KYEC Cable Chain

REINFORCED PLASTIC/METAL PROTECTED&GUIDE CHAINS

DESIGN FOF USE ON:
AUTOMATIC WAREHOUSE SYSTEM / PARKING EQUIPMENT / INDUSTRIAL ROBOTS / AND OTHER MOVI NG EQUIPMENT OR TUBES

Introduction:

Being specialized in hoist repair and related engineering innovation, we provide our customers with excellent service backed up by persistent devotion, responsibility advanced technology. In order to overcome the difficulties that we have been.

Confronted with part importing , we dedicate ourselves to the production and innovation of parts and components.

We also obtained numerous patents approved either by R.O.C.(Taiwan) and many countries.

We supply our customers with readily available engineering materials and technical assistance to shorten customers' time.

KYEC General Manager
Tommy Tan

DATA

① 600V EP rubber insulation tubes

CORES / mm²	2		3		4		5		6	
	mm	kg/m	mm	kg/m	mm	kg/m	mm	kg/m	mm	kg/m
1.25	9.8	0.14	10.5	0.175	11.5	0.195	13.5	0.26	16.0	0.36
2.0	11.0	0.175	11.5	0.2	12.5	0.245	14.5	0.33	17.0	0.445
3.5	12.5	0.245	13.0	0.29	14.5	0.355	17.0	0.485	20.0	0.66
5.5	14.5	0.35	15.5	0.415	17.0	0.515	21.0	0.72	24.0	1.0
8.0	16.0	0.435	17.0	0.525	18.5	0.655	23.0	0.93	27.0	1.27
14.0	18.5	0.64	20.0	0.795	22.0	1.00	27.0	1.42	32.0	1.96
22.0	25.0	1.07	27.0	1.33	29.0	1.67				
(30.0)	27.0	1.34	29.0	1.67	32.0	2.10				
38.0	30.0	1.63	32.0	2.02	35.0	2.55				
(50.0)	34.0	2.1	36.0	2.62	40.0	3.32				
60.0	37.0	2.52	39.0	3.15	44.0	4.02				
(80.0)	43.0	3.47	46.0	4.32	51.0	5.50				
100.0	47.0	4.2	50.0	5.27	56.0	6.72				

② 600v PVC flat tubes

MODEL	mm²	Cores	Width	Thickness
KY-BF2.0C3	2	3C	13	5.4
KY-BF3.5C3	3.5	3C	16.2	6.8
KY-BF5.5C3	5.5	3C	19.2	8.2
KY-BF8.0C3	8	3C	22.6	9.6
KY-BF14C3	14	3C	28	11
KY-BF22C3	22	3C	34	17
KY-BF1.25C8	1.25	8C	30	6.2
KY-BF1.25C13	1.25	13C	43.5	6
KY-BF0.75C24	0.75	24C	39	8
KY-BF0.75C36	0.75	36C	47	9
KY-BF0.75C60G	0.75	60C	70	9

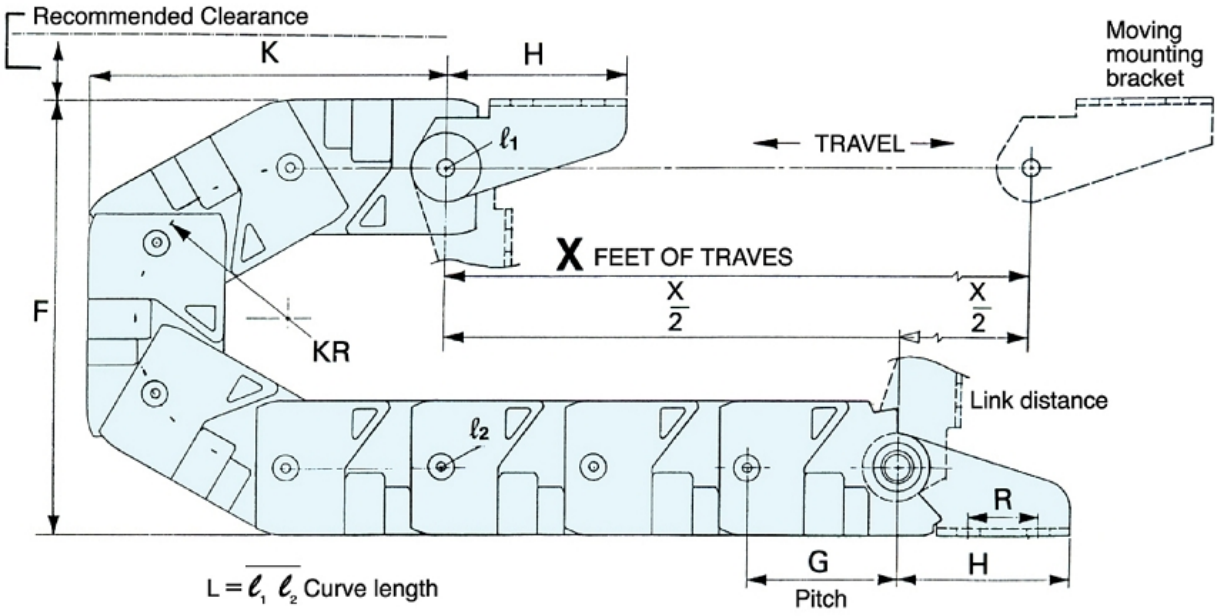
③ PU air tubes

O.D. (mm)	I.D. (mm)	Break-Pressure (kg/cmn²)	N.W. (g/m)
16	12	26	110
16	13	24	86
11	8.0	24	65
4	2.5	24	9
6	4.0	24	19
8	5.0	24	36
10	6.5	24	54
12	8.0	24	74
8	6	18	24
8	5.0	24	36
9.53	6.5	24	53
12.6	9.6	20	65
6.35	4.0	24	21

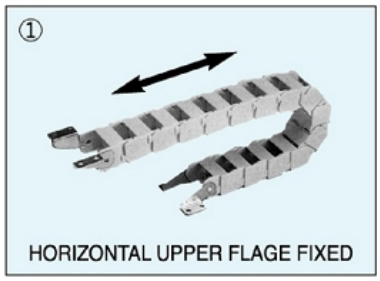
④ Nylon tubes

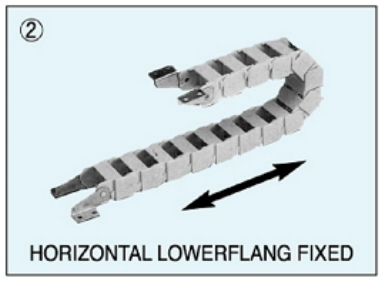
O.D. (mm)	I.D. (mm)	Break-Pressure (kg/cmn²)	N.W. (g/m)
4	2.5	70	9
6	4.0	55	17
8	6.0	50	23
10	7.5	50	36
12	9.0	50	52
6.35	4.57	45	17
8	6.0	50	23
9.53	6.99	45	35
12.7	9.56	50	58

