



# 심사결과 통지서

신청인	사업장명	(주)KITO	사업장관리번호	2010E110010
	사업자등록번호	010-E1-10010	대표자 성명	KITO YOSHIO
	소재지	2000, Tsuijiarai, Showa-Cho, Nakakoma-Gun, Yamanashi, Japan		
안전인증대상기계·기구명 호이스트				
형식(규격)	KMS-SHER2-010		용량(등급)	1 ton

「산업안전보건법」 제34조 및 같은 법 시행규칙 제58조의4제4항에 따라 실시한

- 예비심사
  - 서면심사
  - 기술능력 및 생산체계 심사
  - 개별 제품심사
  - 형식별 제품심사
- 결과가  적 합 함을 통지합니다.  
 부적합

2012년 07월 27일

인증심사원

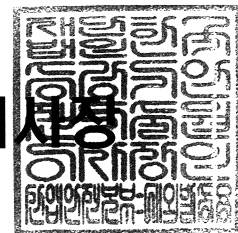
안 지 훈

오 태 화

안지훈  
(서명)

오태화  
(서명)

한국승강기안전기술원 이





제 CA-2012-0029 호

## 안 전 인 증 서

( 사업장명 ) (주)KITO

( 소재지 ) 2000, Tsujiarai, Showa-Cho, Nakakoma-Gun, Yamanashi, Japan

위 사업장에서 제조하는 아래의 품목이 「산업안전보건법」 제34조 및 같은 법 시행규칙 제58조의4제4항에 따른 안전인증 심사결과 안전·보건기준에 적합하므로 안전인증표시의 사용을 인증합니다.

_____	품 명 : 호이스트	_____
_____	형식(용량): KMS-SHER2-010(1 ton)	_____
_____	인증번호 : 12-CA4AC-0029	_____
_____	인증기준 : 위험기계·기구 의무안전인증기준 (고용노동부고시 제2011-39호)	_____
_____	인증조건 : 산업안전보건법 "제34조 준수"	_____

2012년 11월 30일

한국승강기안전기술원 이사장



제 2012-BJ-0009 호



# 안 전 인 증 서

정호엔지니어링

경기도 광명시 노온사동 440-5

위 사업장에서 제조하는 아래의 품목이 산업안전보건법 제34조 및 같은 법 시행규칙 제58조의4제4항에 따른 안전인증 심사 결과 안전·보건기준에 적합하므로 안전인증표시의 사용을 인증합니다.

## 품 목

양중기용 과부하방지장치

## 형식·모델/용량·등급/인증번호

형식·모델  
JDL-100

용량·등급  
J-2

인증번호  
12-AV2BJ-0009

## 인 증 기 준

방호장치 의무안전인증 고시(고용노동부고시 제2010-36호)

## 인 증 조 건

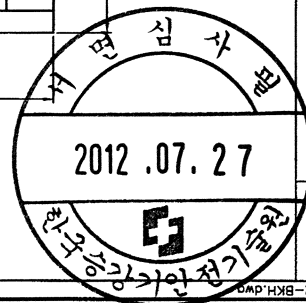
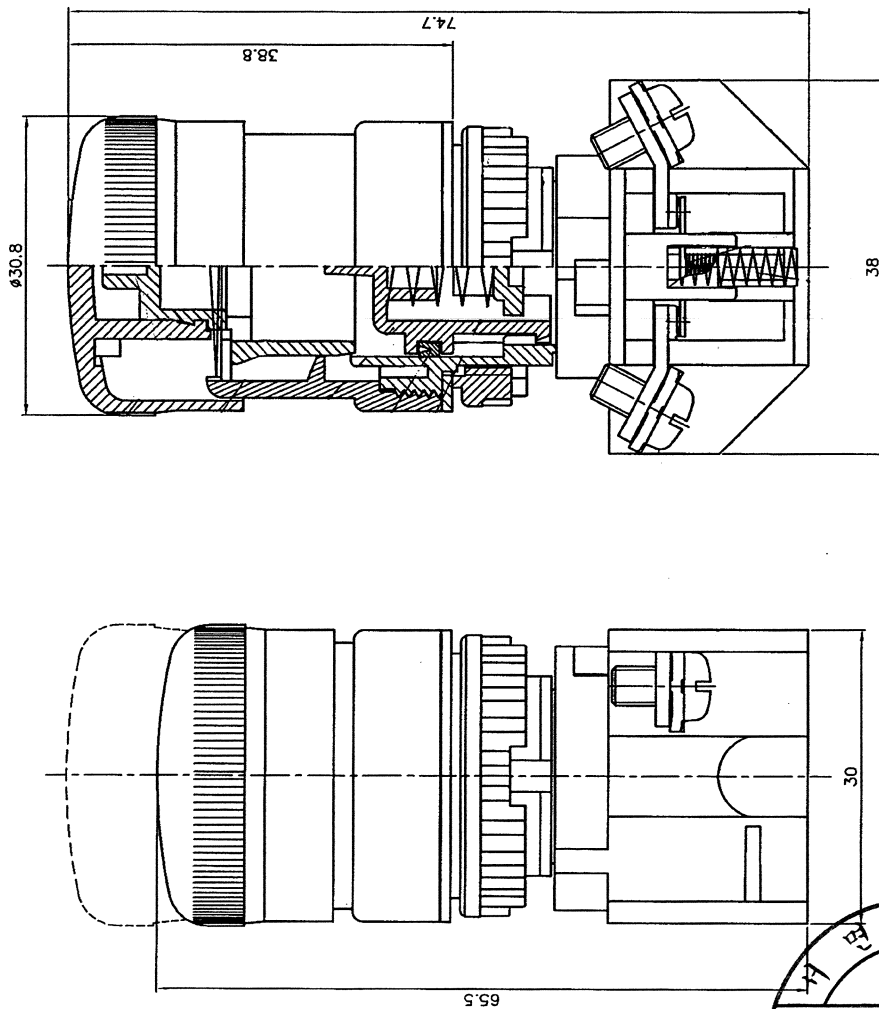
아래 주소에서 생산되는 제품에 한함.

