           | yes        | -        | -   |
|   | 4710/C   | 95            | 40             | 71           | 31            | 47    | 55                  | 75  | 95  | 125                            | 145        | 190                | yes           | yes        | -        | -   |
|   | 4710/D   | 119           | 40             | 95           | 31            | 47    | 55                  | 75  | 95  | 125                            | 145        | 190                | yes           | yes        | -        | -   |
| <br><br> | 4760/A   | 70            | 50             | 48           | 39            | 47    | 95                  | 125 | 145 | 190                            | -          | -                  | no            | yes        | -        | -   |
|   | 4760/B   | 120           | 50             | 98           | 39            | 47    | 95                  | 125 | 145 | 190                            | -          | -                  | no            | yes        | -        | -   |
|   | 4760/C   | 170           | 50             | 148          | 39            | 47    | 95                  | 125 | 145 | 190                            | -          | -                  | no            | yes        | -        | -   |
|   | 7710/A   | 95            | 60             | 53           | 37            | 77    | 90                  | 110 | 145 | 170                            | 215        | 295                | yes           | yes        | -        | -   |
|   | 7710/B   | 126           | 60             | 84           | 37            | 77    | 90                  | 110 | 145 | 170                            | 215        | 295                | yes           | yes        | -        | -   |
|   | 7710/C   | 150           | 60             | 108          | 37            | 77    | 90                  | 110 | 145 | 170                            | 215        | 295                | yes           | yes        | -        | -   |
|   | 7710/D   | 174           | 60             | 132          | 37            | 77    | 90                  | 110 | 145 | 170                            | 215        | 295                | yes           | yes        | -        | -   |
|   | 7710/E   | 192           | 60             | 150          | 37            | 77    | 90                  | 110 | 145 | 170                            | 215        | 295                | yes           | yes        | -        | -   |
|   | 7710/F   | 224           | 60             | 182          | 37            | 77    | 90                  | 110 | 145 | 170                            | 215        | 295                | yes           | yes        | -        | -   |
|   | 7710/G   | 274           | 60             | 232          | 37            | 77    | 90                  | 110 | 145 | 170                            | 215        | 295                | yes           | yes        | -        | -   |
|    | 7710/H   | 324           | 60             | 282          | 37            | 77    | 90                  | 110 | 145 | 170                            | 215        | 295                | yes           | yes        | -        | -   |
|   | 7710/MIP | 80~600        | 60             | 38~558       | 37            | 77    | 90                  | 110 | 145 | 170                            | 215        | 295                | yes           | yes        | -        | -   |
|   | 6830/A   | 100           | 64             | 75           | 45            | 68    | 85                  | 105 | 125 | 155                            | 205        | -                  | no            | yes        | yes      | yes |
|    | 6830/B   | 150           | 64             | 125          | 45            | 68    | 85                  | 105 | 125 | 155                            | 205        | -                  | no            | yes        | yes      | yes |
|   | 6830/C   | 200           | 64             | 175          | 45            | 68    | 85                  | 105 | 125 | 155                            | 205        | -                  | no            | yes        | yes      | yes |
|   | 9210/A   | 150           | 85             | 100          | 60            | 91    | 155                 | 205 | 255 | 305                            | 355        | 405                | no            | yes        | yes      | yes |
|    | 9210/B   | 200           | 85             | 150          | 60            | 91    | 155                 | 205 | 255 | 305                            | 355        | 405                | no            | yes        | yes      | yes |
|   | 9210/C   | 250           | 85             | 200          | 60            | 91    | 155                 | 205 | 255 | 305                            | 355        | 405                | no            | yes        | yes      | yes |
|   | 9210/D   | 300           | 85             | 250          | 60            | 91    | 155                 | 205 | 255 | 305                            | 355        | 405                | no            | yes        | yes      | yes |
|   | 9210/E   | 350           | 85             | 300          | 60            | 91    | 155                 | 205 | 255 | 305                            | 355        | 405                | no            | yes        | yes      | yes |
|   | 9210/F   | 435           | 85             | 385          | 60            | 91    | 155                 | 205 | 255 | 305                            | 355        | 405                | no            | yes        | yes      | yes |
|   | 9210/MIP | 100~1000      | 85             | 50~950       | 50            | 91    | 155                 | 205 | 255 | 305                            | 355        | 405                | no            | yes        | yes      | yes |



| Type     | A             | B  | Ia | Ib | References |          |          |          | Kg/m |
|----------|---------------|----|----|----|------------|----------|----------|----------|------|
| 3010/A   | 30            | 30 | 24 | 20 | D 691301   | D 691302 | D 691303 | D 691304 | 0.31 |
| 3010/B   | 30            | 40 | 24 | 30 | D 691351   | D 691352 | D 691353 | D 691354 | 0.33 |
| 3010/D   | 30            | 60 | 24 | 50 | D 691381   | D 691382 | D 691383 | D 691384 | 0.37 |
| Rd in mm | Pitch = 30 mm |    |    |    | 35         | 55       | 75       | 95       |      |
| Ht in mm | + or - 10%    |    |    |    | 103        | 147      | 191      | 235      |      |
|          | radius clips  |    |    |    | None       | Blue     | Green    |          |      |



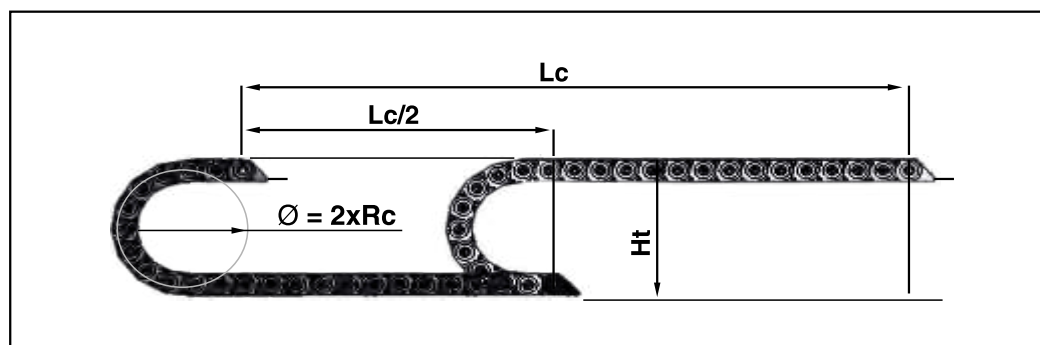


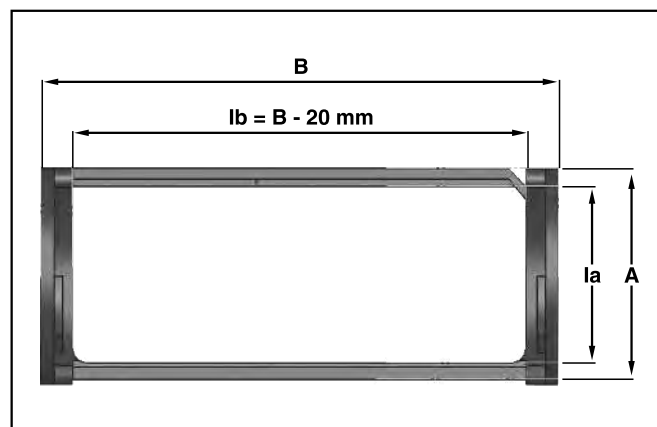
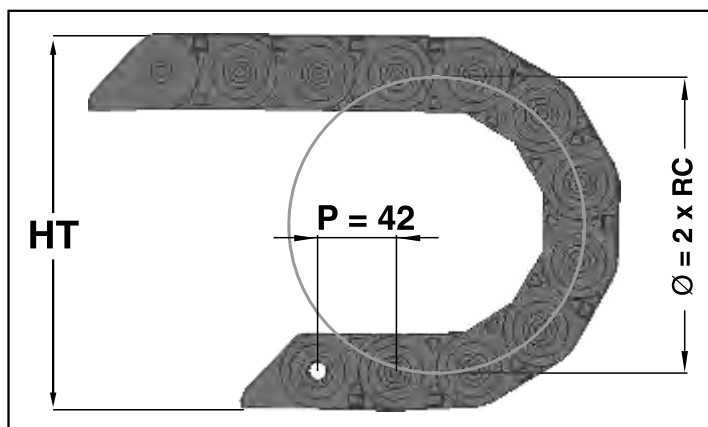
| Type   | End connector (kit)<br>References | E<br>In mm | C<br>In mm | D<br>In mm | Screw | Thickness | Material  |
|--------|-----------------------------------|------------|------------|------------|-------|-----------|-----------|
| 3010/A | E 3010/A PL                       | 15         | 0          | Center     | M5    | 3         | PA6 15 FV |
| 3010/B | E 3010/B PL                       | 15         | 24         | 8          | M5    | 3         | PA6 15 FV |
| 3010/D | E 3010/D PL                       | 15         | 44         | 8          | M5    | 3         | PA6 15 FV |

**Chain length calculation** from the stroke Lc (in mm) :

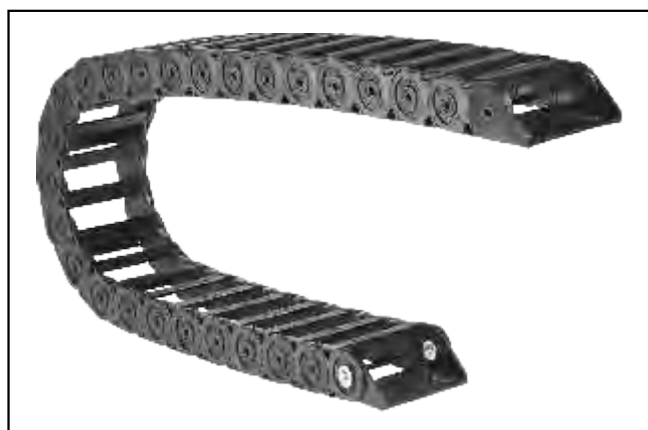
*please note that to calculate the length, the fixed point has to be in the middle of the stroke*

|                                 |              |              |              |              |
|---------------------------------|--------------|--------------|--------------|--------------|
| Rc (Chain radius)               | 35           | 55           | 75           | 95           |
| Ht (Height of the mobile point) | 103          | 147          | 191          | 235          |
| Chain length                    | $Lc/2 + 200$ | $Lc/2 + 263$ | $Lc/2 + 326$ | $Lc/2 + 388$ |





| Type     | A                   | B   | Ia   | Ib    | References |          |          | Kg/m |
|----------|---------------------|-----|------|-------|------------|----------|----------|------|
| 4230/A   | 40                  | 54  | 34   | 40    | D 011401   | D 011402 | D 011403 | 0.31 |
| 4230/B   | 40                  | 74  | 34   | 60    | D 011451   | D 011452 | D 011453 | 0.33 |
| 4230/C   | 40                  | 94  | 34   | 80    | D 011471   | D 011472 | D 011473 | 0.37 |
| 4230/D   | 40                  | 114 | 34   | 100   | D 011481   | D 011482 | D 011483 |      |
| Rd in mm | Pitch = 42 mm       |     | 55   | 105   | 155        |          |          |      |
| Ht in mm | + or - 10%          |     | 176  | 276   | 376        |          |          |      |
|          | radius clips colour |     | Blue | Green |            |          |          |      |

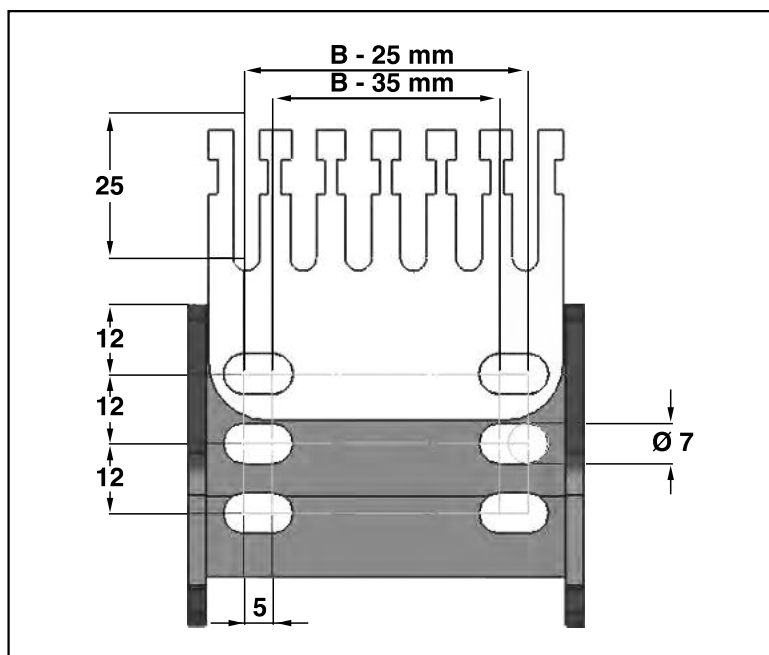


The chain 4230 is light in weight, rapid, and is suitable for all type of applications where travel lengths are up to 6 meters.

Since the inside height is 34 mm, it can accept 30mm diameter cables .

Steel tiewrap can be used to fix cables at both sides of the chain. The divider separates and guides the cables. The use of tiewrap and dividers helps to increase the life of the cables.