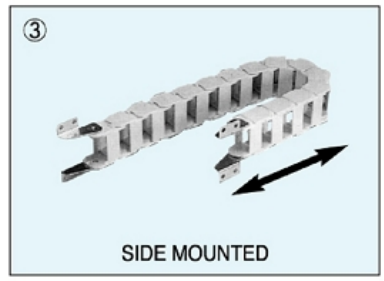
Design

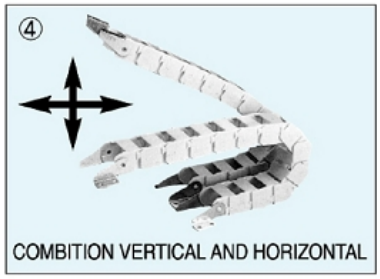


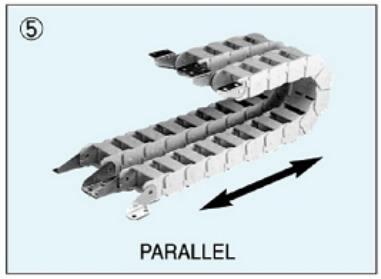
TYPES OF APPLICATIONS

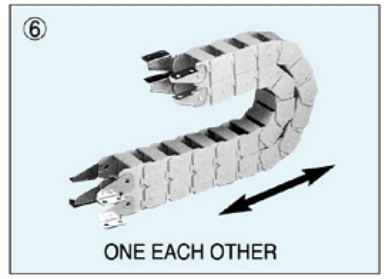


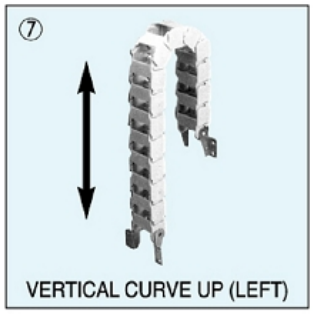


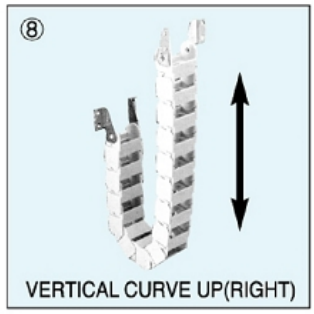


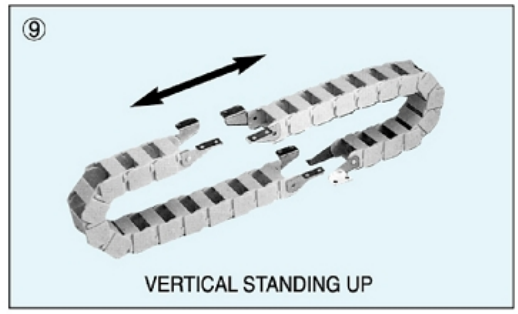








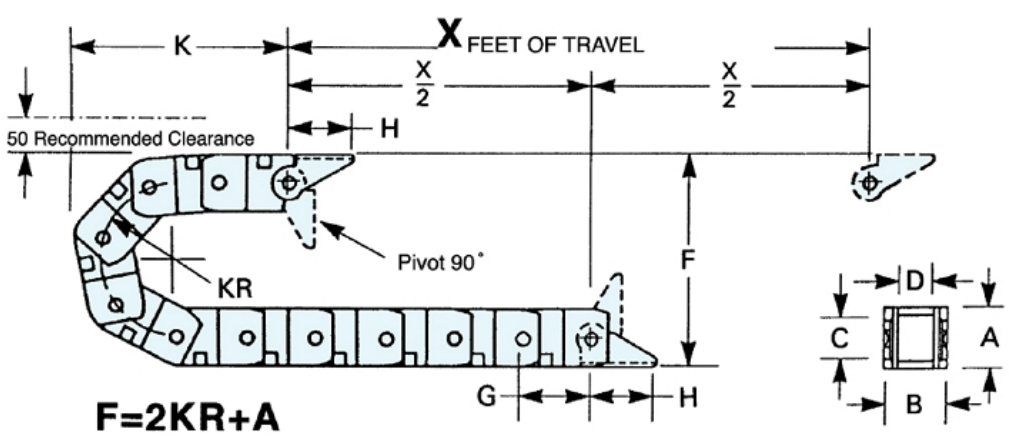




1-1 Cable Chain Closed Type

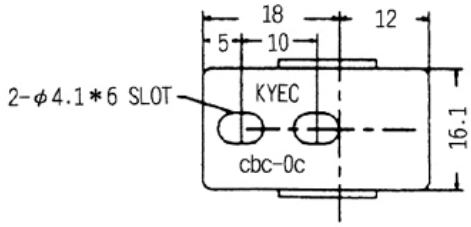
CECBC — 00 — 13 × 13 — 2KR+A

- CECBC: Cable chain closed
- 00: MODEL
- 13 × 13: INNER SIZE C × D
- 2KR+A: F

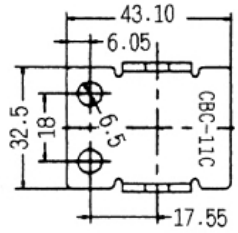


Model	C Inner Height	D Inner Widths	A Outer Height	B Outer Widths	G Distance	KR Winding radius	Link per meter
CBC00	13	13	16	20	18	R20	56
CBC11	17	25	23	36	30	R50	33
CBC22	25	40	35	55	46	R100	22
CBC33	25	57	35	72	46	R120	22

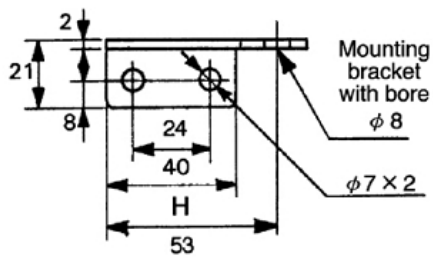
Mounting bracket size

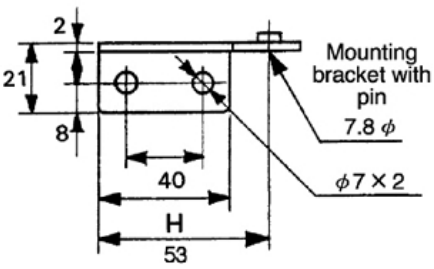


CBC-00C



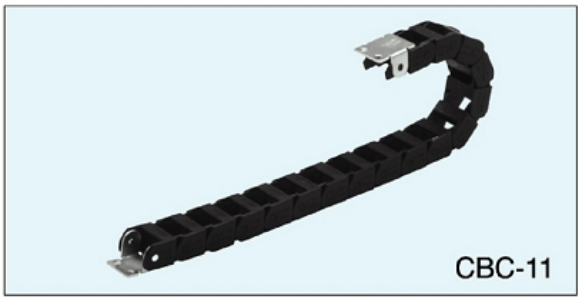
CBC-11C



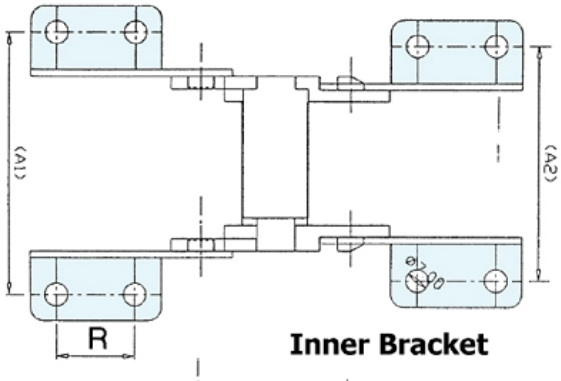


CBC22 and CBC33

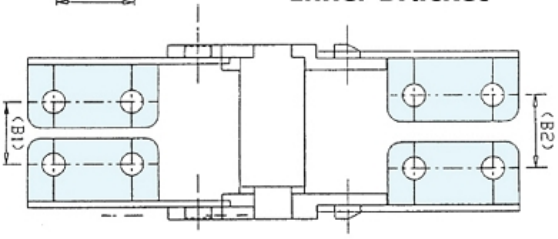
1-2 Brackets for Closed Type



Outer Bracket



Inner Bracket



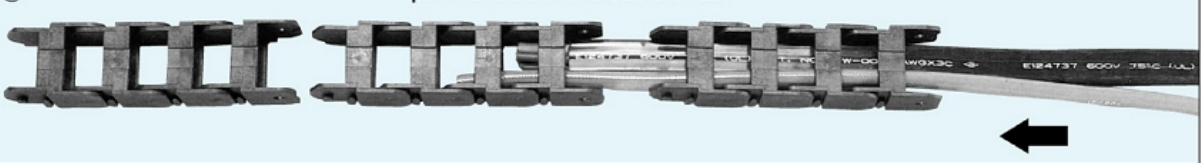
Bracket distance

MODEL	Mounting Bracket	A1	A2	B1	B2	W
CBC-22	CBC-22C	80	73	22	25	24
CBC-33	CBC-33C	98	91	43	39	24
CBO-5 80W	CBO-5C		138	59	67	40
CBO-5 150W			203	124	132	40
CBO-5 200W			257	178	186	40
CBO-5 250W			308	229	237	40
CBO-5 300W			362	283	291	40
CBO-5 350W			411	332	340	40
CBO-55 60W	CBO-55C	126	116	52	46	40
CBO-55 100W		161	151	87	81	40
CBO-55 125W		185	175	111	105	40
CBO-55 150W		211	201	137	131	40
CBO-55 250W		319	309	245	239	40
CBO-6 80W	CBO-6C		150	63	77	40
CBO-6 150W			215	128	142	40
CBO-6 200W			269	182	196	40
CBO-6 250W			319	232	246	40
CBO-6 300W			370	283	297	40
CBO-6 350W			420	333	347	40
0625-1B	CE0625-1BC	117	103	46	55	30
0625-2B	CE0625-2BC	163	149	90	97	30

