2008 New Edition

KYEC Cable Reel

Application of Moving Cart、Hoist System、Machine Equipment、Gate Opener、Watering can

Tunnel Access

ISO 9001 Certificated Since Year 2000

UKAS QUALITY MANAGEMENT Reg.No. 059-A

ANGLO JAPANESE AMERICAN REGISTRARS AJA

Dam Gate

TRSC Crane for Carriage Moving

Gantry Crane

Factory Grab

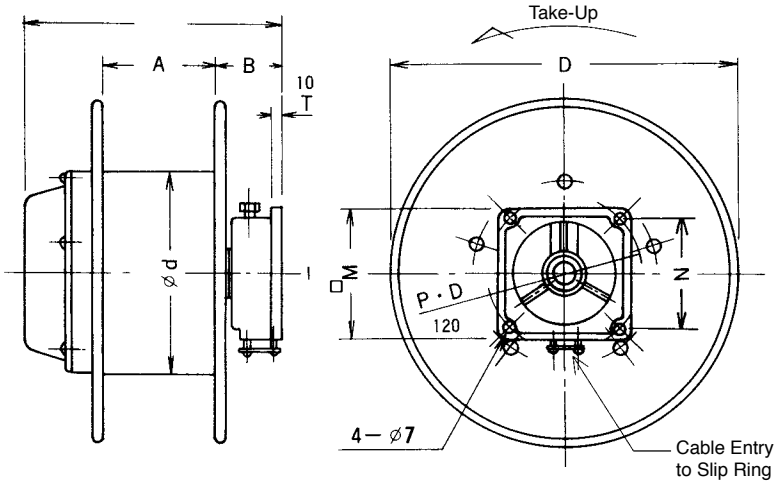
Part1 Spring Cable Reel

Definition of Our Type

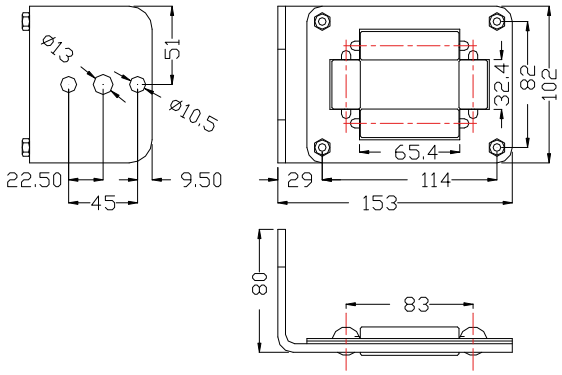
K C R S 3 W - 4 P

- 4 P — Quantity of Poles
- W — Quantity of Springs
  - None:1
  - W:2
  - T:3
  - F:4
- 3 — Cabel Reel Spring
- K C R S — KYEC®

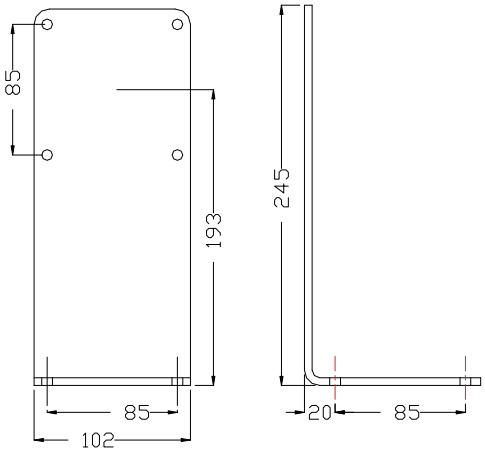
●KCRS1、KCRS11



●Sheave Guide Chart



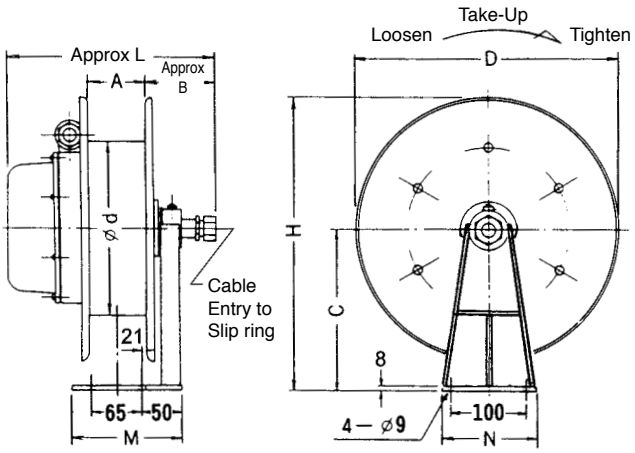
●Bracket Chart



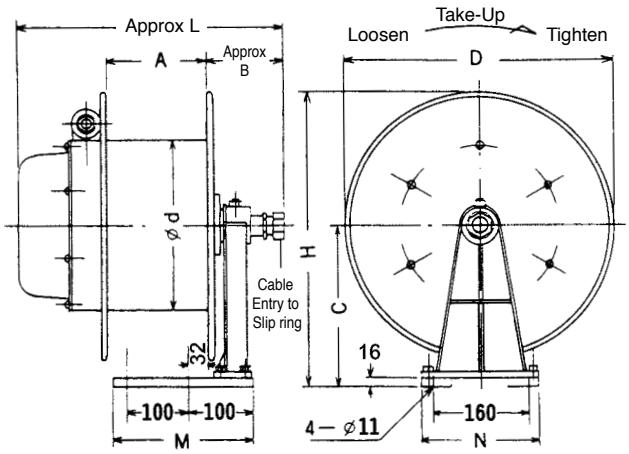
Specification and Dimension

Type	Max Length (horizontally furl)	Maximum		Reel Dimension									Weight (kg)
		Amps	Poles	A	B	C	D	d	H	L	M	N	
CRS 1	2X3 10M	15A	8P	93	55	195	290	160	340	195	105	85	8
CRS 11	2X3 13M	15A	8P	90	60	195	320	200	355	205	110	85	10
CRS 2W	3.5X3 18M	30A	12P	110	85	225	400	230	425	310	145	125	14
CRS 216W	5.5X3 16M	30A	12P	110	85	225	400	230	425	310	145	125	16
CRS 3W	3.5X3 25M	30A	12P	110	85	275	500	230	525	310	145	125	18
CRS 4W	5.5X3 18M	40A	16P	90	120	195	500	285	545	368	235	195	32
CRS 4T	5.5X3 27M	40A	16P	168	120	380	650	285	705	438	235	195	41
CRS 4F	5.5X3 38M	40A	16P	168	120	380	650	285	705	438	235	195	45
CRS 4F20	14X3 22M	40A	4P	168	120	380	650	285	705	438	235	195	46
CRS 5T	8X3 36M	40A	16P	160	130	380	650	353	705	450	235	245	68
CRS 5T20	14X3 26M	60A	4P	160	130	380	650	353	705	450	235	245	75
CRS 5F	8X3 48M	40A	16P	160	130	380	650	353	705	450	235	245	72
CRS 6F	14X3 56M	60A	4P	205	160	440	750	440	815	500	300	260	110