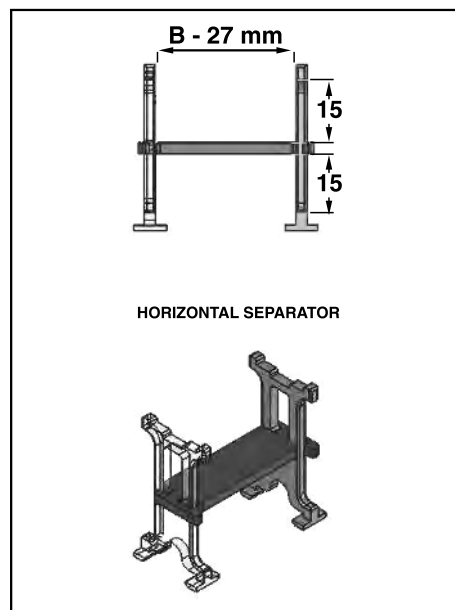
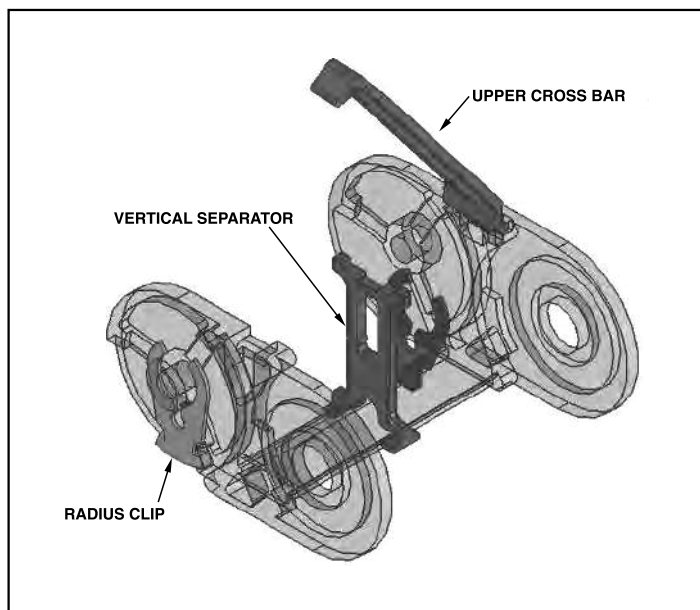




| Type   | End connector (kit) References | B-25 In mm | B-35 In mm | Thickness | Material  |
|--------|--------------------------------|------------|------------|-----------|-----------|
| 4230/A | D 010491                       | 29         | 19         | 3         | PA6 15 FV |
| 4230/B | D 015491                       | 49         | 39         | 3         | PA6 15 FV |
| 4230/C | D 017491                       | 69         | 59         | 3         | PA6 15 FV |
| 4230/D | D 018491                       | 89         | 79         | 3         | PA6 15 FV |

| Type   | End connector (kit) References | B-25 In mm | B-35 In mm | Thickness | Material |
|--------|--------------------------------|------------|------------|-----------|----------|
| 4230/A | D 010491                       | 29         | 19         | 5         | Steel    |
| 4230/B | D 015491                       | 49         | 39         | 7         | Steel    |
| 4230/C | D 017491                       | 69         | 59         | 9         | Steel    |
| 4230/D | D 018491                       | 89         | 79         | 11        | Steel    |

*one set of 2 tiewraps needed for one chain  
tiewraps in stainless steel can be provided on request*

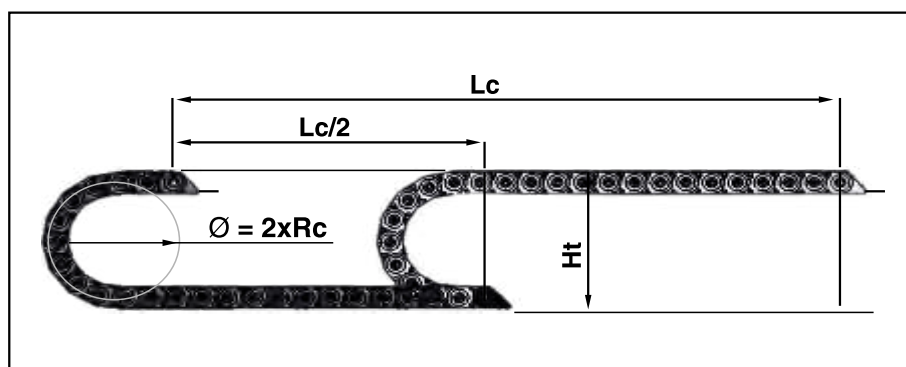


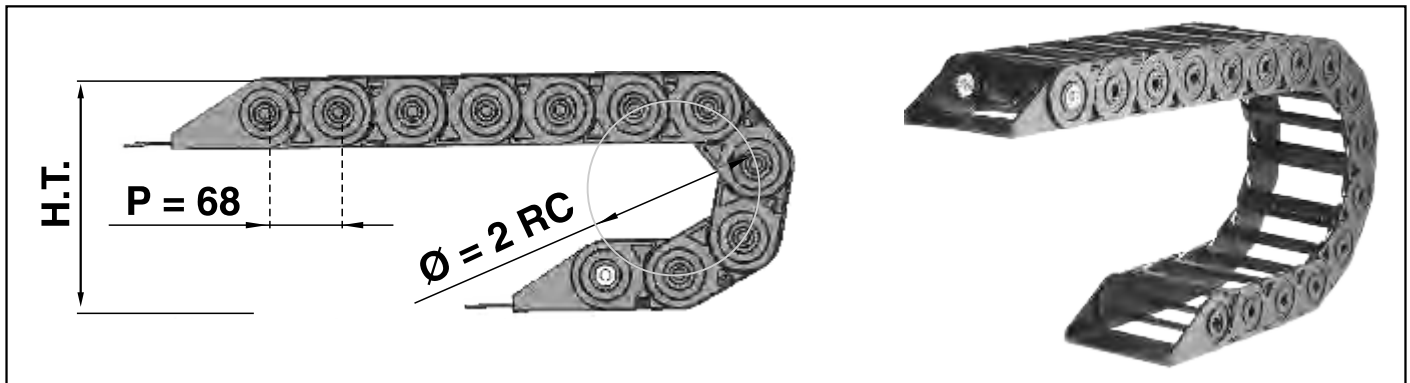
| Type   | Vertical Divider References | Horizontal Divider References | B-28 In mm | Thickness | Material  |
|--------|-----------------------------|-------------------------------|------------|-----------|-----------|
| 4230/A | D 010495                    | D 010495                      | 26         | 2.5       | PA6 15 FV |
| 4230/B | D 010495                    | D 010495                      | 46         | 2.5       | PA6 15 FV |
| 4230/C | D 010495                    | D 010495                      | 66         | 2.5       | PA6 15 FV |
| 4230/D | D 010495                    | D 010495                      | 86         | 2.5       | PA6 15 FV |

**Chain length calculation** from the stroke Lc (in mm) :

please note that to calculate the length, the fixed point has to be in the middle of the stroke

|                                 |              |              |              |
|---------------------------------|--------------|--------------|--------------|
| Rc (Chain radius)               | 55           | 105          | 155          |
| Ht (Height of the mobile point) | 176          | 276          | 376          |
| Chain length                    | $Lc/2 + 298$ | $Lc/2 + 456$ | $Lc/2 + 613$ |



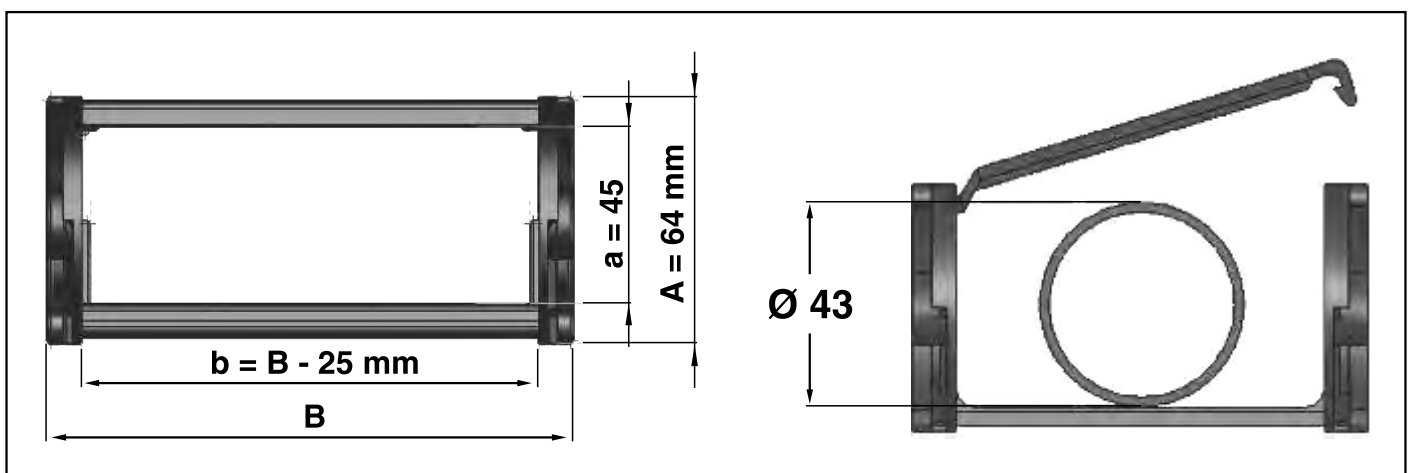


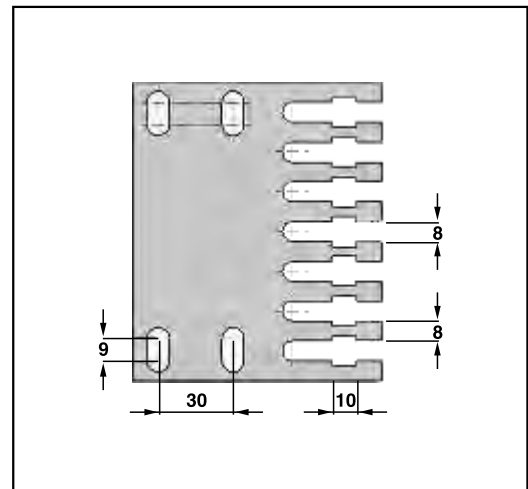
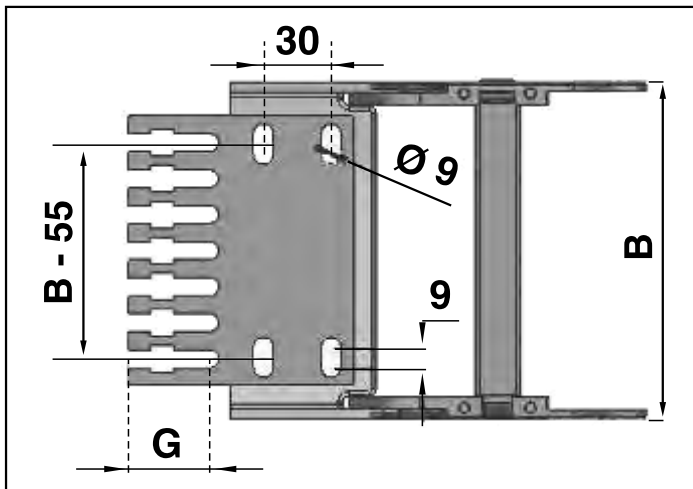
The chain 6830 is light in weight, rapid, and is suitable for all type of applications where travel lengths are up to 8 meters.

Since the inside height is 43 mm, it can accept 40 mm diameter cables .

Steel tiewrap can be used to fix cables at both sides of the chain. The divider separates and guides the cables. The use of tiewrap and dividers helps to increase the life of the cables.