p.s the white frames represent new center distance

1-3 Assembly method

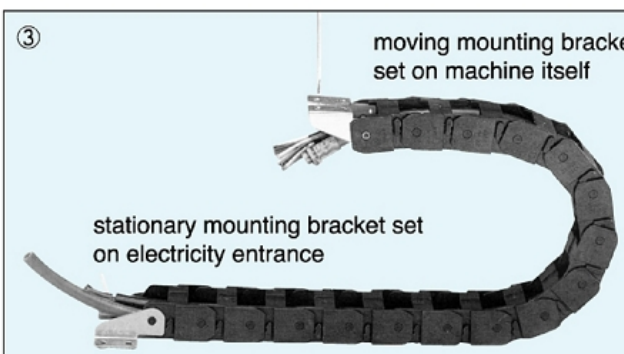
① put the tube in the cable chain



②

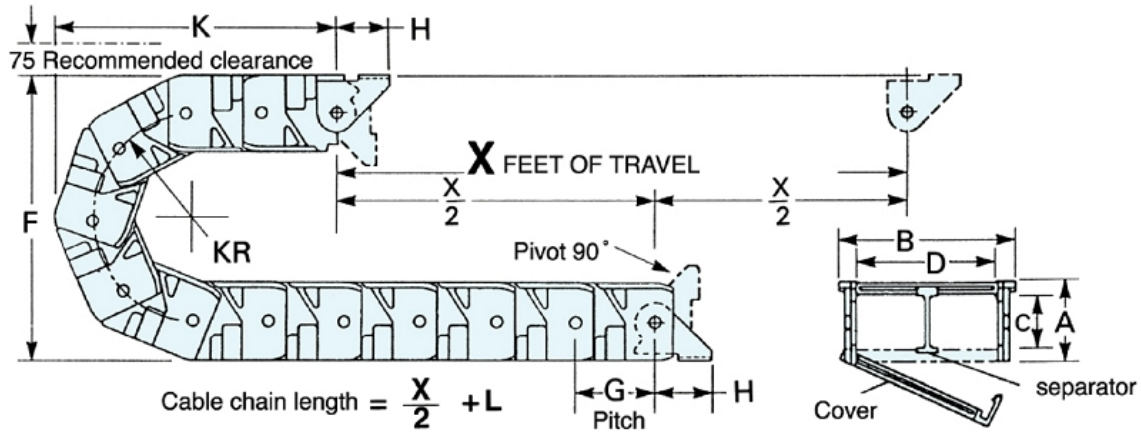
use screw driver to pry

③ moving mounting bracket set on machine itself



stationary mounting bracket set on electricity entrance

2-1 Cable Chain Snap-on Type



2-2 Dimensions for Snap-on Type

Series 1

Model	C Inner Height	D Inner Widths	A Outer Height	B Outer Widths	G Distance	KR Winding radius	Link per meter
CBO-0	19	15	25	26	29	R45	34
CBO-1	27	38	41	54	46	R50 R90 R120	22
CBO-2	27	58	41	74	46	R50 R90 R120	22
CBO-3	27	77	41	93	46	R50 R90 R120	22
CBO-4	27	98	41	114	46	R50 R90 R120	22
CBO-625-1B	43	65	62	93	62	R125 R200	16
CBO-625-2B	43	108	62	135	62	R125 R200 R250	16
CBO-025.1B	16	14	20	22	25	R25	40
CBO-035.1B	18	24	23	36	35	R48 (R78)	28
CBO-035.15B	18	35	23	47	35	R48	28
CBO-035.2B	18	44	23	56	35	R48	28

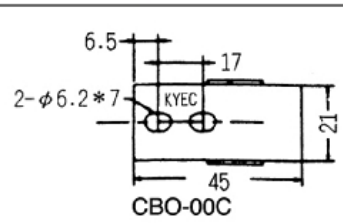
( ) Order then available

Series 2

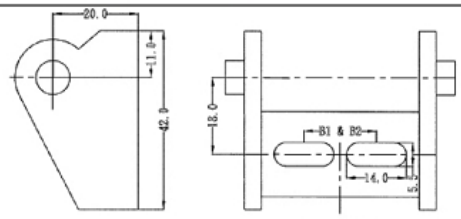
Model	C Inner Height	D Inner Widths	A Outer Height	B Outer Widths	G Distance	KR Winding radius	Link per meter
CBO-5080	56	80	84	117	92	R160 R200	11
CBO-5150	56	150	84	187	92	R160 R200	11
CBO-5200	56	200	84	237	92	R160 R200	11
CBO-5250	56	250	84	287	92	R160 R200	11
CBO-5300	56	300	84	337	92	R160 R200	11
CBO-5350	56	350	84	387	92	R160 R200	11
CBO-55060	50	60	72	105	80	R125	13
CBO-55100	50	94	72	140	80	R125	13
CBO-55150	50	143	72	190	80	R125	13
CBO-6	79	80	107	131	92	R150 R250	11
CBO-6 series include width 80mm, 150mm, 200mm, 250mm, 300mm and 350mm. Please call or mail us for details.							

- Lengh: fixed point in the middle – total length = stroke/2 + 3 (KR + G)
  fixed point in one side – total length = stroke + 3 (KR + G)
- Model: To choose fit model, it's recommended 20% plus to the inside cable's outer diameter.
- Curve: To choose winding radius, it's recommended 8~10 times to the inside cable's diameter.

2-3 Brackets for Snap-on Type

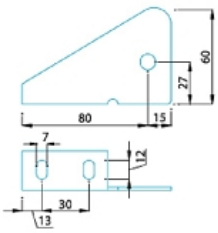


CBO-00C

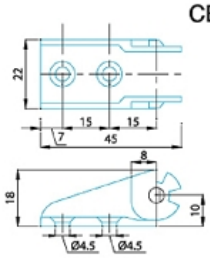


CBO-1C～4C

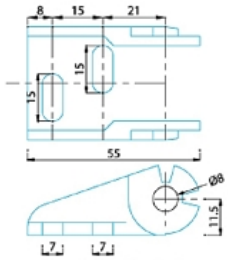
型號	Distance
MODEL	B1 & B2
CBO-1	18
CBO-2	38
CBO-3	58
CBO-4	78