●KCRS2W、KCRS3W



●KCRS4F、KCRS4W、KCRS5F KCRS5T、KCRS6T



How to Choose Your Type

1. Cable's diameter should be under flange's .
2. Cable weight (per meter) × Length < Maximum Reel Torque
   Ex:3.5mm/4C as Cable Dim shows 0.41 kg/m, 10m×0.41 kg/m = 4.1kg < (7kg)

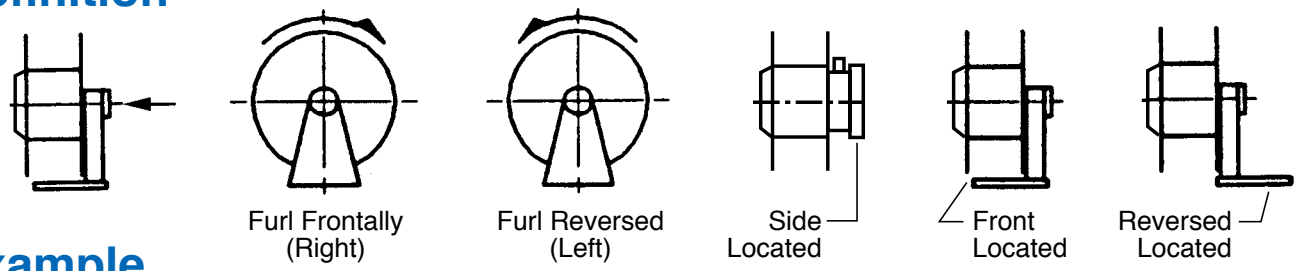
Cross-refer the Specification (P.5) find the Choice is CRS 216W.

Type	Cable Entry Flange Dim. mm	Annulus	Max Winding Force F (kgf)	Max Torque kgf*m
CRS 1	14	15	2	0.2
CRS 11	13	13	3	0.3
CRS 2W	13	22	3.5	0.4
CRS 216W	16	20	7	0.8
CRS 3W	13	35	3.5	0.4
CRS 4W	22	25	7.5	1.06
CRS 4T	22	37	7.5	1.06
CRS 4F	22	50	7.5	1.06
CRS 4F20	22	26	17	2.42
CRS 5T	26	37	10	1.76
CRS 5T20	26	30	17	3.0
CRS 5F	26	50	10	1.76
CRS 6F	33	60	24	5.28

Reel mounted on the moving equipment will be an effort-saving way.

Design(Cross-refer Questionnaire)

Definition

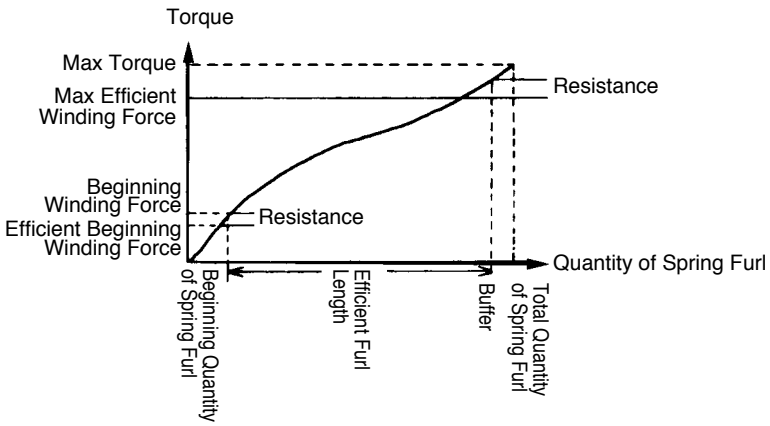


Example

Reel Mounted on Equipment	Reel Mounted on Equipment
1.Horizontally Furl $fe > (w \times \ell) \times 9.807$ $\ell \fallingdotseq 2h$	**6.Horizontally Furl** $Fe > W \times (\ell + L') \times \mu \times 9.807$ $\mu \fallingdotseq 0.7 \sim 0.6$
2.Horizontally Poised Furl $Fe > \frac{w \times L^2 \times 9.807}{8 \times S}$	**7.Horizontally Poised Furl** $Fe > \frac{w \times L^2 \times 9.807}{8 \times S}$
3.Upright Setting $fe > w \times 9.807$	**8.Upright Setting** $fe > w \times 9.807$
4.Downward Setting $Fe > (w \times L + \triangle) \times 9.807$ $\triangle$ = Weight of Load (kg)	**9.Downward Setting** $Fe > (w \times L + \triangle) \times 9.807$ $\triangle$ =
5.Horizontally/Middle Power In Fe calculates as Type 1	**10.Horizontally/Middle Power In** Fe calculates as Type 6

Fe=Max Efficient Winding Force(kgf) fe=Beginning Winding Force(kgf) L=Max Furl Length W=Cable Weight (kg/m) L'=Length on Ground
ℓ=Free Length (m) S= Poised Drop Allowable Length μ=Efficient Value

Efficient Winding Force(kgf)



Max Winding Force $F(kgf) = \frac{\text{Max Torque (kgf} \cdot \text{m)}}{\text{Reel Radius (m)}}$

Max Efficient Winding Force $Fe(kgf) = \mu \cdot F\ (kgf)$ $\mu = 0.7$

When quantity of poles is over 4 or speed is over 40 m/min or other resistant cause occur, by all means add the buffer (reduce the μEfficient Value).