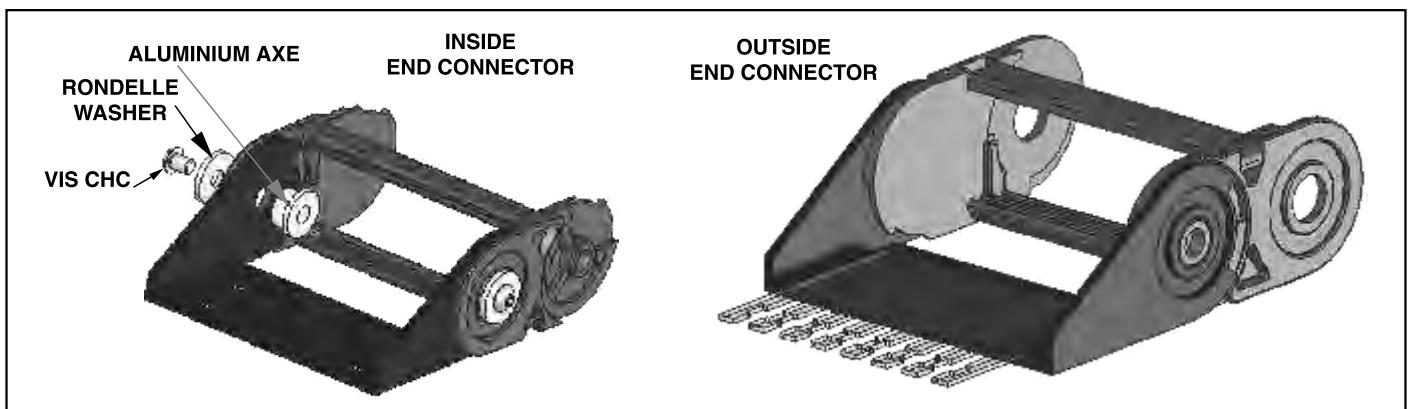
| Type     | A                   | B   | Ia   | Ib    | References |          |          |          |          | Kg/m |
|----------|---------------------|-----|------|-------|------------|----------|----------|----------|----------|------|
| 6830/A   | 64                  | 100 | 45   | 75    | D 011601   | D 011602 | D 011603 | D 011604 | D 011605 | 1.4  |
| 6830/B   | 64                  | 150 | 45   | 125   | D 011651   | D 011652 | D 011653 | D 011654 | D 011655 | 1.6  |
| 6830/C   | 64                  | 200 | 45   | 75    | D 011671   | D 011672 | D 011673 | D 011674 | D 011675 | 1.8  |
| Rd in mm | Pitch = 68 mm       |     | 85   | 105   | 125        | 155      | 205      |          |          |      |
| Ht in mm | + or - 10%          |     | 245  | 285   | 325        | 385      | 485      |          |          |      |
|          | radius clips colour |     | Blue | Green | White      | Yellow   | Red      |          |          |      |

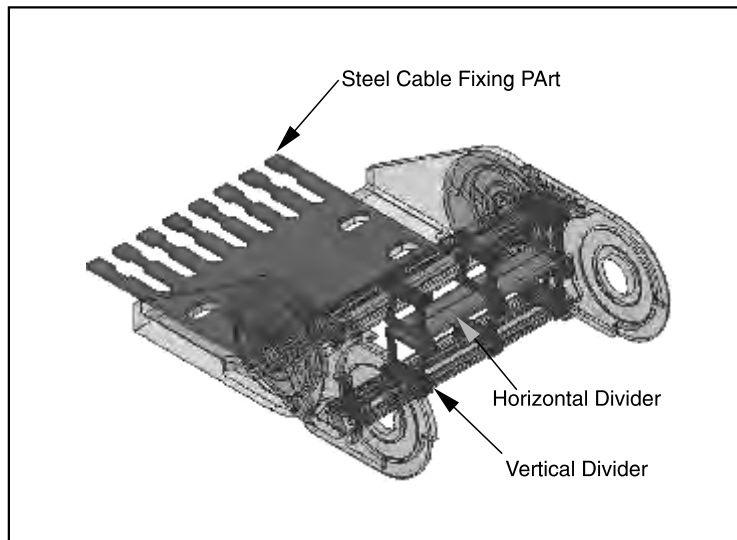




| Type   | End connector set References | B-55 In mm | Screw  | Thickness mm | Material  |
|--------|------------------------------|------------|--------|--------------|-----------|
| 6830/A | D 010690                     | 45         | 4 x M8 | 5            | PA6 15 FV |
| 6830/B | D 015690                     | 95         | 5 x M8 | 5            | PA6 15 FV |
| 6830/C | D 017690                     | 145        | 6 x M8 | 5            | PA6 15 FV |

| Type   | Tiewrap References | B-55 In mm | Teeth nbre | Thickness mm | Material |
|--------|--------------------|------------|------------|--------------|----------|
| 6830/A | P 010691           | 45         | 5          | 2            | Steel    |
| 6830/B | P 015691           | 95         | 8          | 2            | Steel    |
| 6830/C | P 017691           | 145        | 11         | 2            | Steel    |

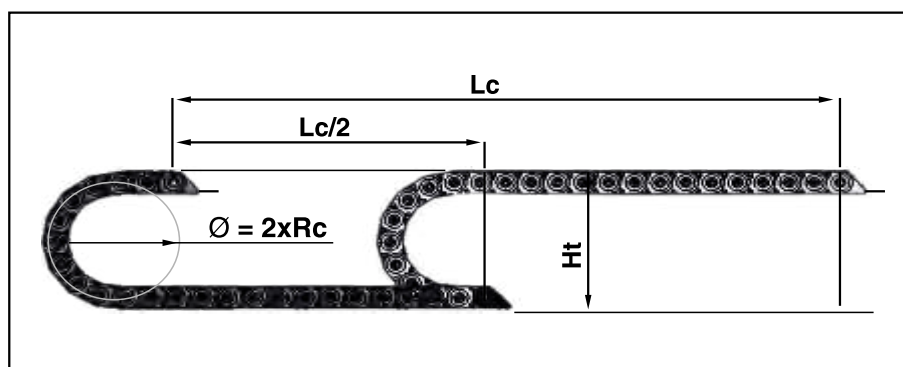


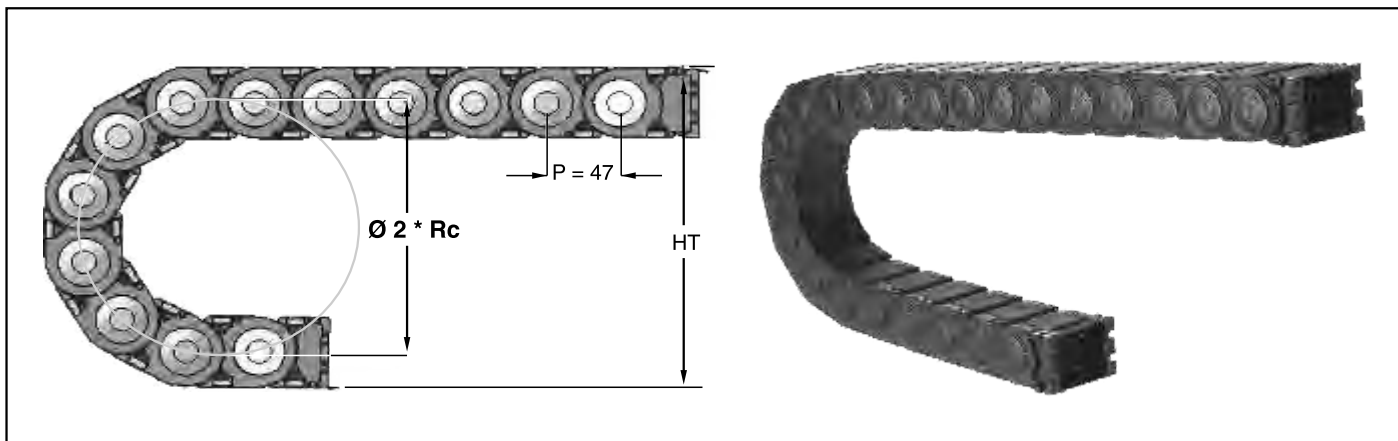


| Type   | Vertical Divider References | Horizontal Divider References | B-28 In mm | Thickness | Material  |
|--------|-----------------------------|-------------------------------|------------|-----------|-----------|
| 6830/A | D 010695                    | D 010605                      | 20         | 3         | PA6 15 FV |
| 6830/B | D 010695                    | D 010655                      | 20         | 3         | PA6 15 FV |
| 6830/C | D 010695                    | D 010675                      | 20         | 3         | PA6 15 FV |

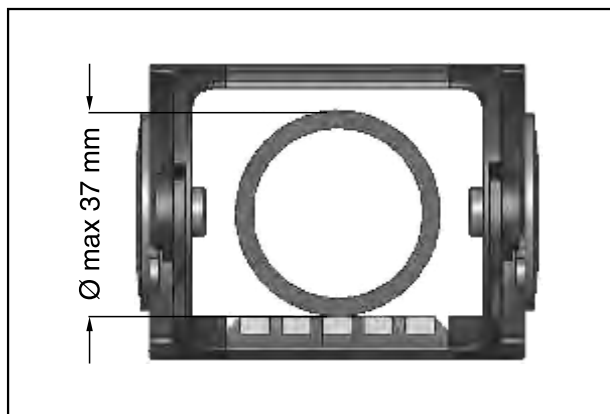
**Chain length calculation** from the stroke  $L_c$  (in mm) :  
 please note that to calculate the length, the fixed point has to be in the middle of the stroke

|  |               |               |               |               |                |
|--|---------------|---------------|---------------|---------------|----------------|
| <b>Rc (Chain radius)</b>               | 85            | 105           | 155           | 205           | 4055           |
| <b>Ht (Height of the mobile point)</b> | 275           | 285           | 385           | 485           | 671            |
| <b>Chain length</b>                    | $L_c/2 + 471$ | $L_c/2 + 534$ | $L_c/2 + 691$ | $L_c/2 + 848$ | $L_c/2 + 1545$ |



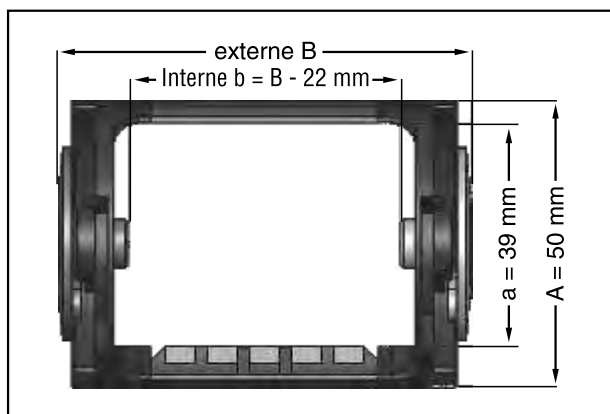


| Type     | A             | B   | Ia        | Ib  | References |            |            |            | Kg/m |
|----------|---------------|-----|-----------|-----|------------|------------|------------|------------|------|
| 4760/A   | 50            | 70  | 39        | 48  | D 011701   | D 011702   | D 011703   | D 011704   | 1.22 |
| 4760/B   | 50            | 120 | 39        | 98  | D 011751   | D 011752   | D 011753   | D 011754   | 1.63 |
| 4760/C   | 50            | 170 | 39        | 148 | D 011771   | D 011772   | D 011773   | D 011774   | 2    |
| Rd in mm | Pitch = 47 mm |     | <b>95</b> |     | <b>125</b> | <b>145</b> | <b>190</b> | <b>190</b> |      |
| Ht in mm | + or - 10%    |     | 245       |     | 285        | 325        | 385        |            |      |



The chain 4760 is a closed chain. It is suitable for all types of **applications in machine tools**. Since the chain is robust and the inside height is large, it is possible to carry a cable or a hose up to a diameter of 37 mm.

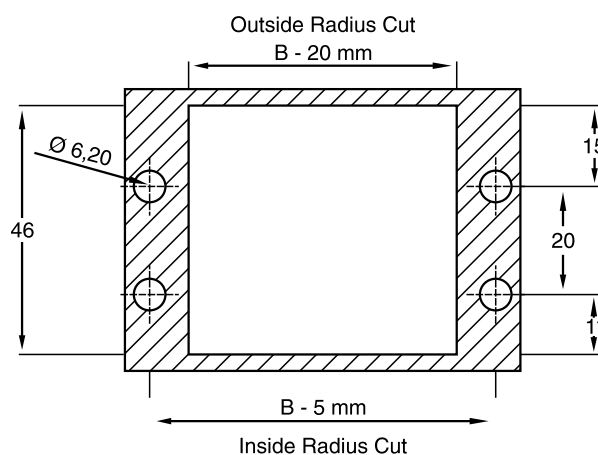
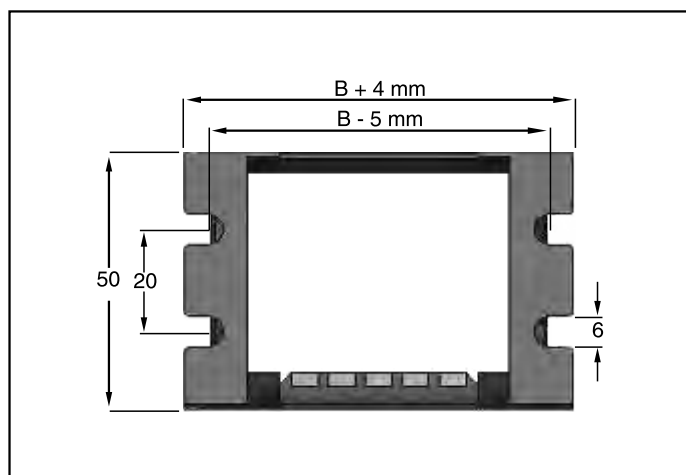
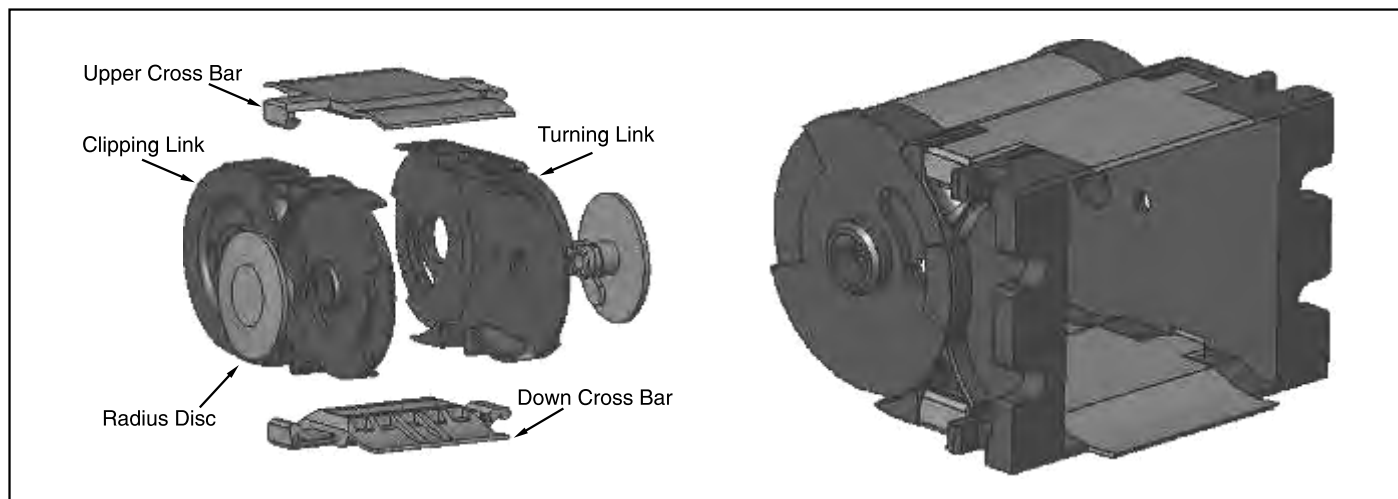
The radius discs are interchangeable and provide a long self supporting length.