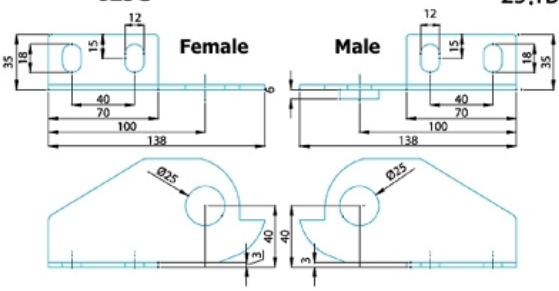
625C



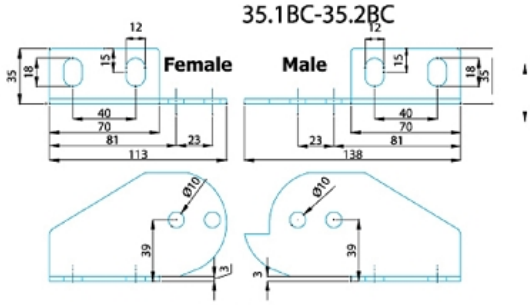
25.1BC



35.1BC-35.2BC

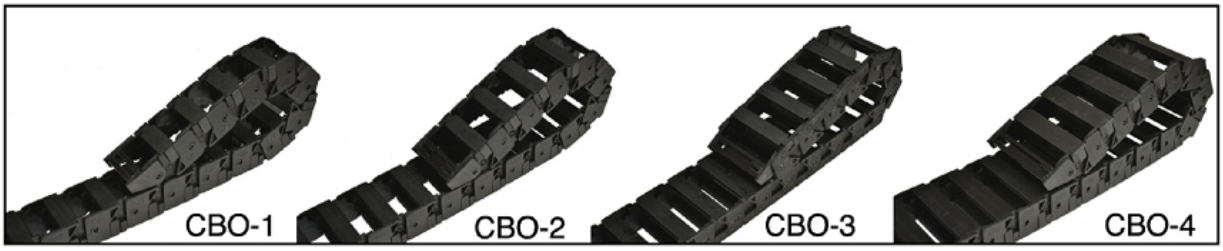


CBO-5C



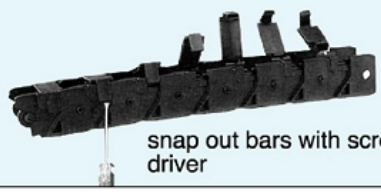
CBO-55C

2-4 Product Series 1



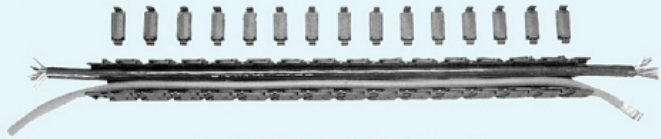
2-5 Assembly method

①



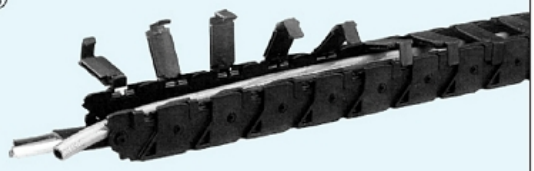
snap out bars with screw driver

②



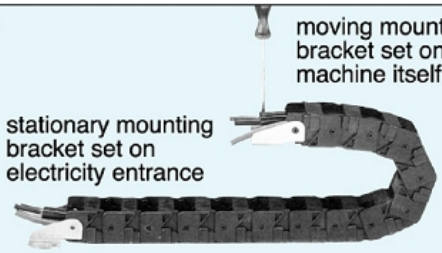
lay the lines or tubes directly

③

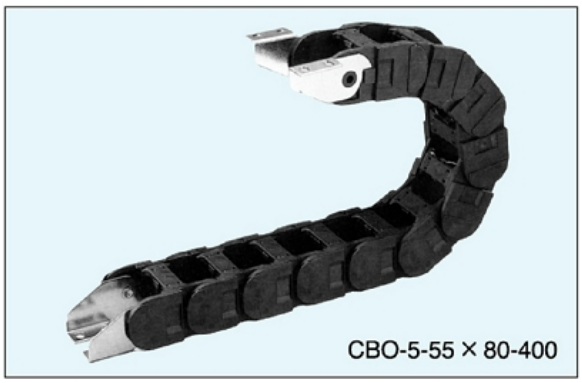


close with thumb or mallet

④



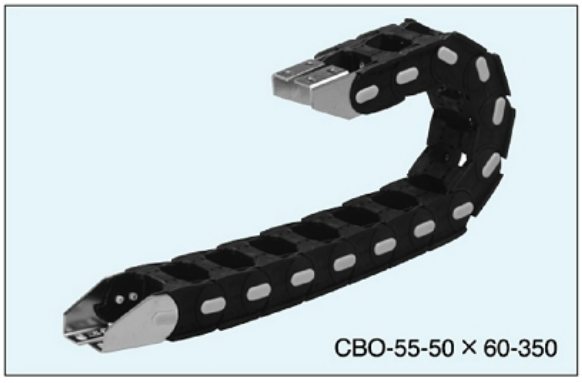
2-6 Product Series 2

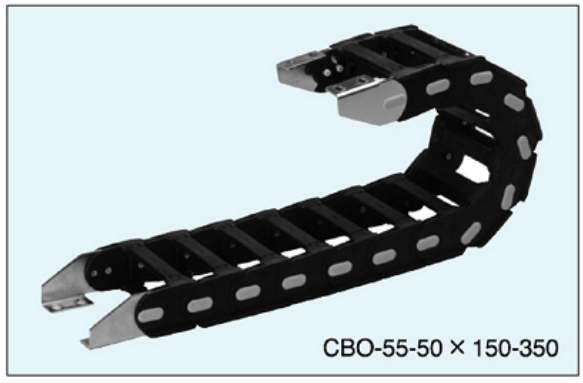

CBO-5-55 × 80-400


CBO-5-55 × 150-400

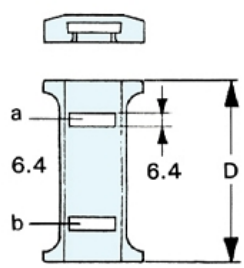

CBO-5-55 × 200-400


CBO-5-55 × 250-400


CBO-55-50 × 60-350

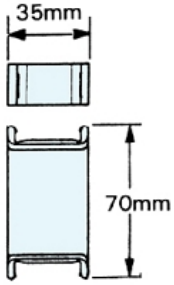

CBO-55-50 × 150-350

2-7 Assembly method



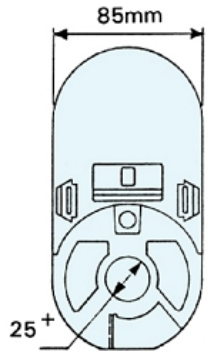
Cover

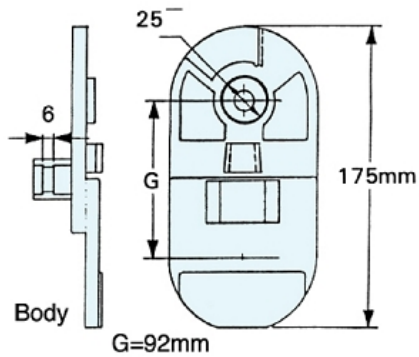
(D value : 80, 150, 200
250, 300, 350)

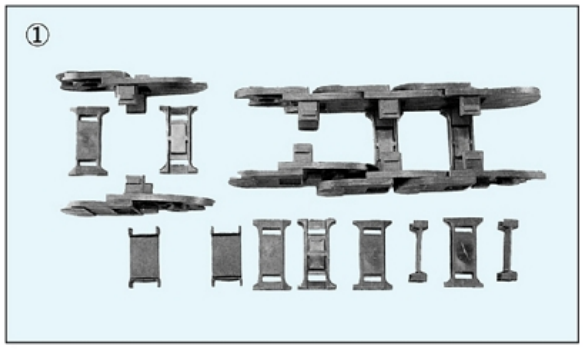


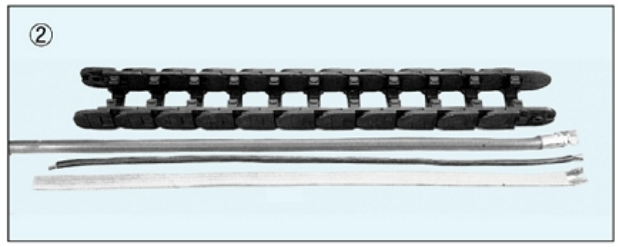
Separator

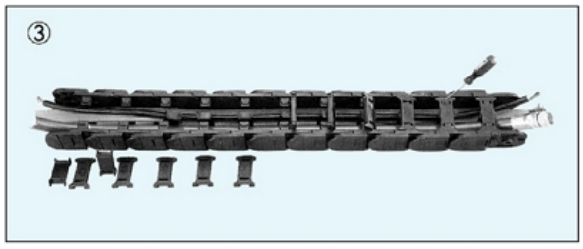
(Selectable)

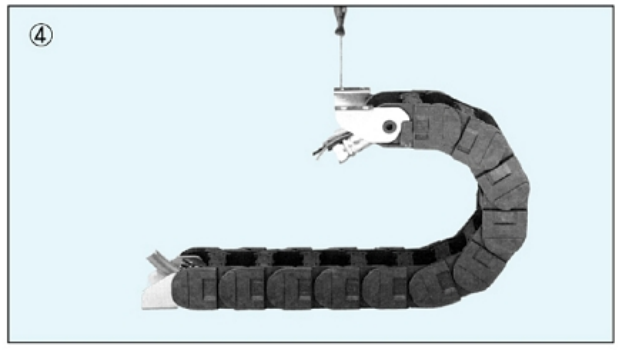








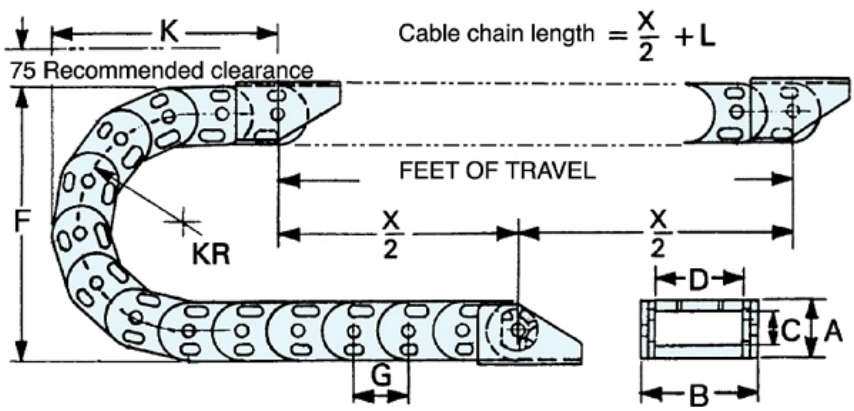




3-1 Cable Chain Secure Type

COS — 1 — 26 × 58 — 2KR+A

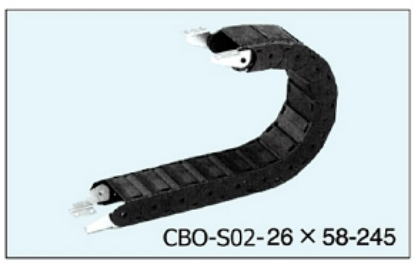
- COS: Cable chain secure
- 1: MODEL
- 26 × 58: INNER SIZE C × D
- 2KR+A: F