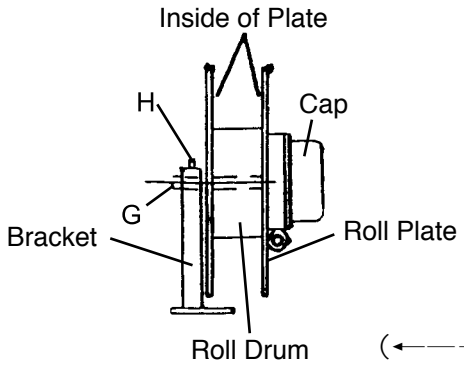
Cable Dim

Conductor Cross Section Area mm² \ Type Poles	3 poles		4 poles	
	O.D mm	Weight kg/m	O.D mm	O.D mm
1.25	11.5	0.195	13.0	0.245
2.0	12.5	0.23	13.5	0.285
3.5	14.0	0.33	15.5	0.41
5.5	15.5	0.43	17.5	0.54
8.0	17.0	0.54	19.0	0.69
14.0	22.0	0.905	25.0	1.15
22.0	28.0	1.73	31.0	1.82
(30.0)	33.0	1.96	36.0	2.5
38.0	35.0	2.34	39.0	3.0
(50.0)	39.0	2.85	43.0	3.64
60.0	42.0	3.45	47.0	4.41
(80.0)	49.0	4.64	55.0	5.94
100.0	54.0	5.63	60.0	7.2

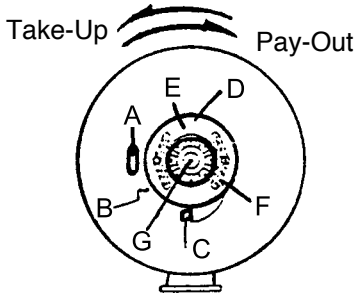
Spring cable reel installment

Step

1. Power-in terminal enter "D" slip ring unit through "G" hollow axis, connected with "E" slip ring. (chart 1)



圖一



（←——方向）

圖二

A : ⬭ Cable Hole
B : Cable Fixed Flake
C : Cable End
D : Slip Ring Unit
E : Slip Ring
F : Carbon Brush Base
G : Hollow Axis
H : Axis Located Screw

2. Cable pierces "A" hole ⬭ from the inside of roll plate and through "B" fixed point into "C" cable end. Connect the cable with carbon brush and arrange the cables. Lock the outside cap after connection.*Avoid cable hooking the screw parts, cables in the spring ring unit should be leaned aside as possible as you can. (chart 2)
3. Roll all cables clockwise in the roll plate (chart 3), or handle the cable and move roll plate anti-clockwise till all cables completed (chart 4)
4. Locate the cable reel.

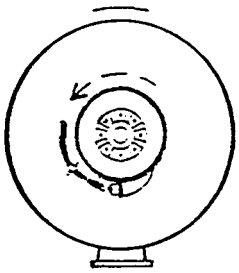


Chart 3

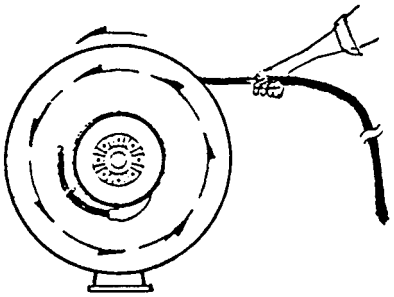
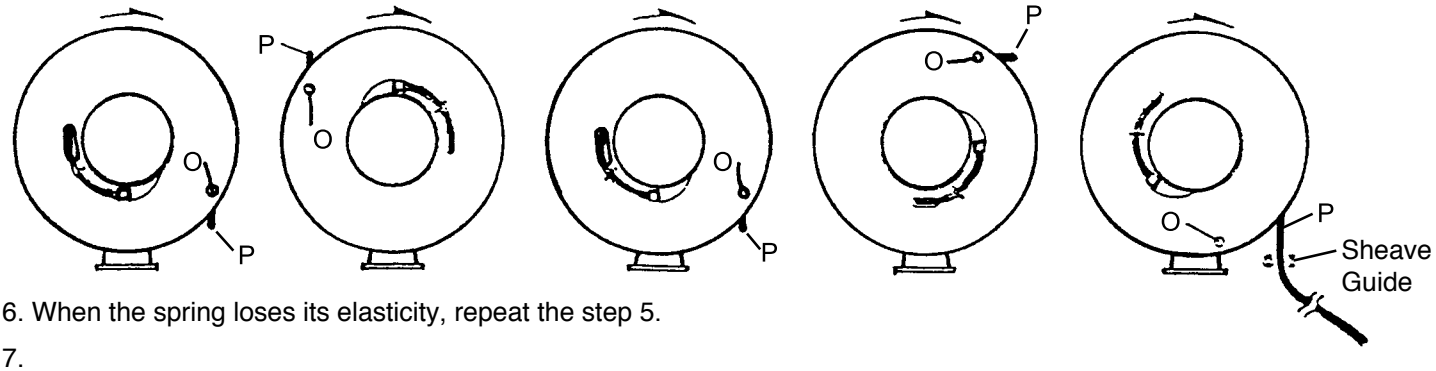


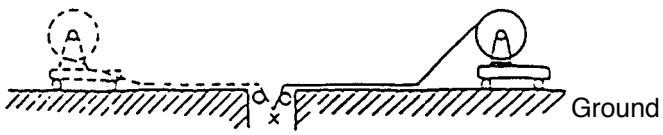
Chart 4

5. Move the plate 2?3 cycles (snail shape spring will save the kinetic energy). Pull cable out through the sheave guide; make a trial run after connect power.



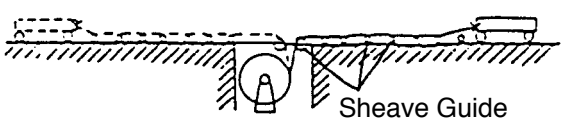
6. When the spring loses its elasticity, repeat the step 5.
7.