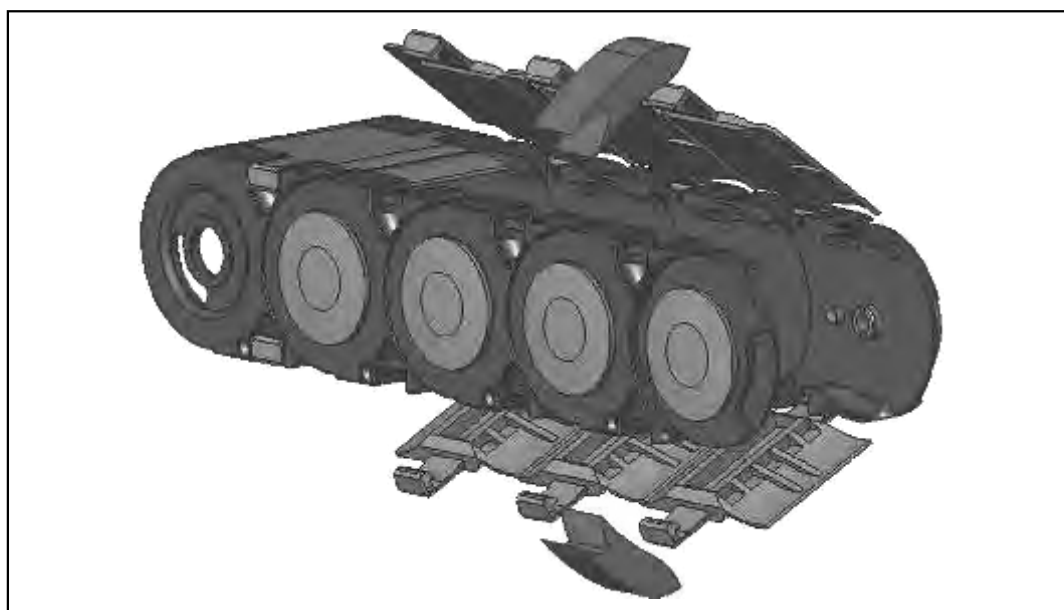
**The upper cross bars and the lower cross bars can be opened from the same side.**

Due to this feature the chain can be installed on the side of the machine also.

This feature also allows quick installation of cables / hoses.



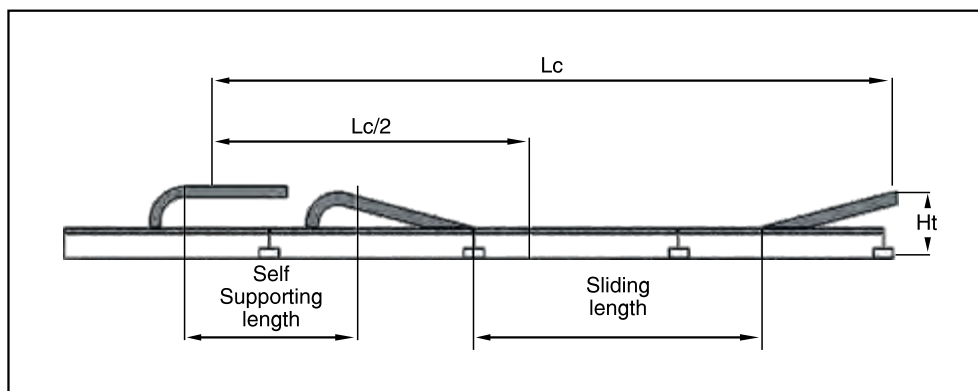
| Type   | End connector set References | B-5 In mm | B + 4 In mm | Screw type | Thickness | Material  |
|--------|------------------------------|-----------|-------------|------------|-----------|-----------|
| 4760/A | D 010790                     | 65        | 74          | M6         | 5         | PA6 30 FV |
| 4760/B | D 015790                     | 115       | 124         | M6         | 5         | PA6 30 FV |
| 4760/C | D 017790                     | 165       | 174         | M6         | 5         | PA6 30 FV |



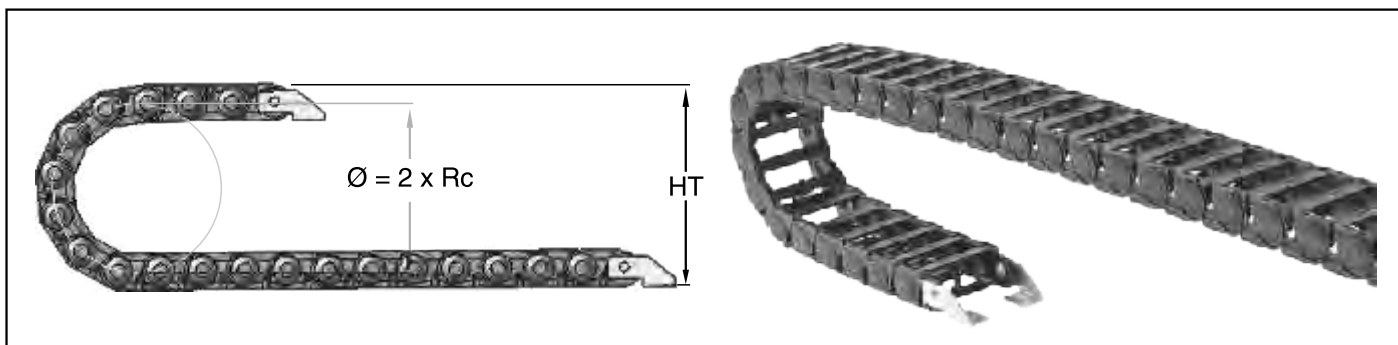
*you can open the cross bars both side of the radius*

**Chain length calculation** from the stroke  $L_c$  (in mm) :  
 please note that to calculate the length, the fixed point has to be in the middle of the stroke

|  |               |               |               |               |
|--|---------------|---------------|---------------|---------------|
| <b>Rc (Chain radius)</b>               | 95            | 125           | 145           | 190           |
| <b>Ht (Height of the mobile point)</b> | 243           | 273           | 293           | 338           |
| <b>Chain length</b>                    | $L_c/2 + 440$ | $L_c/2 + 534$ | $L_c/2 + 597$ | $L_c/2 + 848$ |





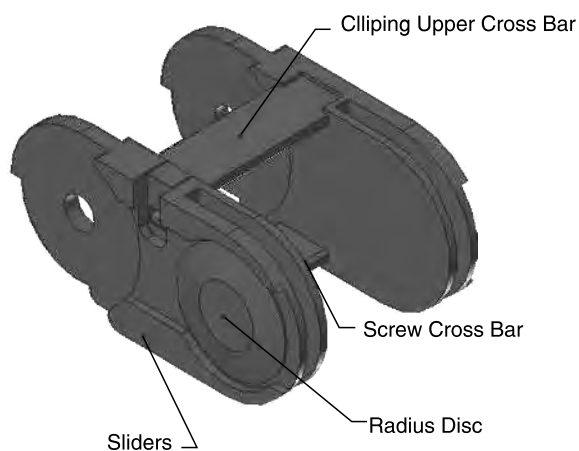
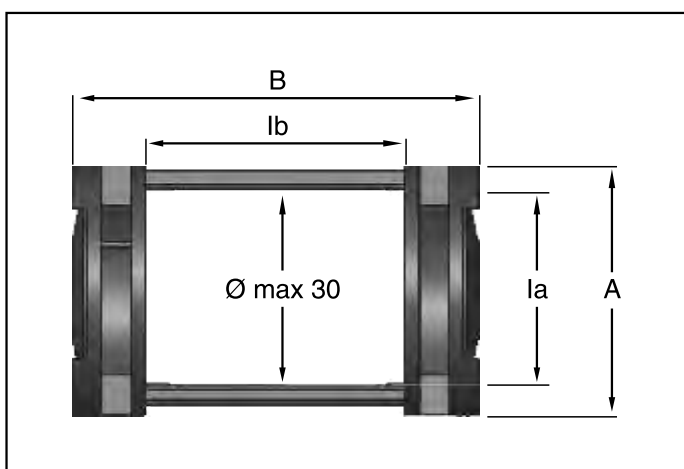


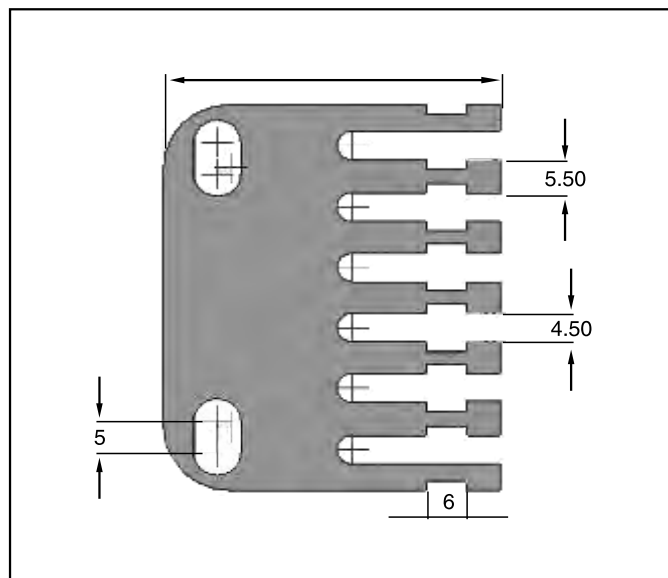
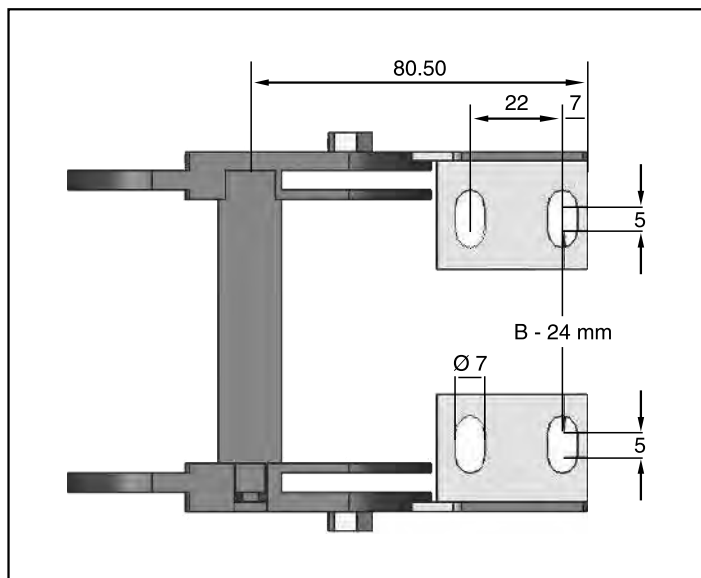
| Type     | A             | B   | Ia  | Ib  | References |          |          |          |          |          |
|----------|---------------|-----|-----|-----|------------|----------|----------|----------|----------|----------|
| 4710/A   | 40            | 56  | 31  | 32  | D 691411   | D 691412 | D 691413 | D 691414 | D 691415 | D 691416 |
| 4710/B   | 40            | 75  | 31  | 51  | D 691421   | D 691422 | D 691423 | D 691424 | D 691425 | D 691426 |
| 4710/C   | 40            | 95  | 31  | 71  | D 691431   | D 691432 | D 691433 | D 691434 | D 691435 | D 691436 |
| 4710/D   | 40            | 119 | 31  | 95  | D 691441   | D 691442 | D 691443 | D 691444 | D 691445 | D 691446 |
| Rd in mm | Pitch = 47 mm |     | 55  | 75  | 95         | 125      | 145      | 190      |          |          |
| Ht in mm | + or - 10%    |     | 203 | 210 | 250        | 310      | 350      | 440      |          |          |

The raw material used for the manufacture of the links « heavy series » is a **composite** plastic.