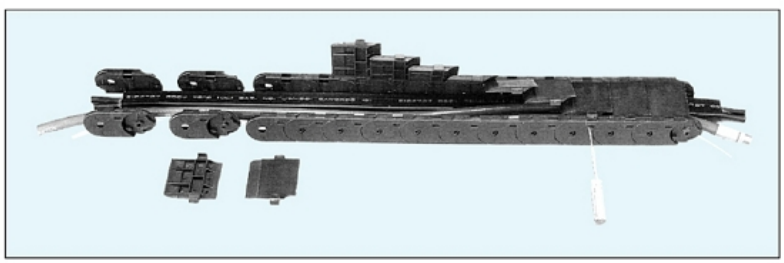


L : Winding circumference G : Pitch

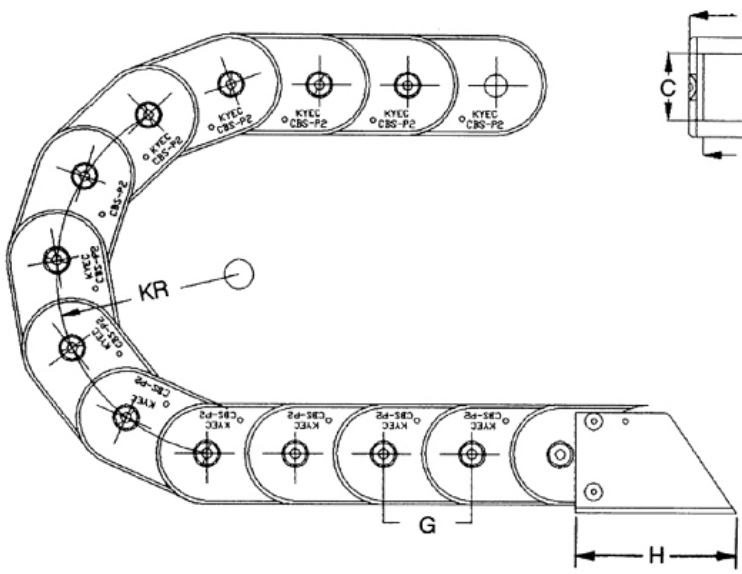
3-2 Product series 1

Model	C Inner Height	D Inner Width	A Outer Height	B Outer Width	F Total Height	KR Winding radius	G distance	L Winding circumference
CBO-S02	26	58	40	78	245	102	45	0.6

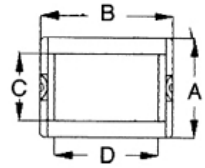

CBO-S02-26 × 58-245

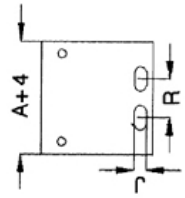


4-1 Chip protection closed Cable chain



flage





4-2 Dimensions for Chip protection closed Cable chain

Model	C Inner Height	D Inner Widths	A Outer Height	B Outer Widths	G Distance	KR Winding radius	Link per meter
CBS-P1	24	46	36	60	36	R80	28
CBS-P2	39	75	57	92	50	R125 R225	20

Dimensions in mm

◎Body: reinforced plastic

◎Lengh: fixed point in the middle − total length = stroke/2 + 3 (KR + G)

fixed point in one side − total length = stroke + 3 (KR + G)

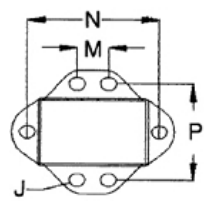
◎Model: To choose fit model, it's recommended 20% plus to the inside cable's outer diameter.

◎Curve: To choose winding radius, it's recommended 8~10 times to the inside cable's diameter.

4-3 Brackets for Chip protection closed Cable chain

Model	Flush flage			R	J	H
	M	N	P			
KY-CBS-P1C	18	75	55	22	7	64
KY-CBS-P2C	45	105	70	50	7	91

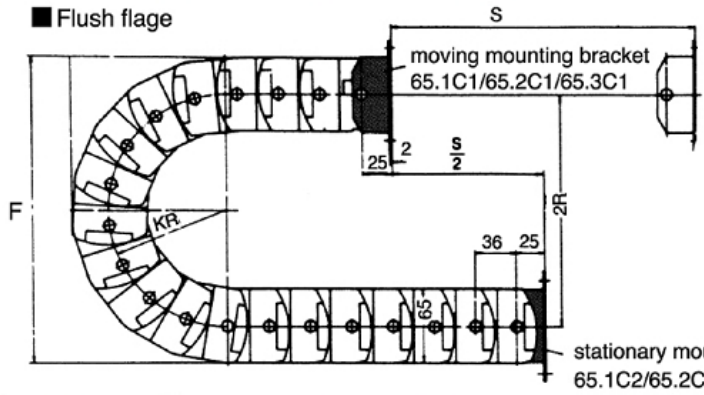
Dimensions in mm

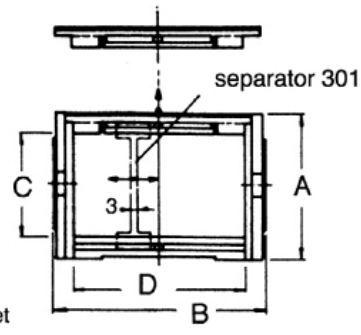


Flush flage

5-1 Snap-open chip protection Cable chain

■ Flush flage



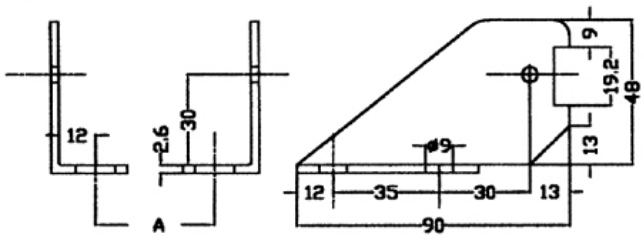


5-2 Dimensions for Snap-open chip protection Cable chain

Model	C Inner Height	D Inner Widths	A Outer Height	B Outer Widths	G Distance	KR Winding radius	Link per meter
CBS 65.1	45	75	65	92	36	R100 R150 R200	28
CBS 65.2	45	115	65	133	36	R100 (R125) R150 R200 (R225) R250 R300	28
CBS 65.3	45	175	65	195	36	R100 R150 R200	28
CBS 85.1	55	80	85	116	92	(R160)	11
CBS 85.2	55	150	85	186	92	(R160)	11

1~3 point firm method

( ) Order then available



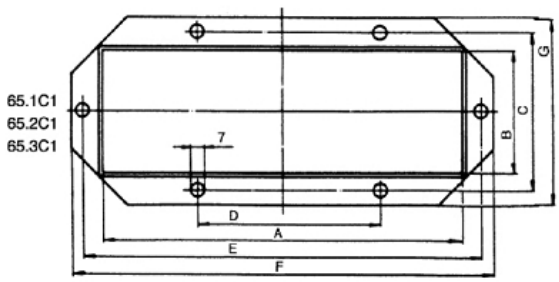
Model	A	B
CDCBS65.1C	54	60
CDCBS65.2C	93	101
CDCBS65.3C	156	160