Moving cart roll horizontally



with sheave guide.
(recommended standard way)

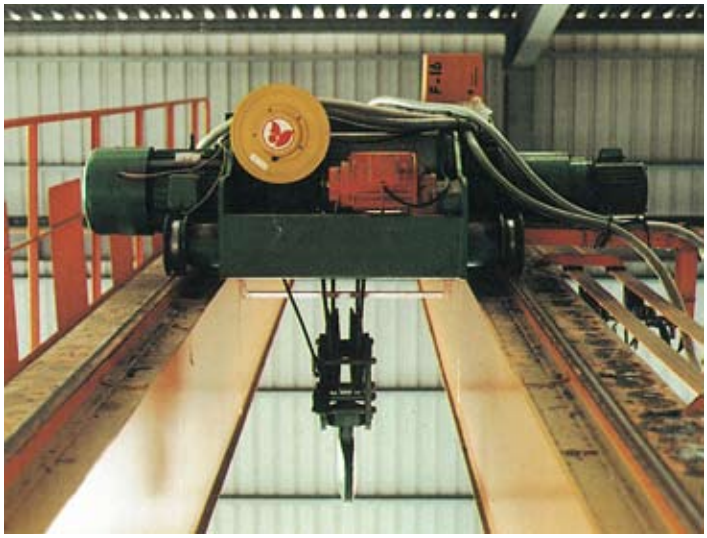
Moving cart on ground



(not recommended due to the additional kinetic friction).

Performance

— Spring Cable Reel —



For Class Factory Vacuum Suction Cups

For multi function hoist equipment in precast Cement Factory

Avoid fixing the electric door, only I-beam needed to suit

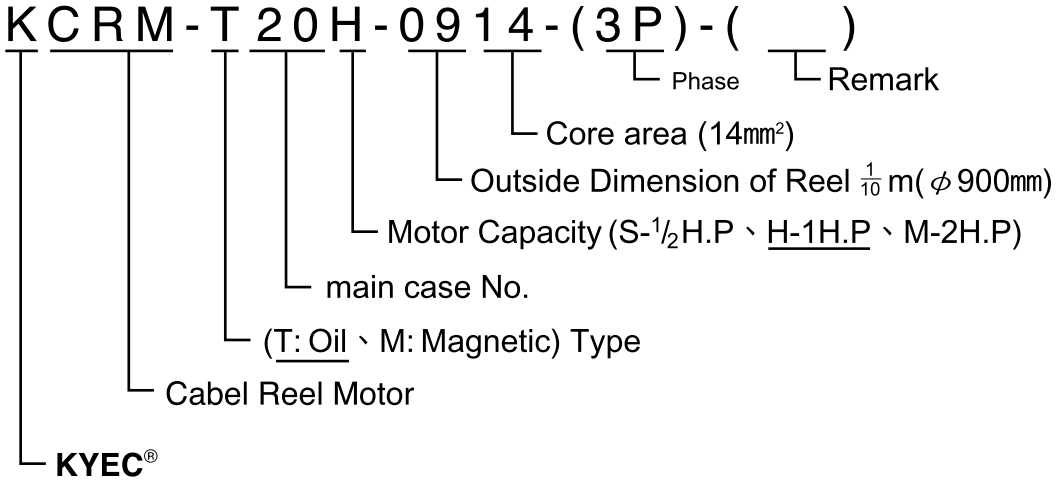
For Steel Factory: Moving Cart

For Gate Door Opening

For Civil Engineering

Part2 Motor Cable Reel

Definition of Our Type



Questionnaire of Cable Reel

1. What kind of the moving equipment is the cable reel for?_____
   Please see the application example displayed on page 5 and pictures.
2. Height of the reel installation _____m
3. Total travel distance of your equipment _____m
4. How long is the cable on the reel? _____m
5. Cable Payout From ☐ Center ☐ One End
6. Type of application (see page 5)
7. Specification of Cable?(no. of conductors × wire size) _____×_____mm2
   Weight_____kg/m
   O.D_____mm
8. Capacity of Electrical Load _____kw
   Or amperes at_____ V _____A
9. What is the duty cycle of full load? _____%
10. How many poles of slip ring required? _____pcs
11. How many movements per hour? _____times
12. What's the operating hours per day? _____hrs
13. Maximum travel speed? _____m/min
14. 0 to full acceleration or accelerate rate _____sec.
    _____m/sec

Other Data:

_____

_____

_____

T20 Motor Cable Reel

Application: Cable Dim 14mm²~38 mm² 、Horizontally Furl Length 50M~100M 、Vertically Furl 30M. It Is Suitable For Kinds of Automatic Assemble Line

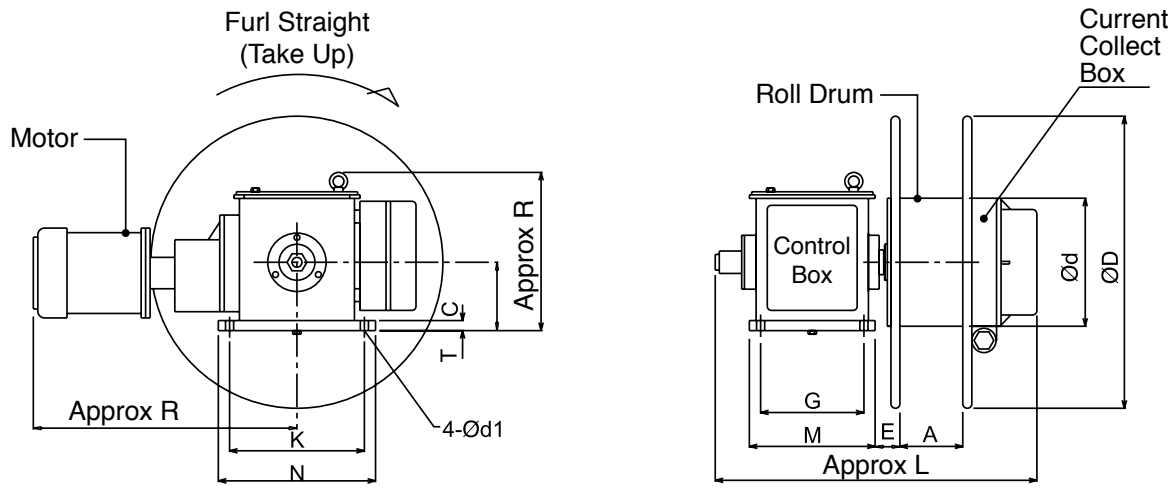


Chart 1

Specification

Type	Maximum Poles	Chart	O.D					
			D	d	A	C	E	L
KCRM-T20H-0514	20	Chart 1	490	285	170	150	40	720
KCRM-T20H-0714	20	Chart 1	650	285	170	150	40	720
KCRM-T20H-0914	20	Chart 1	900	285	170	150	40	720
KCRM-T20H-1314～1338	4	Chart 2	1300	655	100	150	60	790
KCRM-T20H-1814～1838	4	Chart 2	1800	655	100	150	60	790

Type Choice Reference (Horizontally Furl)

Cable Length / Cable Dimension	Suitable Type						
	50m	60m	70m	80m	90m	100m	110m
14mm² × 3C	T20H-0514	T20H-0714					T20H-0914
14mm² × 4C	T20H-0714				T20H-0914		
22mm² × 3C	T20H-1322						T20H-1822
22mm² × 4C	T20H-1322						—
38mm² × 3C	T20H-1338					T20H-1838	—
38mm² × 4C	T20H-1338					T20H-1838	—

Type Choice Reference (Vertically Furl)

T20H-1308~1314 Adopted When Vertically Furl Cable Dim 8mm²×4 pole～14 mm²×4 pole length in 30M.