This series can be used for applications requiring **long travel length, high speed, acceleration (> 3 m/s) or heavy weights.**

These chains are used in **harsh environmental conditions** namely : refractories, saw mills, cement plants, chemical plants, extreme temperatures (-50° à 160°C), **tropical conditions**, submerged conditions, etc...





| Type | End connector set References | Screw size | Thickness | Material |
|------|------------------------------|------------|-----------|----------|
| 4710 | D 691451                     | 4*M6       | 3         | Steel    |
| 4710 | D 691452                     | 4*M6       | 3         | SS Steel |

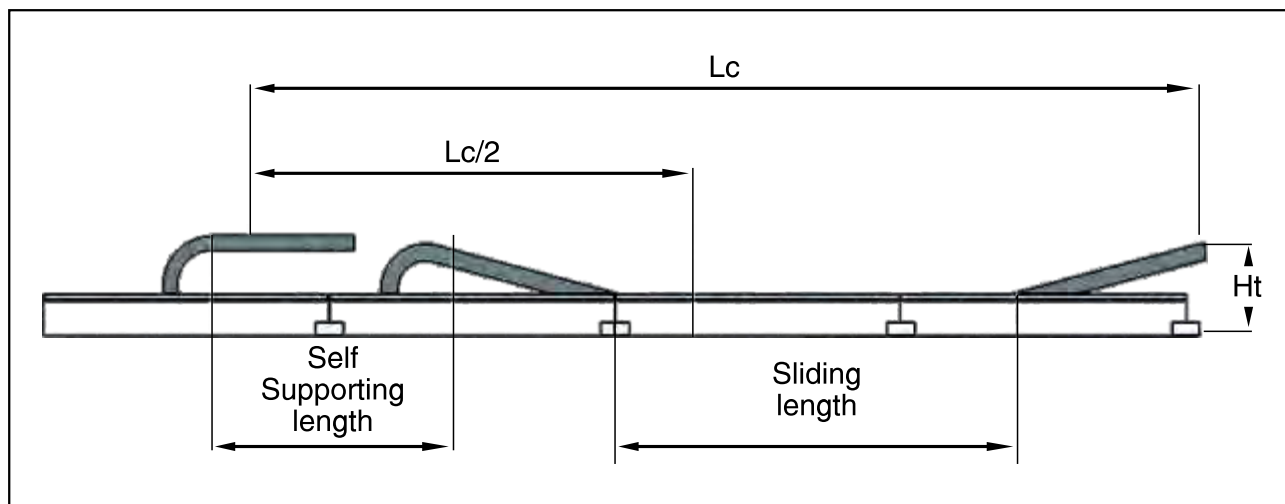
| Type   | Tie wrap References | Teeth Nbre | Thickness | Material |
|--------|---------------------|------------|-----------|----------|
| 4710/A | D 691401            | 5          | 1,5       | Steel    |
| 4710/B | D 691421            | 7          |           |          |
| 4710/C | D 691431            | 9          |           |          |
| 4710/D | D 691441            | 11         |           |          |

**the divider reference is D 691496 and the thickness is 3 mm**

The dividers can be ordered separately (eg : **100 div. D 691496** )  
or installed on the chain at every alternate link, then the ref. is : **D 691496 M**

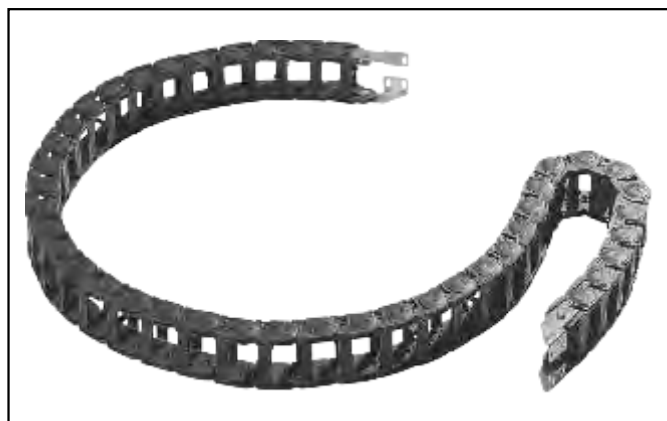
( eg : 3 div. D 691496 M for a chain having length Lg 1222 mm, i.e  $3 \times (1222/47)/2 = 39$  dividers assembled (i.e 3 nos.on every alternate cross bar).

The dividers slide easily along the length of the cross bar and can be clipped by hand and removed by screw driver.

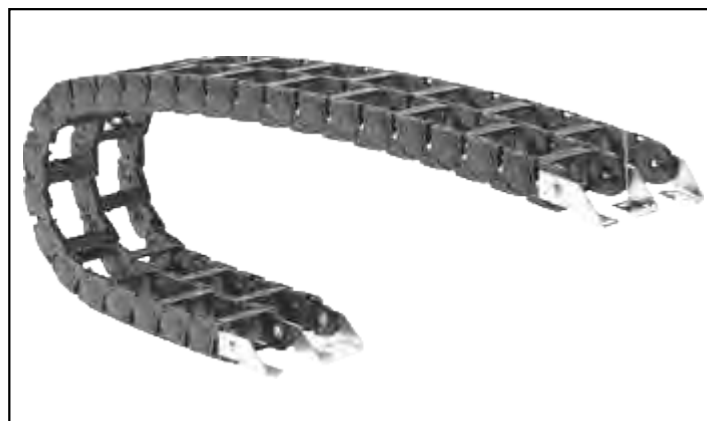


**Chain length calculation** from the stroke  $L_c$  (in mm) :  
 please note that to calculate the length, the fixed point has to be in the middle of the stroke

|  |               |               |               |               |               |               |
|--|---------------|---------------|---------------|---------------|---------------|---------------|
| <b>Rc (Chain radius)</b>               | 55            | 75            | 95            | 125           | 145           | 190           |
| <b>Ht (Height of the mobile point)</b> | 203           | 223           | 243           | 273           | 293           | 338           |
| <b>Chain length</b>                    | $L_c/2 + 314$ | $L_c/2 + 377$ | $L_c/2 + 440$ | $L_c/2 + 534$ | $L_c/2 + 597$ | $L_c/2 + 738$ |



*sample of a turning application chain*



*for heavy cables weight use a 3 bands chain*



## 7710 PL

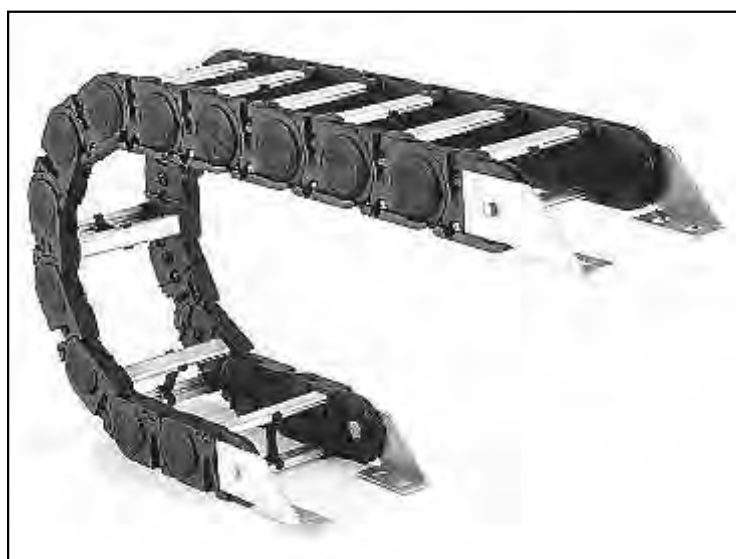
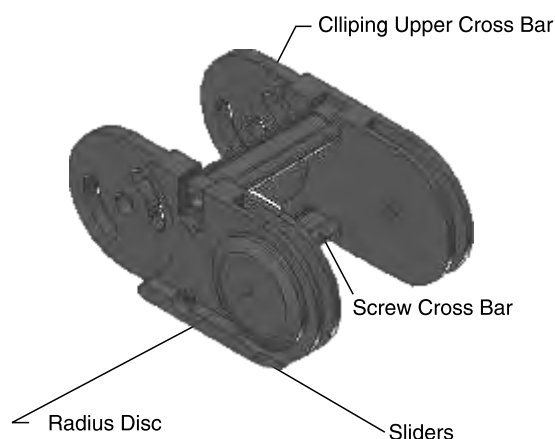
Links made of composite cross bars in PA 6

Standard Dimensions in stock

The raw material used for the manufacture of the links « **heavy series** » is a **composite plastic**.

This series can be used for applications requiring **long travel length, high speed, acceleration (> 3 m/s)** or **heavy weights**.

These chains are used in **harsh environmental conditions** namely : refractories, saw mills, cement plants, chemical plants, extreme temperatures (-50° à 160°C), **tropical conditions**, submerged conditions, etc...



## 7710 MP

Links made of composite cross bars in Aluminium

**all Dimensions available on request**

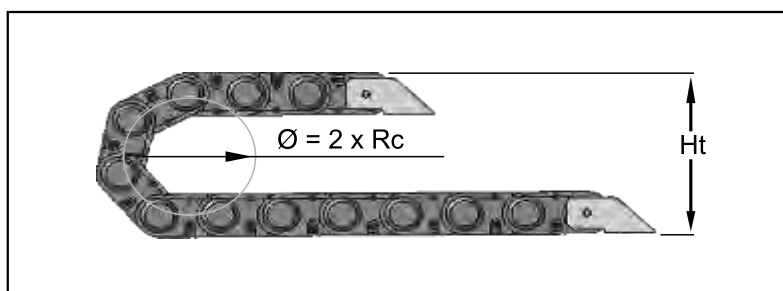
the type **7710 PL** are with standard length plastic cross bars. However if you need non standard width select the type **7710 MP** with aluminium cross bars.

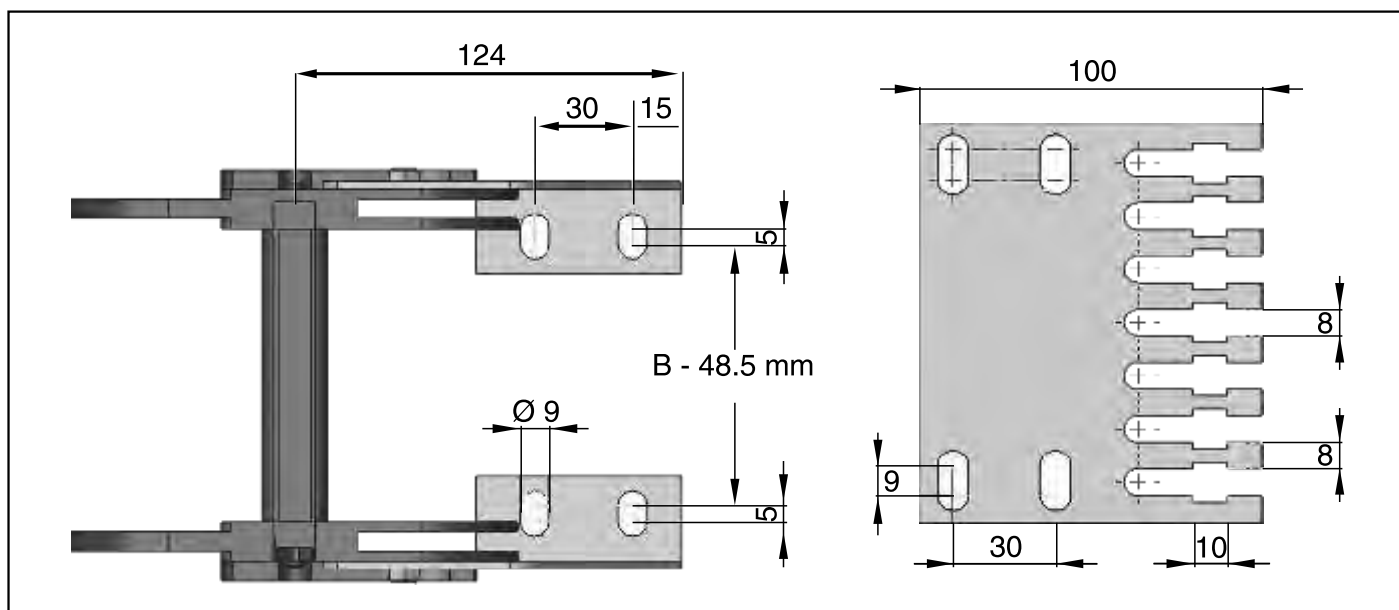


| Type     | A             | B   | Ia  | Ib   | References |            |            |            |            |            |
|----------|---------------|-----|-----|------|------------|------------|------------|------------|------------|------------|
| 7710/A   | 60            | 95  | 37  | 53   | D 691701   | D 691702   | D 691703   | D 691704   | D 691705   | D 691706   |
| 7710/B   | 60            | 126 | 37  | 84   | D 691721   | D 691722   | D 691723   | D 691724   | D 691725   | D 691726   |
| 7710/C   | 60            | 150 | 37  | 108  | D 691731   | D 691732   | D 691733   | D 691734   | D 691735   | D 691736   |
| 7710/D   | 60            | 174 | 37  | 132  | D 691741   | D 691742   | D 691743   | D 691744   | D 691745   | D 691746   |
| 7710/E   | 60            | 192 | 37  | 150  | D 691761   | D 691762   | D 691763   | D 691764   | D 691765   | D 691766   |
| 7710/F   | 60            | 224 | 37  | 182  | D 691771   | D 691772   | D 691773   | D 691774   | D 691775   | D 691776   |
| 7710/G   | 60            | 274 | 37  | 232  | D 691781   | D 691782   | D 691783   | D 691784   | D 691785   | D 691786   |
| 7710/H   | 60            | 324 | 37  | 282  | D 691791   | D 691792   | D 691793   | D 691794   | D 691795   | D 691796   |
| 7710/MP  | 60            | B   | 37  | B-42 | D <<B>>711 | D <<B>>712 | D <<B>>713 | D <<B>>714 | D <<B>>715 | D <<B>>716 |
| Rd in mm | Pitch = 77 mm |     | 90  | 110  | 145        | 170        | 215        | 295        |            |            |
| Ht in mm | + or - 10%    |     | 260 | 300  | 371        | 420        | 510        | 670        |            |            |

### Order sample :

- for a **7710 PL** chain, width B = 150 mm, radius 110mm and lenght 50 links (50\*77=3850), the ref. will be : **D 691732 length 3850 mm**
- for a **7710 MP** chain, width B = 355 mm, radius 215 mm and length 25 links (25\*77=1925), the ref. will be : **D 355715 length 1925 mm**





| Type | End connector set References | Screw size | Thickness | Material |
|------|------------------------------|------------|-----------|----------|
| 7710 | D 691751                     | 4*M8       | 5         | Steel    |
| 7710 | D 691752                     | 4*M8       | 5         | SS Steel |

| Type    | Tie wrap set References | No. of Teeth | Thickness | Material |
|---------|-------------------------|--------------|-----------|----------|
| 7710/A  | D 691701                | 5            | 3         | Steel    |
| 7710/B  | D 691721                | 7            |           |          |
| 7710/C  | D 691731                | 8            |           |          |
| 7710/D  | D 691741                | 9            |           |          |
| 7710/E  | D 691761                | 11           |           |          |
| 7710/F  | D 691771                | 13           |           |          |
| 7710/G  | D 691781                | 16           |           |          |
| 7710/H  | D 691791                | 19           |           |          |
| 7710/MP | Ask us                  |              |           |          |

note : PLEASE ASK US FOR SPECIAL SIZES OR STAINLESS STEEL TIEWRAP

It is possible to combine vertical dividers with different length of horizontal dividers :

The dividers can be ordered separately (eg : **100 div. D 691795** and **25 div. D 691707**)  
 or installed on the chain at every alternate link, then the ref. is : **D 691795 M**

( eg : 3 div. D 691795 M for a chain having length Lg 3080 mm, i.e  $3 \times (3080/77)/2 = 60$  dividers assembled  
 (i.e 3 nos.on every alternative cross bar).