Dimensions in mm

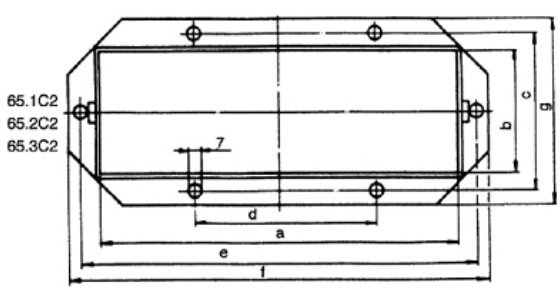
5-3 Dimensions for Snap-open chip protection Cable chain

Model	A	B	C	D	E	F	G
KY-CBS 65.1C1	84	62	80	30	103	119	97
KY-CBS 65.2C1	124	62	80	50	146	158	95
KY-CBS 65.3C1	185	62	80	100	204	218	95
	a	b	c	d	e	f	g
KY-CBS 65.1C2	78	56	80	30	103	119	97
KY-CBS 65.2C2	118	56	80	50	143	155	95
KY-CBS 65.3C2	180	56	80	100	204	218	95

Dimensions in mm



flush flage with bore



flush flage with pin

Speed of travel

For unsupported applications, kyec cable chains achieve speeds in excess of 5 m/s and rates of acceleration of more than (10 m/s). These guidelines apply to kyec energy chains of every size if they are used "unsupported straight". In specific applications, the top speed is influenced and limited by the length of travel, additional load and the frequency of travel.

Service life

In order to estimate the service life of an unsupported application, all technical data must be provided: type and number of conduits, additional load, speed, acceleration, travel frequency and details of the technical environment. Wear of the energy chains is very low, due to a special material compound and plastic-oriented design. A service life of between 15-30 million cycles can be achieved for "unsupported straight" applications even in high speed application.

Unsupported lengths

The maximum length of travel possible of an unsupported application depends on the stability of the chain used, and on the weight of the cables and hoses inside the chain (additional load). Figure 1 shows the maximum permissible "unsupported lengths with sag (FL)" of all kyec cable chains depending on the additional load. Unsupported length is defined here in such a way that the upper section of the cable chain has a permission sag. In this case, the upper section is bent over the back.

The largest possible travel is in any case equal to twice the largest possible unsupported length:

S max. = FL b * 2

S max. = maximum travel

FL b = unsupported length with sag taking the additional load into account

The sag of the kyec chains does not pose a problem in many applications. It may become critical however when acceleration and frequency of travel are very high. In such cases the cable chain may be additionally supported.

Figure 2 show the conditions for the application of the chains "unsupported straight". "Unsupported straight" means that the upper section hangs parallel to the lower section. This configuration permits maximum travel speeds, accelerations and bending cycles.

Figure 1 FLB

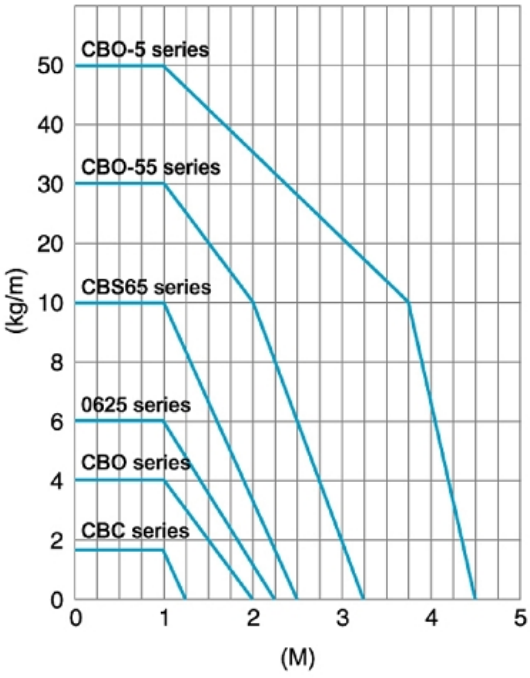
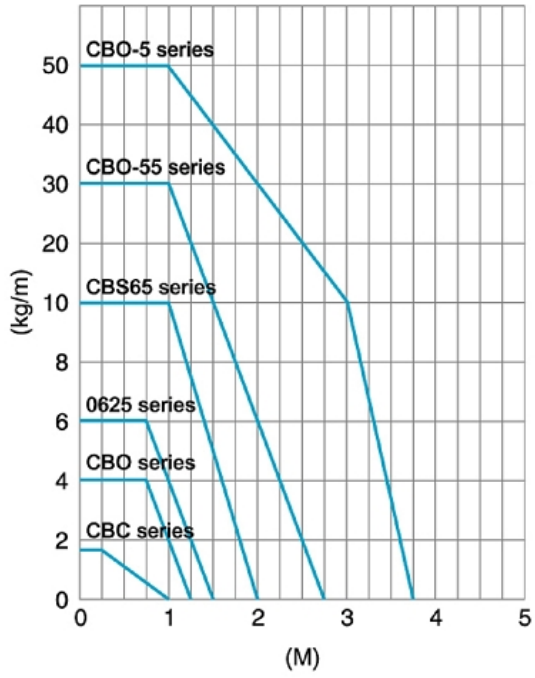
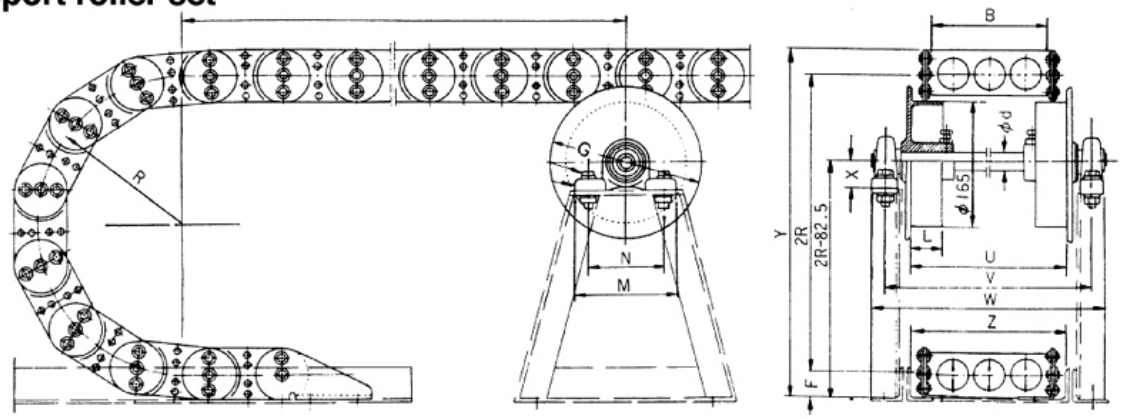


Figure 2 FLG



Support roller set



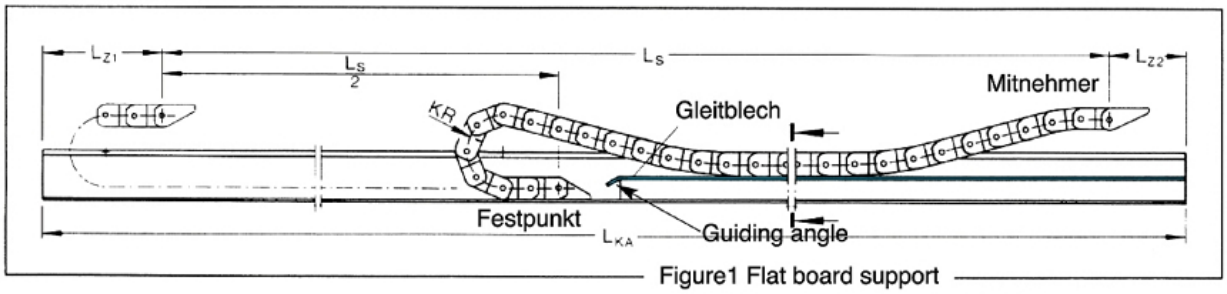


Figure1 Flat board support

IF cable chain is too long, that will lead to sag, two ways to solve it:

①1 support with flat board (as figure 1) 2 support with roller(as figure 2)

$$L_{KA} = L_S + X_{max} + 2L_{Z1}$$

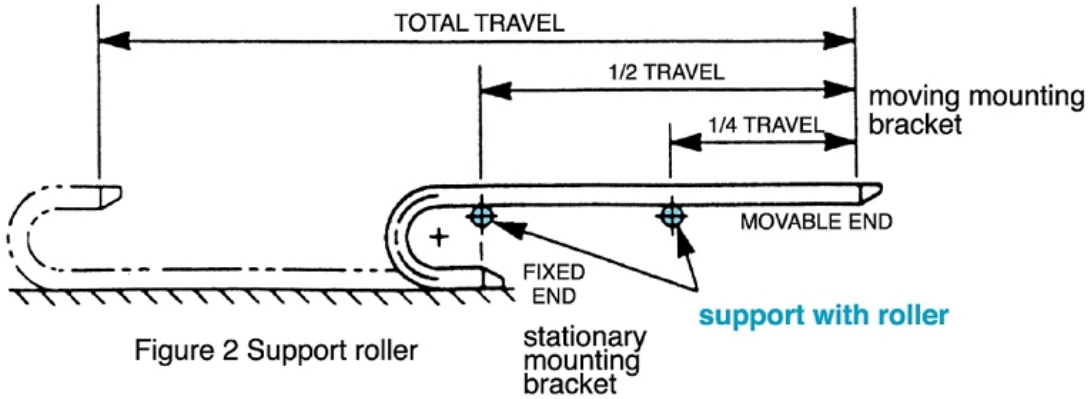


Figure 2 Support roller

Guiding trough

Guiding trough are used for long travels, figure 3 is the basic shape. Height of guiding trough should be at least double to the height of cable chains.