정호엔지니어링, 경기도 광명시 노온사동 440-5

2012년 06월 11일

한국산업안전보건공단 이사장





一般公差		0.2~30mm: ±0.2	30.1~60mm: ±0.3	60.1~300mm: ±0.5	視具材質	視具處理	視具孔數	單位	mm	材質	圖號	T2-BKH
最新修正	品保部	95.05.24	核准	研發部	95.05.24	核對	研發部	比例	2:1	表面處理	品名	T2 BKH 連續開關
前次修正	品保部	95.05.24	林建宗	研發部	95.05.24	周義祥	繪圖	投影法	第一角	顏色		

原序: A

Revision	Incidence	Description	Date	Charge	Approved

A

B

C

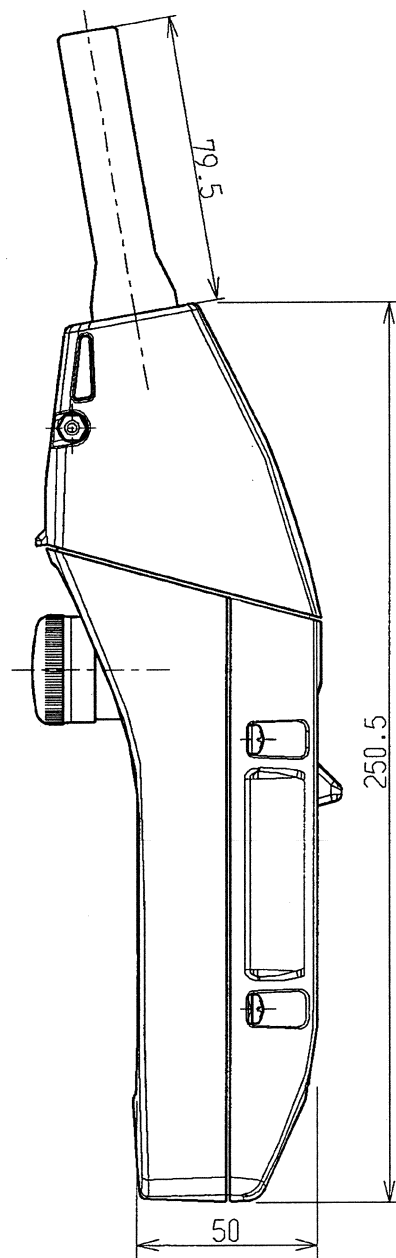
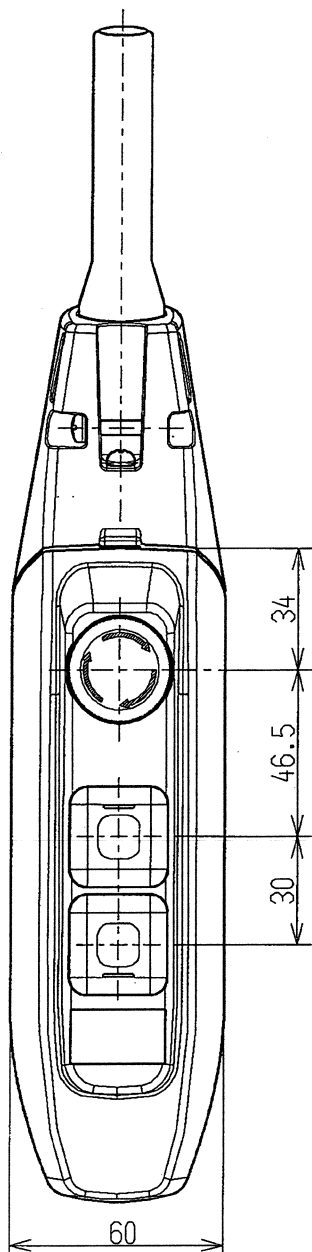
D