The dividers slide easily along the length of the cross bar, can be clipped by hand and removed by screw driver.

**In case two levels are to be provided in the chain :**

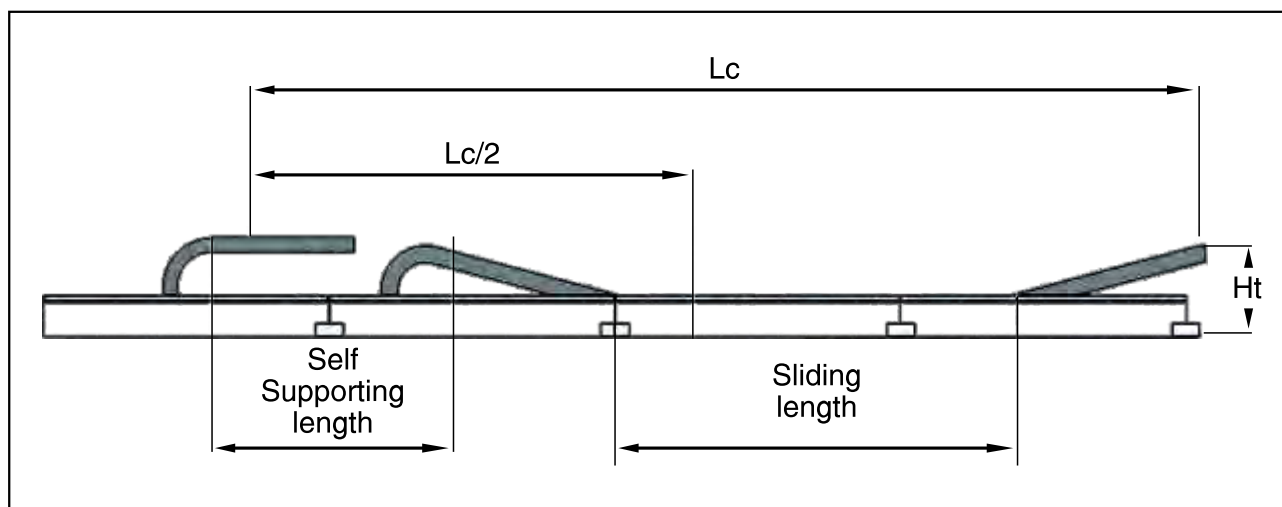
the vertical divider has a feature by which we can easily clip the horizontal divider on to it.

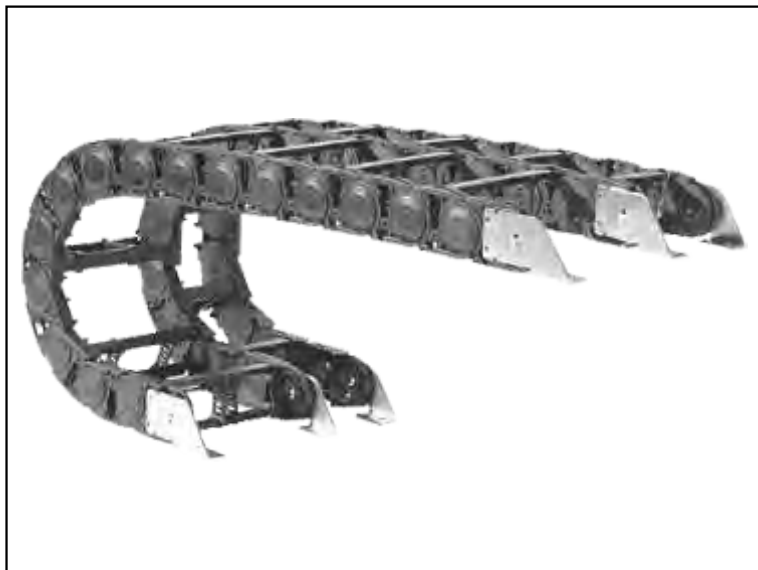
| Type    | Vertical divider References | Horizontal divider References | Length horizontal divider | Height in mm | Thickness | Material |
|---------|-----------------------------|-------------------------------|---------------------------|--------------|-----------|----------|
| 7710/A  | D 691795                    | D 691707                      | 53                        | 16           | 3 and 5   | PA615 FV |
| 7710/B  | D 691795                    | D 691727                      | 84                        | 16           | 3 and 5   | PA615 FV |
| 7710/C  | D 691795                    | D 691737                      | 108                       | 16           | 3 and 5   | PA615 FV |
| 7710/D  | D 691795                    | D 691747                      | 132                       | 16           | 3 and 5   | PA615 FV |
| 7710/E  | D 691795                    | D 691767                      | 150                       | 16           | 3 and 5   | PA615 FV |
| 7710/F  | D 691795                    | D 691777                      | 182                       | 16           | 3 and 5   | PA615 FV |
| 7710/MP | D 691795                    | Ask us                        | -                         | 16           | 3 and 5   | PA615 FV |

**Chain length calculation** from the stroke  $L_c$  (in mm) :

please note that to calculate the length, the fixed point has to be in the middle of the stroke

|  |               |               |               |               |               |                |
|--|---------------|---------------|---------------|---------------|---------------|----------------|
| <b>Rc (Chain radius)</b>               | 90            | 110           | 145           | 170           | 215           | 295            |
| <b>Ht (Height of the mobile point)</b> | 260           | 300           | 370           | 420           | 510           | 670            |
| <b>Chain length</b>                    | $L_c/2 + 514$ | $L_c/2 + 576$ | $L_c/2 + 671$ | $L_c/2 + 765$ | $L_c/2 + 906$ | $L_c/2 + 1138$ |

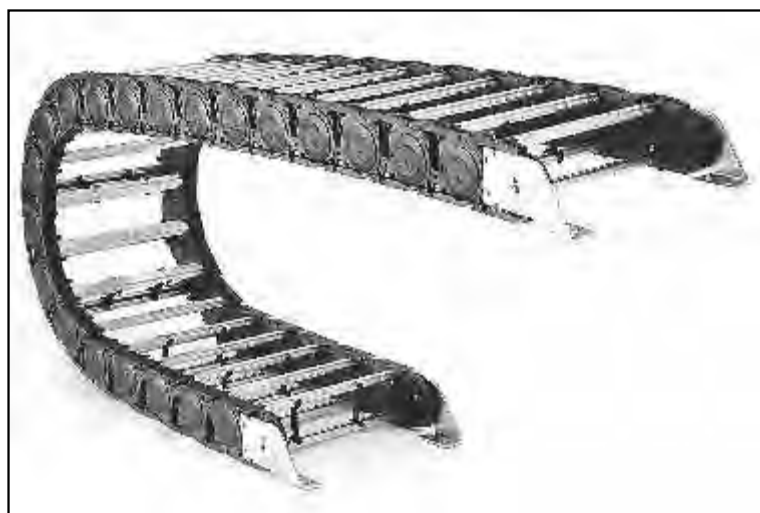




The raw material used for the manufacture of the links « **heavy series** » is a **composite** plastic.

This series can be used for applications requiring **long travel length, high speed, acceleration (> 3 m/s)** or **heavy weights**.

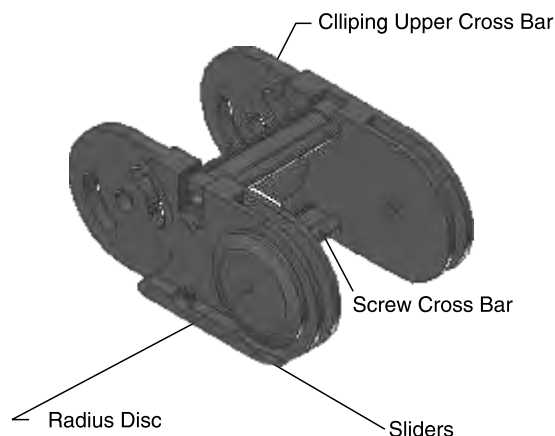
These chains are used in **harsh environmental conditions** namely : refractories, saw mills, cement plants, chemical plants, extreme temperatures (-50° à 160°C), **tropical conditions**, submerged conditions, etc...



## 9210 PL

Links made of composite cross bars in PA 6

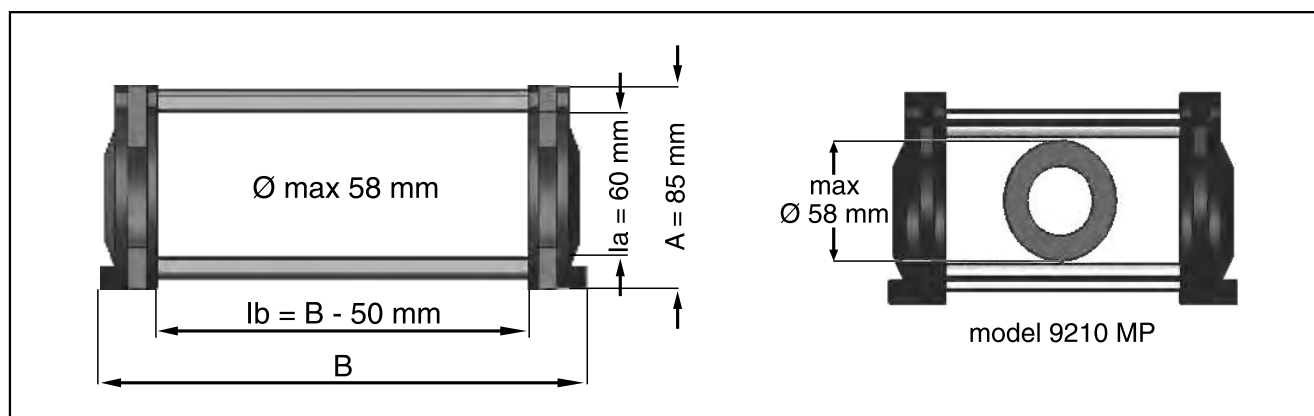
**Standard Dimensions in stock**



Links made of composite cross bars in Aluminium

**all Dimensions available on request**



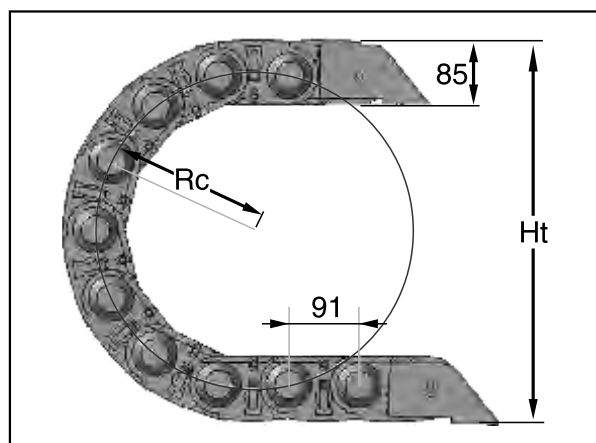


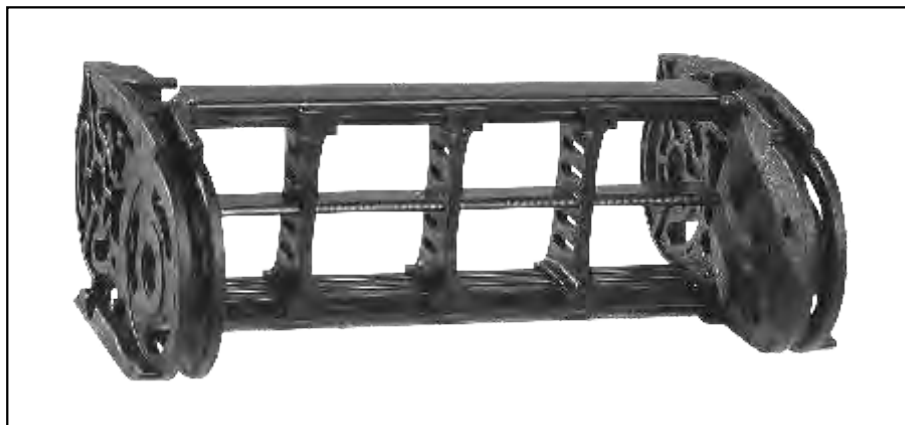
**NOTE : the inside heights for the types PL and MP are different :**