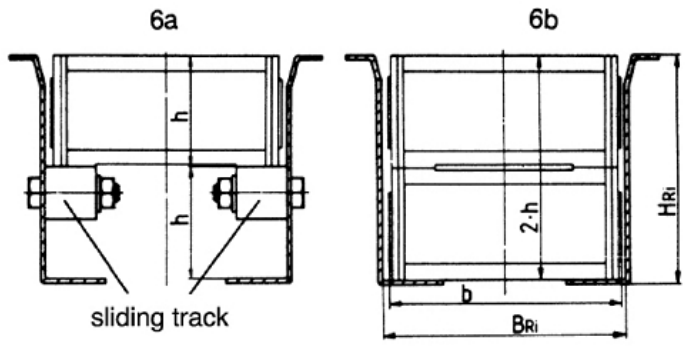
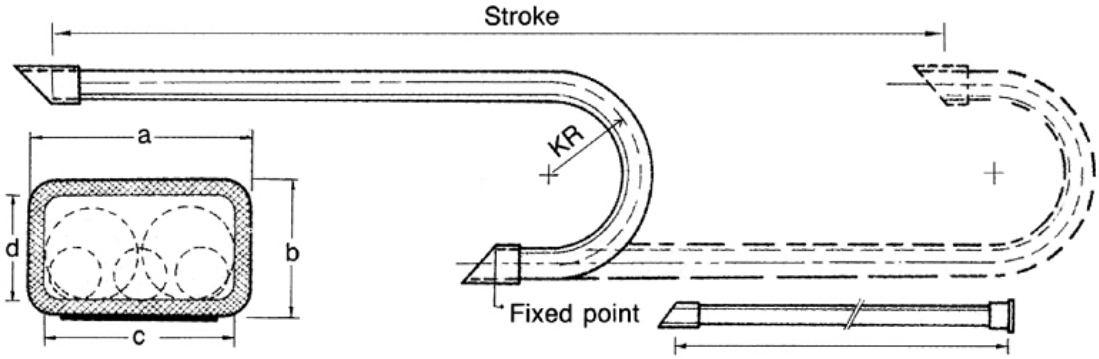


Figure 3 Guiding trough

$H_{Ri} \geqq 2 \cdot h$

$B_{Ri} \geqq b + 5$

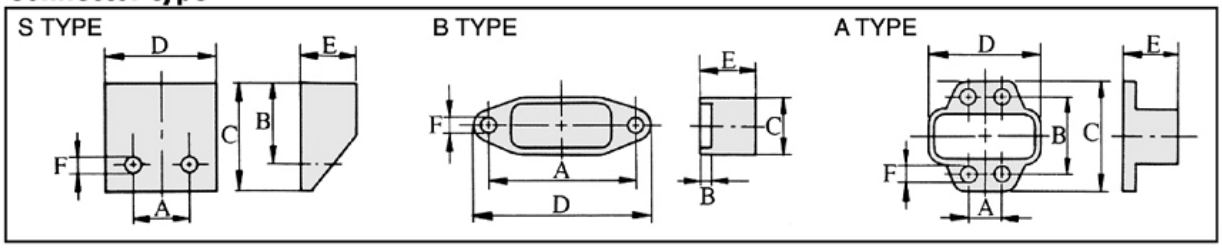
6 Cable chain stainless



Size(mm)									
Item / Model	a	b	c	d	KR				
KY-CBS-1	60	36	45	25	60	100	150		
KY-CBS-2	90	53	74	40	100	150	200	250	
KY-CBS-3	118	67	102	52	100	150	200	250	300
KY-CBS-4	182	92	162	72	150	250	350	450	

● Body: stainless 304 ● Assemble: Two flage connected to the tube's both end As shown figure S type ； B type ； A type

Connector type

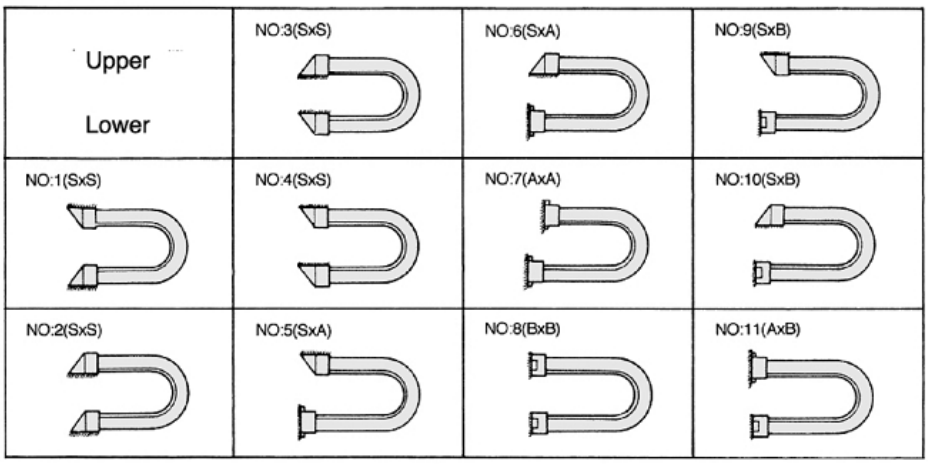


S Type	A	B	C	D	E	F
I	22	9	38	60	38	7
II	50	9	38	90	53	7
III	70	31	43	118	69	9
IV	100	36	52	180	90	9

B Type	A	B	C	D	E	F
I	75	6	35	90	25	7
II	105	6	51	122	25	7
III	140	7	66	160	25	9
IV	200	8	90	225	30	9

A Type	A	B	C	D	E	F
I	18	55	70	60	25	7
II	45	70	85	90	25	7
III	60	90	110	118	25	9
IV	95	110	145	182	30	9

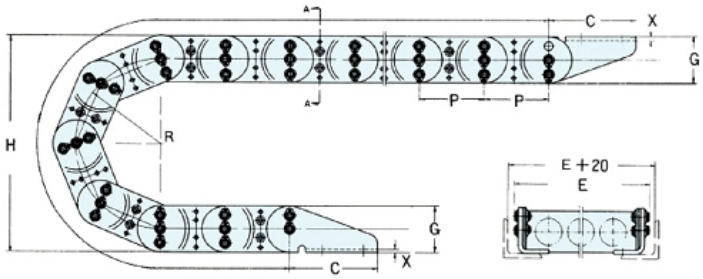
Connecting methods

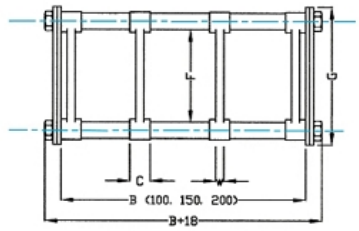


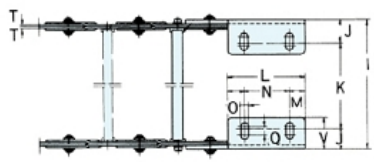
7 Metal Chain Type

KYS-070 — 125R — 200W — 5S

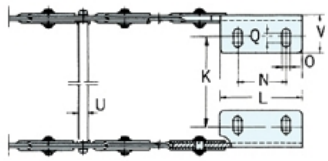
Model | Stationary side | Width | Separator







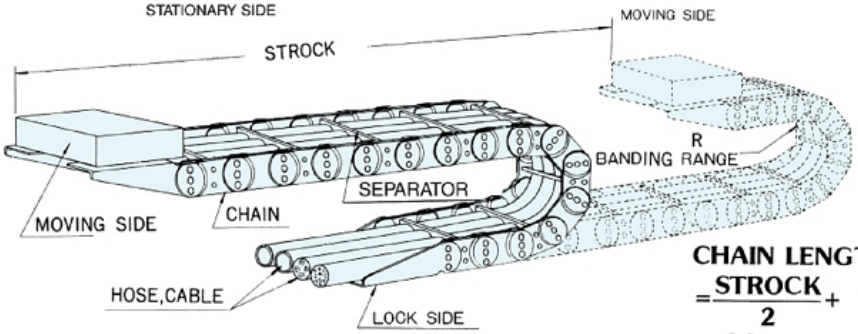
STATIONARY SIDE



MOVING SIDE

Model	C	W	F
KY-CS070	10	4	30
KY-CS095	10	4	50
KY-CS130	15	5	72
KY-CS180	15	5	116

The amount of separator should be considered when assemble.