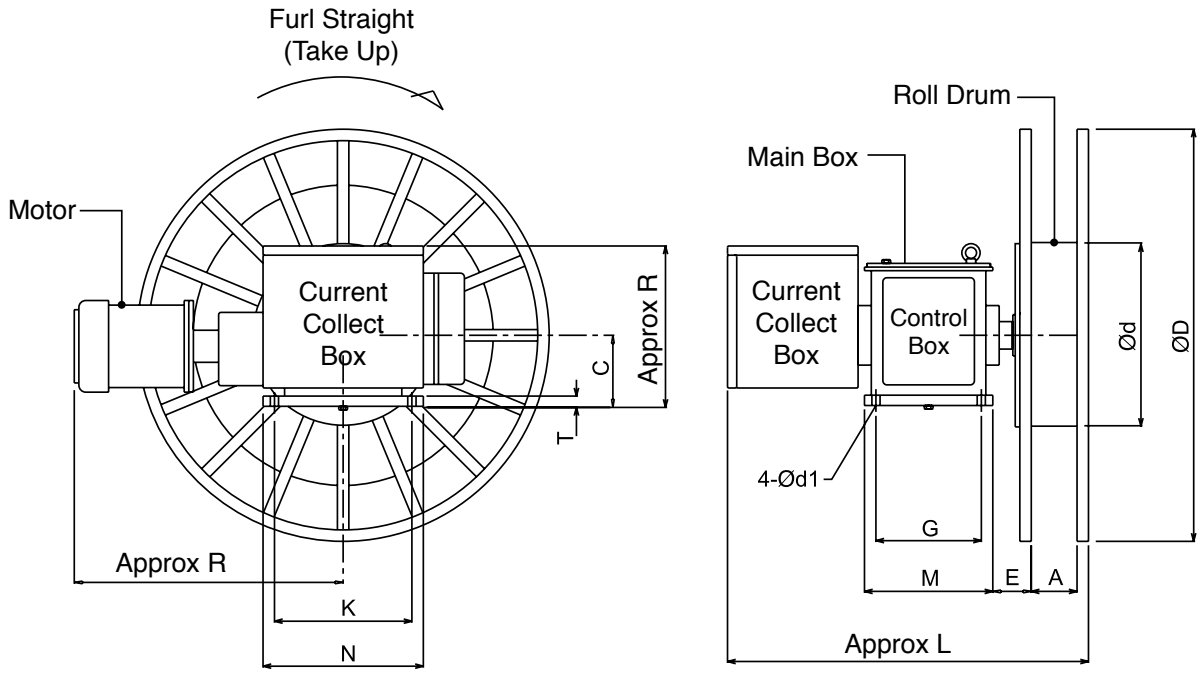
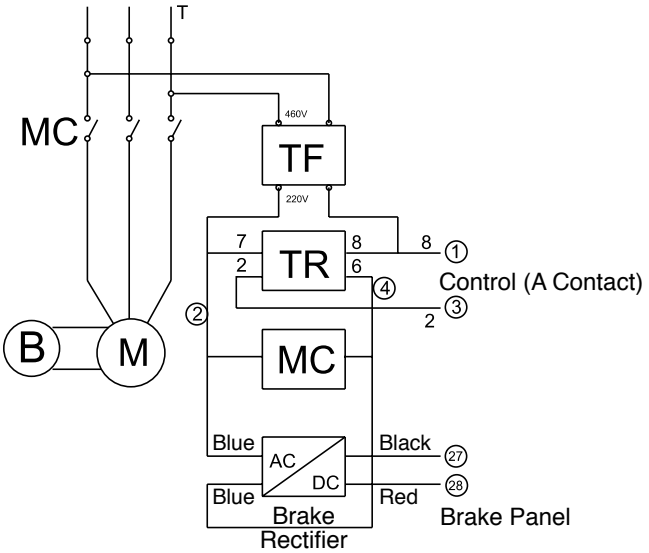


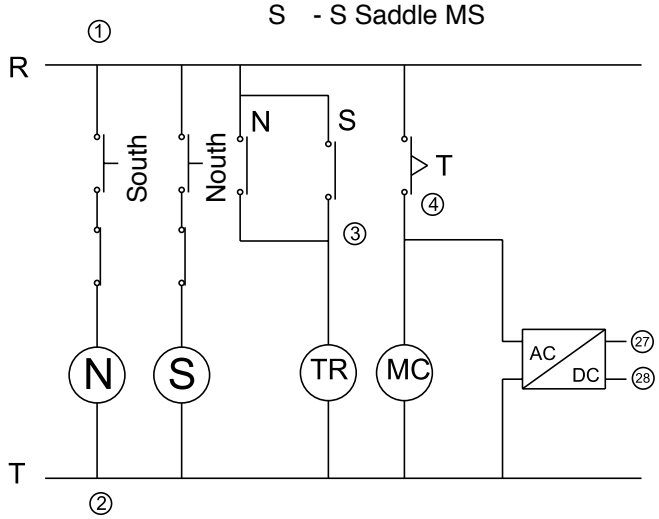
Chart 2

Specification									Remark
R	S	P	G±1	K±1	M	N	T	d1	
600	—	310	230	300	280	350	23	18	
600	—	310	230	300	280	350	23	18	
600	—	310	230	300	280	350	23	18	
600	—	345	230	300	280	350	23	18	
600	—	345	230	300	280	350	23	18	

T20 T20.1 Control Panel Explanation

TF - Transformer
TR - Off Timer Switch
MC - Magnetic Switch(MS)
B - Brake Coil
N - N Saddle MS
S - S Saddle MS





T20.1 T40 Motor Cable Reel

Application: Cable Dim 22mm²~100mm² 、Horizontally Furl Length 50M~160M 、Vertically Furl 30M. It Is Suitable For Flexible Design And Special Format Made-On-Demand.