- inside height (a) for 9210 PL is 60 mm
- inside height (a) for 9210 MP is 50 mm

the type **9210 PL** are with standard length plastic cross bars. However if you need non standard width select the type **9210 MP** with aluminium cross bars.

| Type            | A                    | B     | Ia         | Ib         | References |            |            |            |            |            |
|-----------------|----------------------|-------|------------|------------|------------|------------|------------|------------|------------|------------|
| <b>9210/A</b>   | 85                   | 150   | 60         | 100        | D 691801   | D 691802   | D 691803   | D 691804   | D 691805   | D 691806   |
| <b>9210/B</b>   | 85                   | 200   | 60         | 150        | D 691821   | D 691822   | D 691823   | D 691824   | D 691825   | D 691826   |
| <b>9210/C</b>   | 85                   | 250   | 60         | 200        | D 691831   | D 691832   | D 691833   | D 691834   | D 691835   | D 691836   |
| <b>9210/D</b>   | 85                   | 300   | 60         | 250        | D 691841   | D 691842   | D 691843   | D 691844   | D 691845   | D 691846   |
| <b>9210/E</b>   | 85                   | 350   | 60         | 300        | D 691861   | D 691862   | D 691863   | D 691864   | D 691865   | D 691866   |
| <b>9210/F</b>   | 85                   | 435   | 60         | 385        | D 691871   | D 691872   | D 691873   | D 691874   | D 691875   | D 691876   |
| <b>9210/MP</b>  | 85                   | <<B>> | 50         | <<B>>-50   | D <<B>>911 | D <<B>>912 | D <<B>>913 | D <<B>>914 | D <<B>>915 | D <<B>>916 |
| <b>Rd in mm</b> | <b>Pitch = 91 mm</b> |       | <b>155</b> | <b>205</b> | <b>255</b> | <b>305</b> | <b>355</b> | <b>405</b> |            |            |
| <b>Ht in mm</b> | <b>+ or - 10%</b>    |       | <b>440</b> | <b>540</b> | <b>521</b> | <b>571</b> | <b>621</b> | <b>671</b> |            |            |

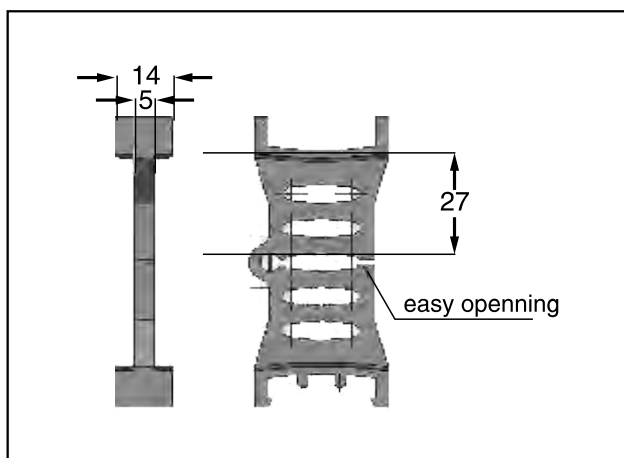




| Type    | Vertical divider References | Horizontal divider References | Length for horizontal divider | Height in mm | Thickness | Material |
|---------|-----------------------------|-------------------------------|-------------------------------|--------------|-----------|----------|
| 9210/A  | D 691895                    | D 691807                      | 100                           | 27           | 5         | PA615 FV |
| 9210/B  | D 691895                    | D 691827                      | 150                           | 27           | 5         | PA615 FV |
| 9210/C  | D 691895                    | D 691837                      | 200                           | 27           | 5         | PA615 FV |
| 9210/D  | D 691895                    | D 691747                      | 250                           | 27           | 5         | PA615 FV |
| 9210/E  | D 691895                    | D 691867                      | 300                           | 27           | 5         | PA615 FV |
| 9210/F  | D 691895                    | D 691877                      | 385                           | 27           | 5         | PA615 FV |
| 9210/MP | D 691895                    | Ask us                        | B                             | 27           | 5         | PA615 FV |

It is possible to combine vertical dividers with different length of horizontal dividers .

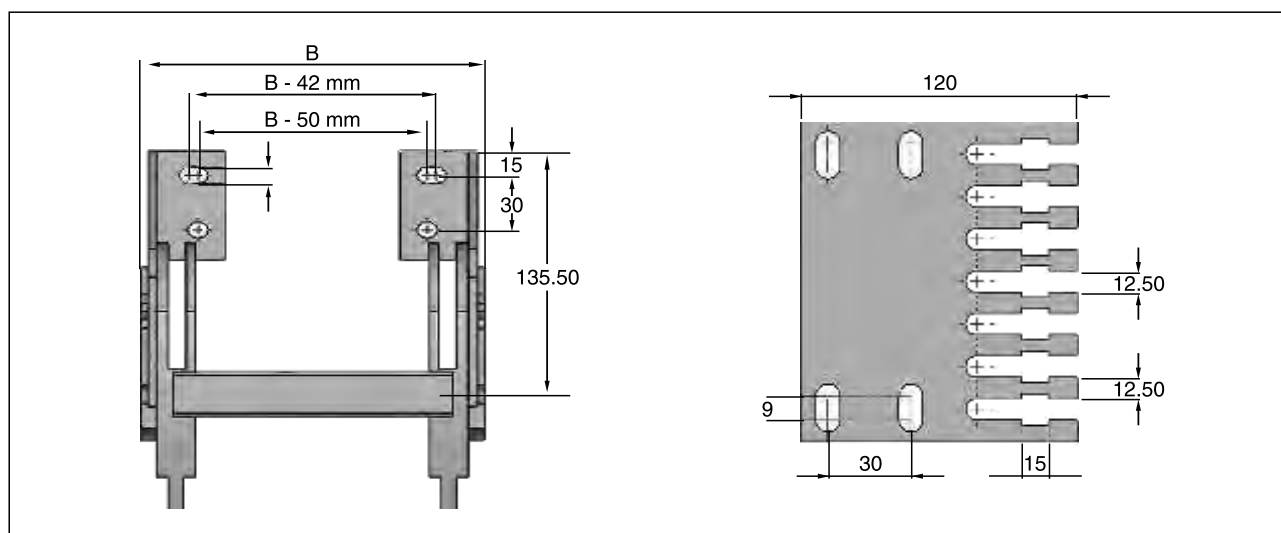
The dividers can be ordered separately (eg : **100 div. D 691895** and **25 div. D 691837**) or installed on the chain at every alternate link, then the ref. is : **D 691895 M** ( eg : 3 div. D 691895 M for a chain having length Lg 4004 mm, i.e  $3 \times (4004/91)/2 = 66$  dividers assembled (i.e 3 nos.on every alternative cross bar).



The dividers slide easily along the length of the cross bar, can be clipped by hand and removed by screw driver.

**In case two levels are to be provided in the chain :**

the vertical divider has a feature by which we can easily clip the horizontal divider on to it.



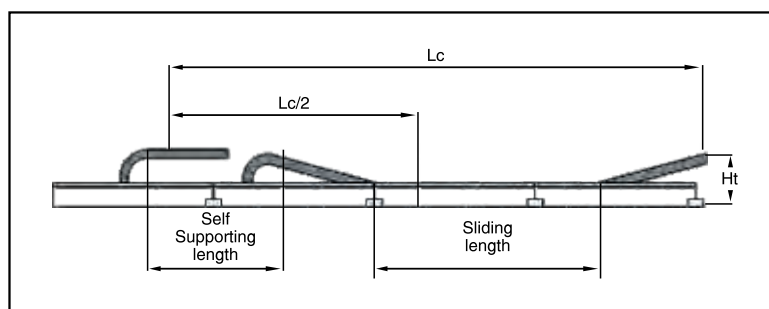
| Type | End connector set<br>References | Screw size | Thickness | Material |
|------|---------------------------------|------------|-----------|----------|
| 9210 | D 691951                        | 4*M8       | 5         | Steel    |
| 9210 | D 691952                        | 4*M8       | 5         | SS Steel |

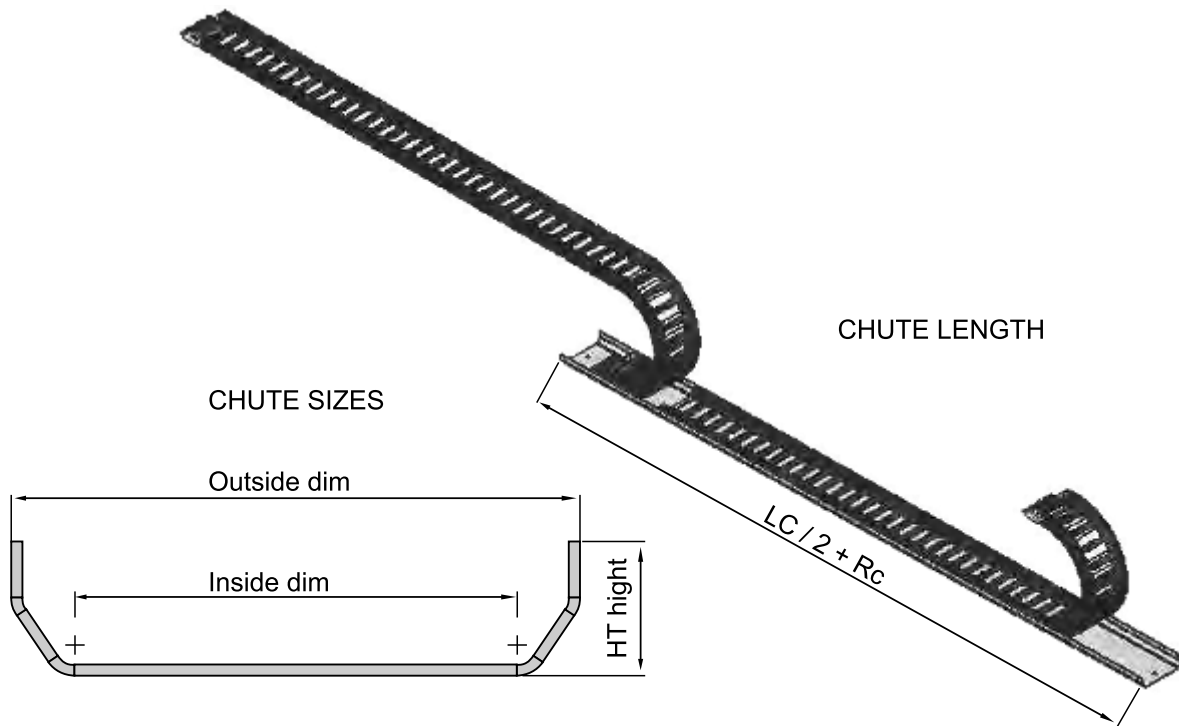
| Type    | Tie wrap set<br>References | No. of Teeth | Thickness | Material |
|---------|----------------------------|--------------|-----------|----------|
| 9210/A  | D 691801                   | 6            | 3         | Steel    |
| 9210/B  | D 691821                   | 8            |           |          |
| 9210/C  | D 691831                   | 10           |           |          |
| 9210/D  | D 691841                   | 12           |           |          |
| 9210/E  | D 691861                   | 14           |           |          |
| 9210/F  | D 691871                   | 16           |           |          |
| 9210/MP |                            |              |           |          |

**Chain length calculation** from the stroke  $L_c$  (in mm) :

please note that to calculate the length, the fixed point has to be in the middle of the stroke

|  |               |               |                |                |                |                |
|--|---------------|---------------|----------------|----------------|----------------|----------------|
| <b>Rc (Chain radius)</b>               | 155           | 205           | 255            | 305            | 355            | 405            |
| <b>Ht (Height of the mobile point)</b> | 440           | 540           | 521            | 571            | 621            | 671            |
| <b>Chain length</b>                    | $L_c/2 + 760$ | $L_c/2 + 917$ | $L_c/2 + 1024$ | $L_c/2 + 1231$ | $L_c/2 + 1388$ | $L_c/2 + 1545$ |