CHAIN LENGTH

$$= \frac{\text{STROCK}}{2} + \pi R + 2P + 2C$$

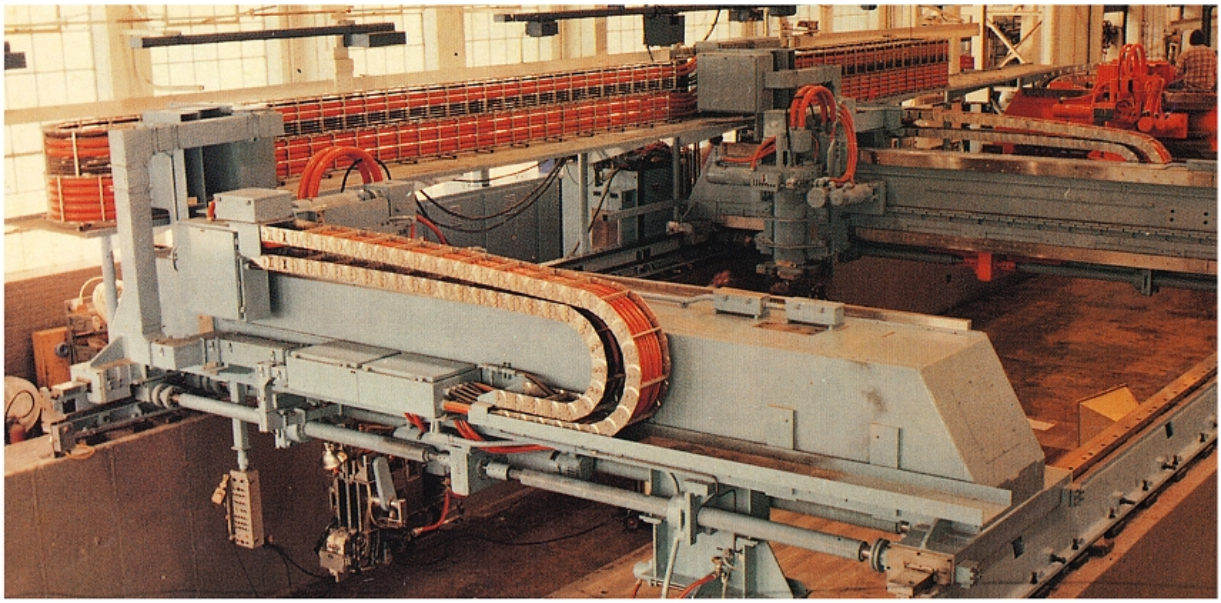
CHAIN SIZE

CHAIN NO	R	P	G	U	T	H	Min B	E	Weight KG/M
KY-CS070	(75R) (90R) 125R (145R)	70	50	10.8	2.3	2R+G	70	B+30	5.2
KY-CS095	145R 200R 250R 300R	95	68	10.8	2.3	2R+G	90	B+32	7.5
KY-CS130	200R (250R) (300R) (400R)	130	96	42	3.3	2R+G	120	B+35	16
KY-CS180	300R 400R 500R 600R 700R	180	140	42	3.5	2R+G	150	B+35	22
KYCS250	(350R) (450R) (600R) (750R)	250	220	20	3.2	2R+G	350	B+48	30

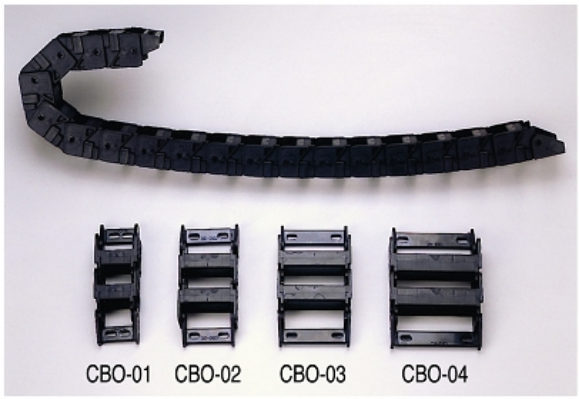
( ) Order then available

BRACKET SIZE

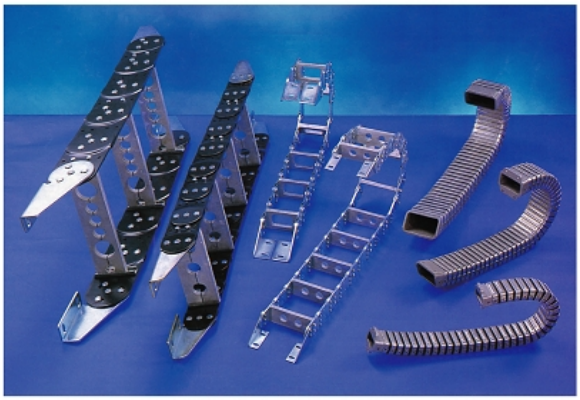
CHAIN NO	I	J	K	L	C	N	O	Q	V	X	Weight KG/M
KY-CS070	B+18	23	B-33	77	100	45	9	10	34.5	4.5	0.1
KY-CS095	B+18	30	B-35	104	125	65	11	12	44.5	4.5	0.35
KY-CS130	B+25	34	B-35	127	158	80	13.5	12	56	6	0.9
KY-CS180	B+25	38	B-55	175	215	115	13.5	20	60	6	1.5
KY-CS250	B+201	50	B-90	250	300	85	18	18	90	8	2



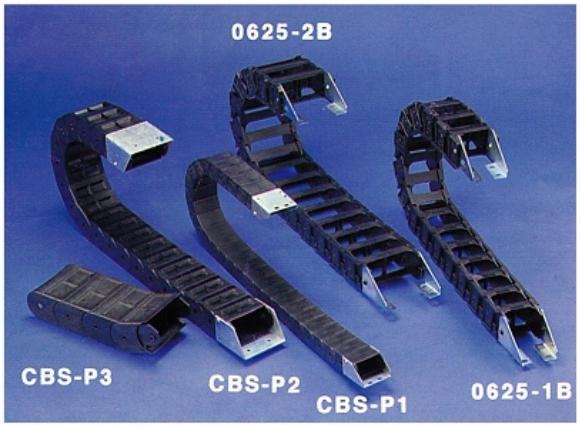
▲ Metal heavy-loaded type



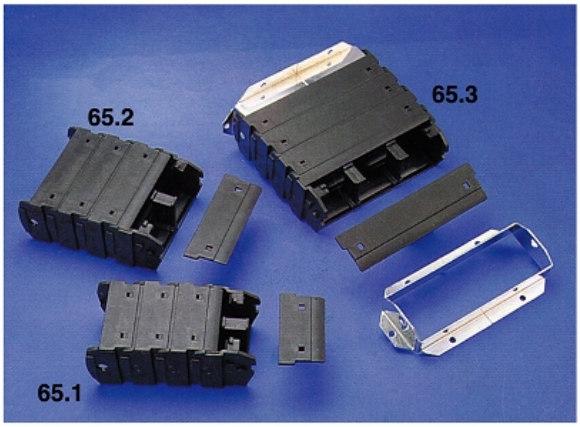
▲ Standard type



▲ Metal type



▲ Upgraded type



▲ Chip protection snap-on type

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