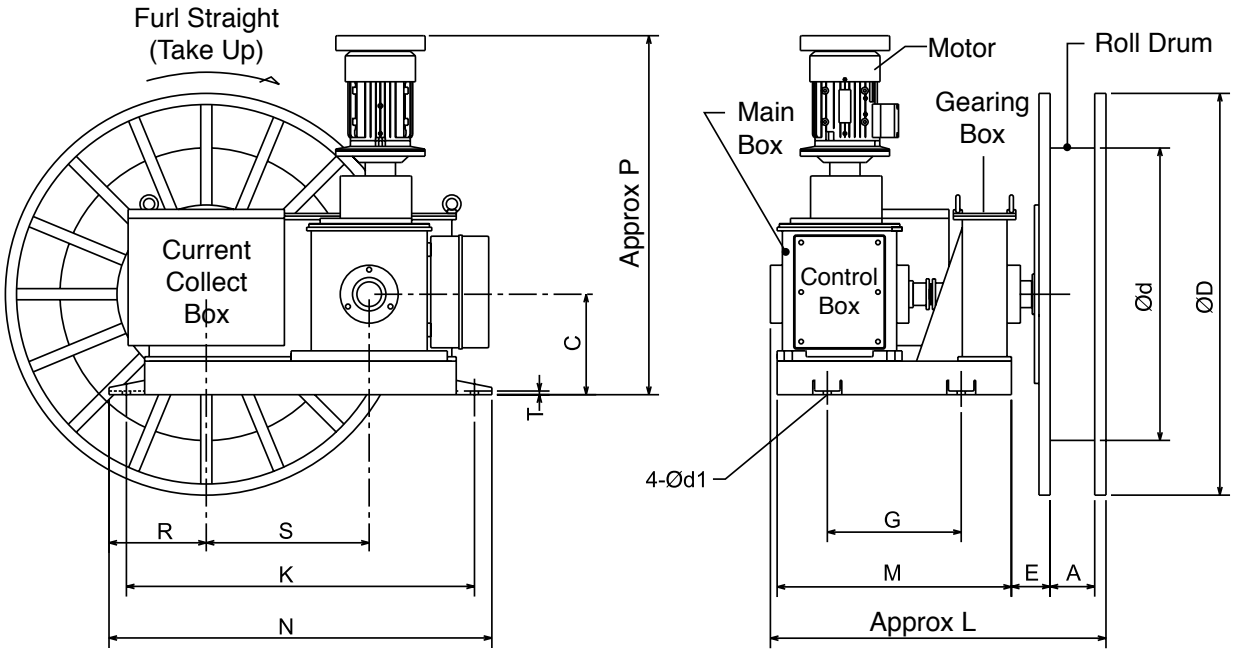


Chart 1

Specification

Type	Maximum Poles	Chart	O.D					
			D	d	A	C	E	L
KCRM-T20.1H-1522～1538	4	Chart 1	1500	655	100	225	87	755
KCRM-T20.1H-1822～1838	4	Chart 1	1800	655	100	225	87	755
KCRM-T40H-1822～1899	4	Chart 2	1800	850	100	208	100	820
KCRM-T40H-2022～2099	4	Chart 2	2000	850	100	208	100	820

Type Choice Reference (Horizontally Furl)

Cable Length / Cable Dimension	Suitable Type					
	50m～70m	80m~90m	100m	110m	120m～140m	150m～160m
22mm² × 3C	—	—	—	—	T20.1H-1822	T40M-1822
38mm² × 3C	—	—	—	T40M-1838	T40M-2038	—
60mm² × 3C	T20.1H-1560	T40M-1860	T40M-2060	T40M-2060	T40M-2060	—
100mm² × 3C	T40-2099	—	—	—	—	—

Type Choice Reference (Vertically Furl)

T20.1H-1522~1538Adopted When Vertically Furl Cable Dim 22mm²×4 pole~38 mm²×4 pole length in 30M.