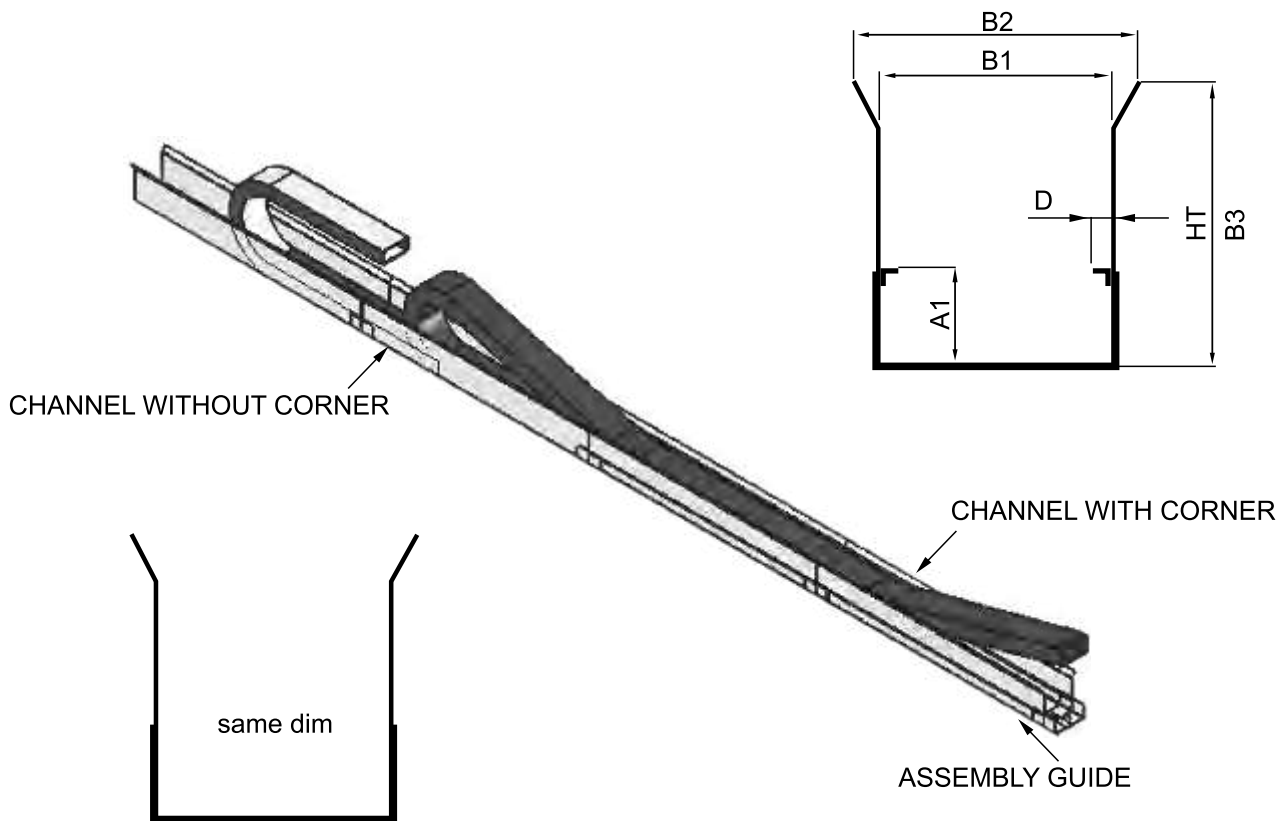


| Type | dim inside in mm | dim outside in mm | H.T. in mm | Thickness in mm | Raw material<br>Ss steel on demand | Sock length in mm |
|------|------------------|-------------------|------------|-----------------|------------------------------------|-------------------|
| 3010 | B + 5            | B + 20            | 20         | 2,5             | Galvanized steel                   | 2000              |
| 4230 | B + 5            | B + 20            | 30         | 2,5             |                                    | 2000              |
| 4710 | B + 5            | B + 20            | 30         | 2,5             |                                    | 2000              |
| 4760 | B + 5            | B + 20            | 30         | 2,5             |                                    | 2000              |
| 6830 | B + 8            | B + 25            | 50         | 2,5             | Galvanized steel                   | 2000              |
| 7710 | B + 8            | B + 25            | 50         | 2,5             |                                    | 2000              |
| 9210 | B + 10           | B + 30            | 30         | 2,5             |                                    | 2000              |

with B = chain outside width.

Item: G + type name eg G 6830 C





| Type | inside in mm | B2 outside in mm | B3 Max. in mm | Thickness in mm | Raw material Ss steel on demand | D inside in mm | A2 inside in mm |
|------|--------------|------------------|---------------|-----------------|---------------------------------|----------------|-----------------|
| 3010 | B + 5        | B + 20           | 50            | 2,5             | Galvanized steel                | 6              | 30              |
| 4230 | B + 5        | B + 20           | 120           | 2,5             |                                 | 10             | 40              |
| 4710 | B + 5        | B + 20           | 120           | 2,5             |                                 | 10             | 40              |
| 4760 | B + 5        | B + 20           | 120           | 2,5             |                                 | 10             | 40              |
| 6830 | B + 8        | B + 25           | 160           | 3               | Galvanized steel                | 20             | 64              |
| 7710 | B + 8        | B + 25           | 160           | 3               |                                 | 20             | 58              |
| 9210 | B + 10       | B + 30           | 200           | 3               |                                 | 30             | 83              |

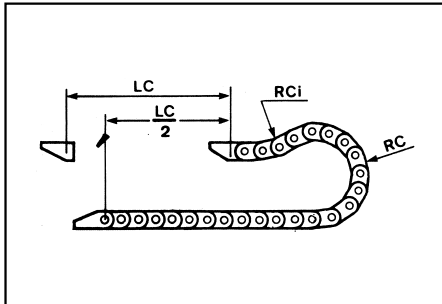
with B = width dim.

Item : C and CC + type name eg C 6810 D and CC 6830 D

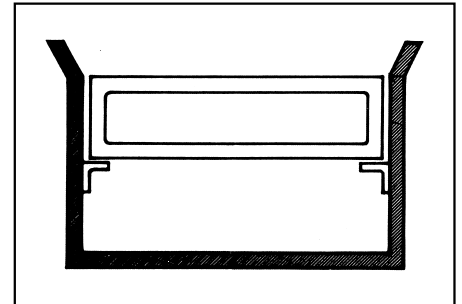
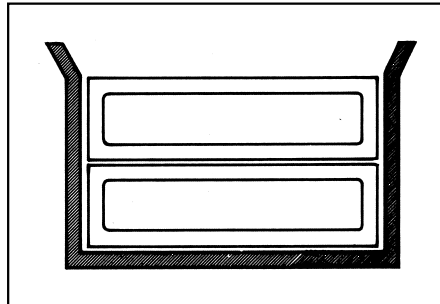


## OPERATION

- As a rule, cable carriers made of thermoplastics are designed to run either on plane surfaces of the machine frame or in suitable guide channels. Guide channels are a must for all lengths over the maximum allowed value. The guide channels also provide lateral guiding with a limited amount of clearance, as absolutely necessary for the satisfactory behaviour of the carrier. Upstream of a fixed point, said channels must be complemented with either an inclined place or a roller so that the chain can ascend naturally upon itself without touching the fixing end pieces in the reciprocating movement.
- For travel lengths exceeding the self-supporting length yet under 15 m, or when the travel speed is higher than 0.5 m.p.sec., an inner angle steel must be fitted on either side of the channel as illustrated below.
- For travel speeds over 1 m.p.sec., considering the travel length of 15 m., the arrangement of fig 1 and 3 must be adhered to.

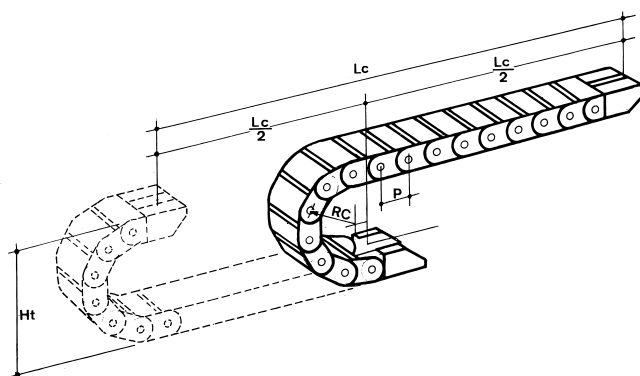
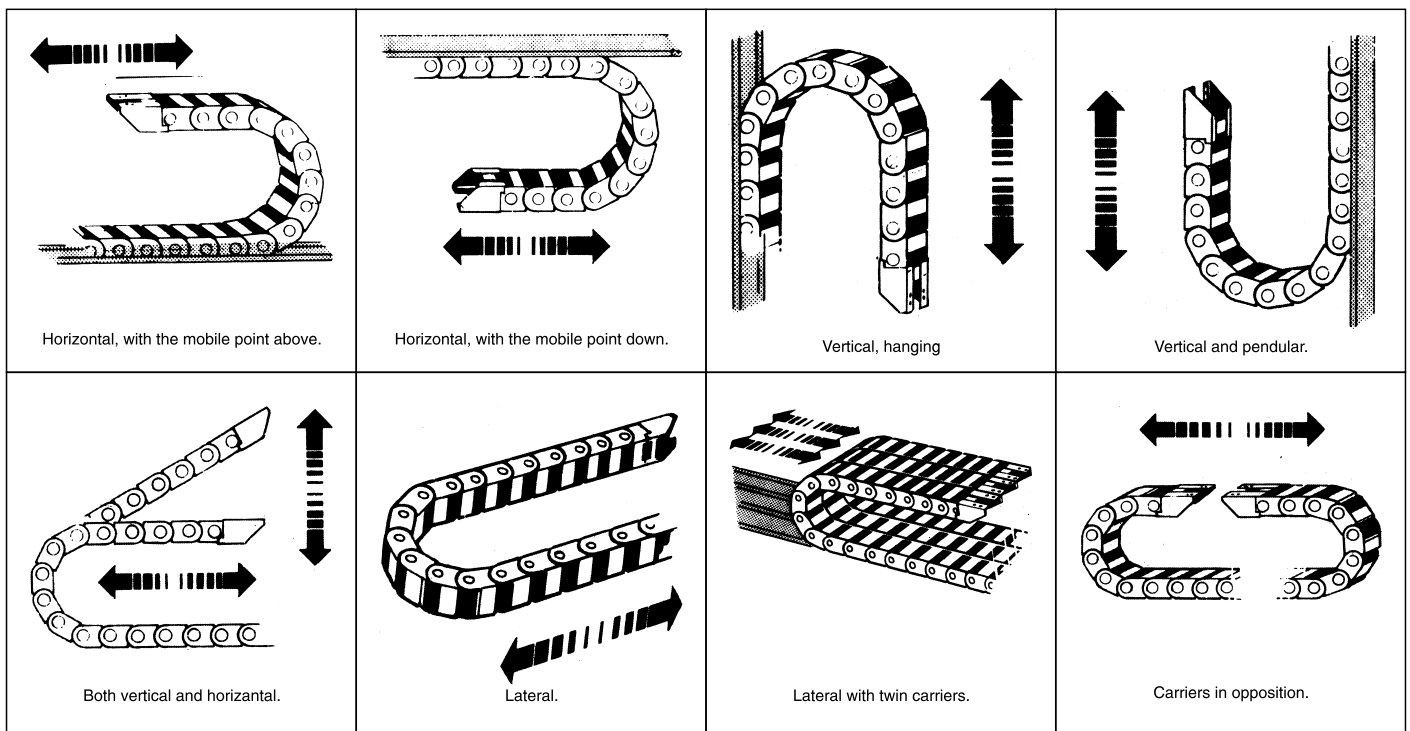


This configuration is compulsory when the length exceeds 15 m or the speed exceeds 1 m.p.sec.



This configuration is compulsory when the length exceeds the self-supporting length yet being less than 15 m.

## The motions according to the assembling process



Calculation of carrier length L for a travel length  $L_c$ , a bending radius  $RC$  and a fixed point in the middle of  $L_c$  :  $L = \frac{L_c}{2} + \pi RC + 3 \text{ links.}$

Client \_\_\_\_\_

Address : \_\_\_\_\_

Telephone No. \_\_\_\_\_ Fax No. \_\_\_\_\_ E-mail Id \_\_\_\_\_

## Questionnaire for cable carriers in plastic and metal plastics

### Installation Specifications

|  |                          |
|--|--------------------------|
| 1. Application Type  |                          |
| - Stroke   | mm                       |
| - Acceleration   | m/s <sup>2</sup>         |
| - Deceleration   | m/s <sup>2</sup>         |
| - Speed  | m/min                    |
| - Number of Movements  | Per Hour                 |
| - Drawing of Installation [Additional information]               |                          |
| 2. Conductors  |                          |
| - Conductors   |                          |
| - Cables <input type="checkbox"/> Hoses <input type="checkbox"/> |                          |
| - Outside dimensions for cable and Hoses                         |                          |
| - Maximum Pressure   | Bars                     |
| - Global weight inside   | Kg/m                     |
| - Working radius for the maximum diameter                        |                          |
| - For hoses  | mm                       |
| - For electrical cable   | mm                       |
| 3. Types of cross bars   |                          |
| - Plastic  | <input type="checkbox"/> |
| - Aluminium [7710 or 9210]                                       | <input type="checkbox"/> |
| - Aluminium with lips [9210 only]                                | <input type="checkbox"/> |
| - No of separators for every other link                          | Nos.                     |
| 4. Environment   |                          |
| - Temperature variation  | C to C                   |
| - Humidity   | %                        |
| - Radiation  |                          |
| - Special chemical environment                                   |                          |
| - Other conditions   |                          |

#### Instructions for the laying of cables inside the cable carrier :

- The cables must be separated from each other by separators.
- Keep a minimum of 10% as free passage inside.
- Assemble preferably cables having diameter < 10 mm in a group.
- Ensure distribution of weight of cable inside.

## Other products available

- Control & signaling devices Ø 22.5mm & Ø 30.5mm
- Pilot lights & illuminated push buttons with LED
- Control stations (cast aluminium & plastic enclosures)
- Inductive proximity switches
- Single / Multiple limit switches
- Switches for appliances
- Rocker switches
- Micro switches
- Circuit breaker for equipment
- Terminal strips
- Fuse base
- Relay base
- Isolators / Safety switches
- Switch fuse units / Switch disconnectors
- Tower lights

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