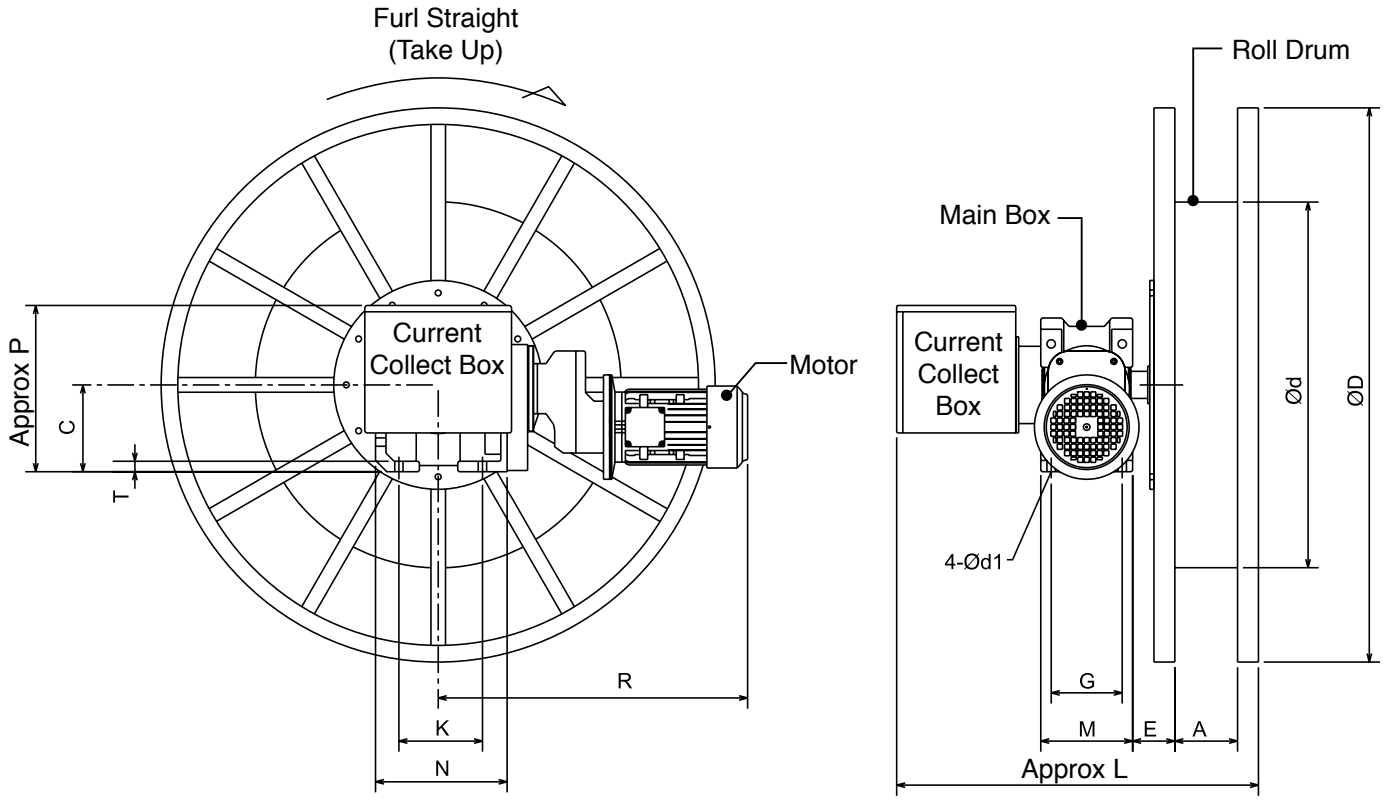
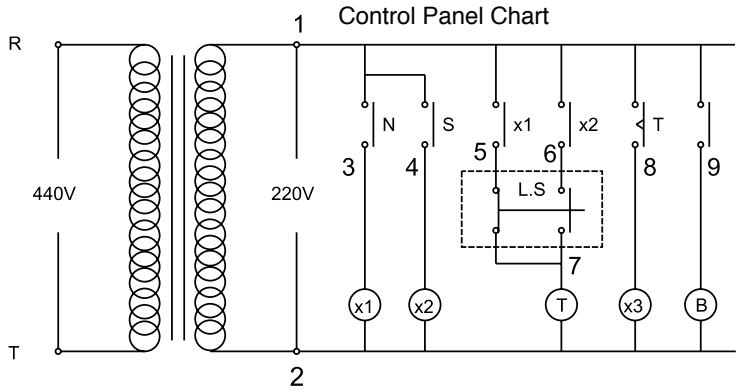


Chart 2

Specification									Remark
R	S	P	G±1	K±1	M	N	T	d1	
218	365	810	300	780	545	850	12	18	
218	365	810	300	780	545	850	12	18	
740	—	400	170	200	220	315	25	20	
740	—	400	170	200	220	315	25	20	

T40 Control Panel Explanation



N - N Saddle MS
S - S Saddle MS
x1 - Straight Relay
x2 - Reverse Relay
x3 - Variable Frequency Start Relay
T - Timer Relay
B - Brake MS
L.S - Sheave Guide

M10、M15 Motor Cable Reel

Application: Cable Dim 5.5mm²~14mm², Horizontally Furl Length 50M~100M.
For Low Noise And Thin Cable With Many Poles.

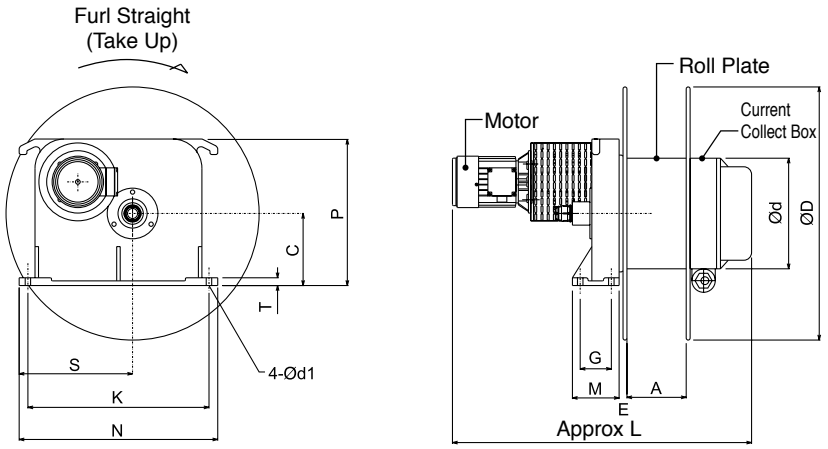


Chart 1

Specification

Type	Maximum Poles	Chart	O.D					
			D	d	A	C	E	＊L
KCRM-M10S-0505～0814	15	Chart 1	490	285	170	185	10	770
KCRM-M10S-0705～0514	15	Chart 1	650	285	170	185	10	770
KCRM-M15S-0905～0914	20	Chart 2	900	285	170	150	40	720

※Remark: KCRM-M15S-0914 Maximum Horizontally Furl Length is 100M

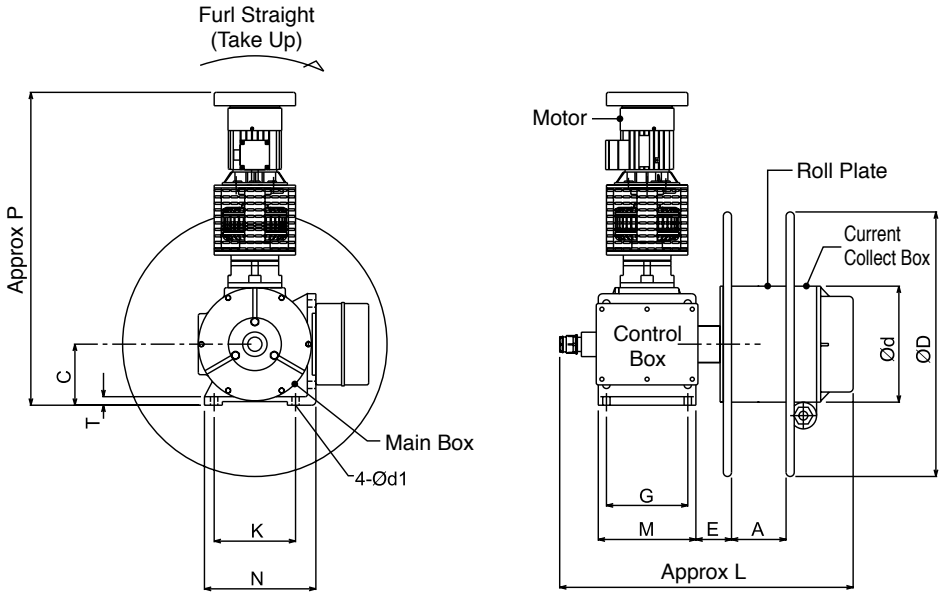
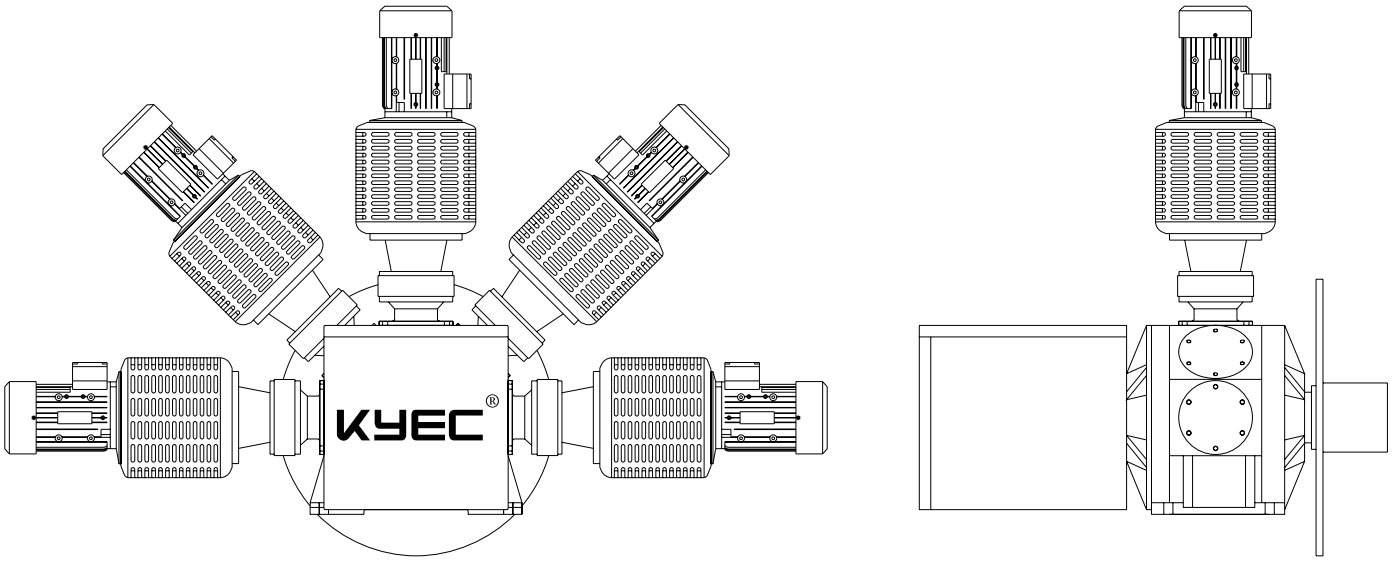


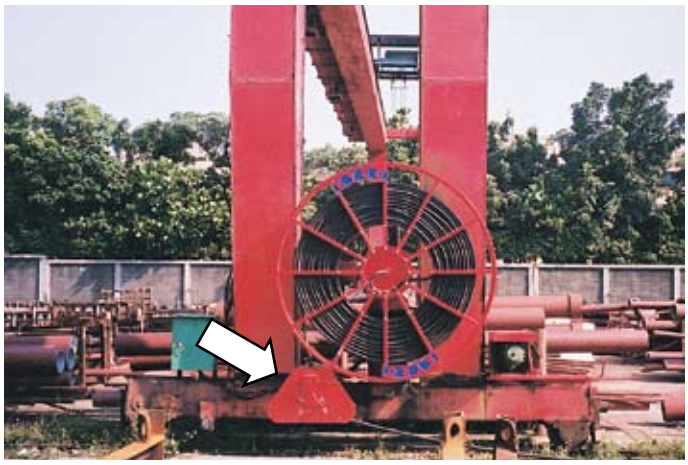
Chart 2

Specification									Remark
R	S	P	G±1	K±1	M	N	T	d1	
—	284	376	80	465	120	510	12	14	
—	284	376	80	465	120	510	12	14	
—	—	770	200	200	240	274	21	18	

M50 Motor Cable Reel

- Maximum Furl Length 200M With Cable Dim 60mm^2
  Maximum Furl Length 100M With Cable Dim 100mm^2
- Applications: Heavy Duty And Thick Cable





CSBC Gantry Crane Motor Cable Reel

Moving Cart Motor Cable Reel

— Motor Cable Reel —

Tunnel Access 200 Ton Gantry Crane

18 Ton Gantry Crane

Dragon Steel Factory Grab
(Vertically 30 Meters)

For Agriculture: Watering Can

CSBC: For Moving Cart

Civil Engineering: Cable In The Reinforced
Concrete Box

Convenient Winder

KRW-1

K5000A-30GF

KHR-702

Auto Air-Host Winder
Steel housing
LxWxH 27x9x30cm
PU-clad braid 5x8mm 12m 300 psl
PU-clad braid 8x12mm 9m 1000 psl
PU-clad braid 3/8" 6.5m (20 ft.) 1000 psl

KCR-706

Auto Winder
Extension Socket
Length: 30 ft., 40ft.

KCR-902

Plastic housing
LxWxH 23x6x25cm
Automatic rewind.
Fluorescent lamp.
Length: 20 ft.
Steel housing
Length: 30 ft., 40ft.
U.S. version 120V 13W 12A
Euro version 220V 9W 12A

KHR-600A

Spec: PU Int. dia: 8 mm
Ext. dia: 12mm
Length: 8m
pressure: 200psi

KHR-600B

Spec: PU Int. dia: 6.5mm
Ext. dia: 10mm
Length: 8m
pressure: 200psi

KHR-600

Spec: PU Int. dia: 5mm
Ext. dia: 8mm
Length: 8m
pressure: 200psi

30T Gantry Crane

Dam Screen

Slip Ring(For 360° Rotate Electricity Connector)

Carriage Transportation

Dam Gate

For Span Hoist

坤溢企業 KYEC

UKAS QUALITY MANAGEMENT Reg.No. 059-A

JAPANESE AMERICAN REGISTRARS JAJA

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