E

F

G

H



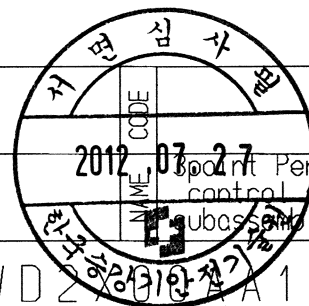
- ⑥
- ⑤
- ④
- ③
- ②
- ①

NOTE

APPROVED	ISHIKAWA	CHECKED	FURIYA	DESIGNED	KOBAYASHI	DRAWN	KOBAYASHI	SCALE	-
Date issued	08.02.08		08.02.08		08.02.08		08.02.08		

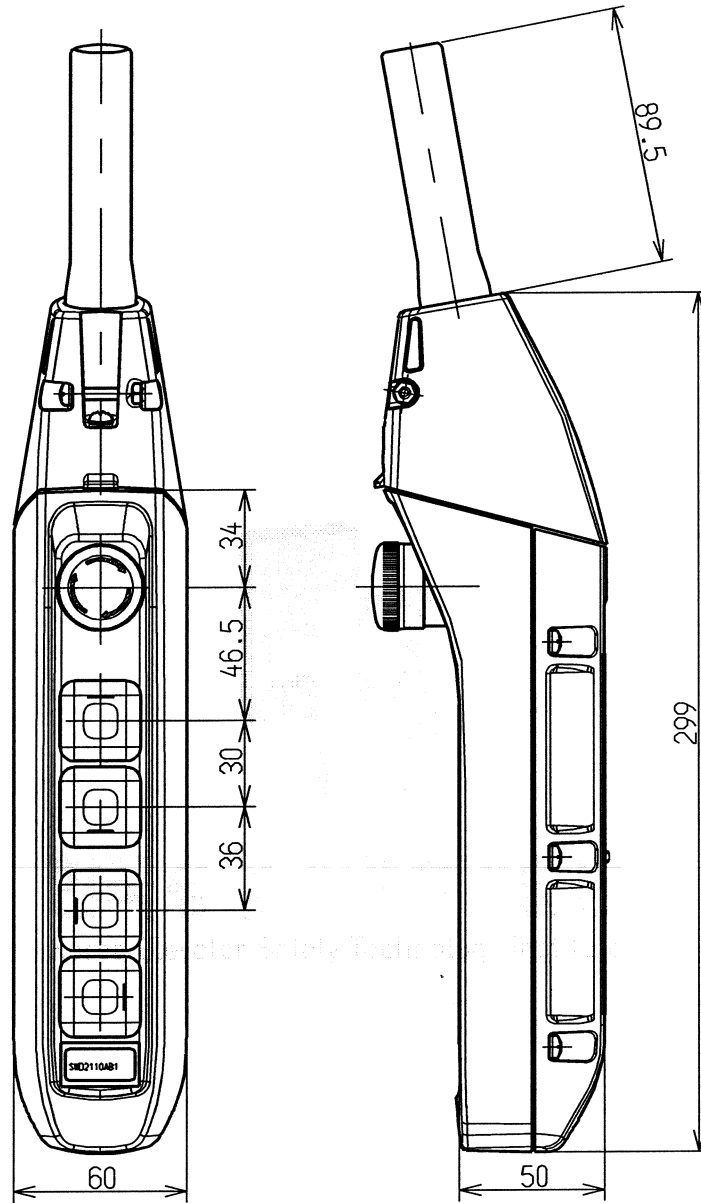
DWG. NO., NOS./UNIT MATERIAL

SWD 2701031000 A1



Pendant Pendant  
control station MX  
subassembly

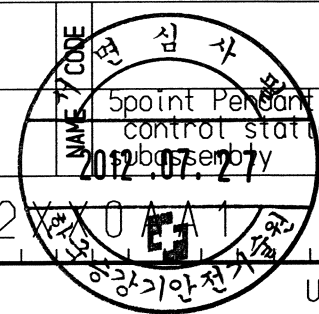
Revision	Incidence	Description	Date	Charge	Approved



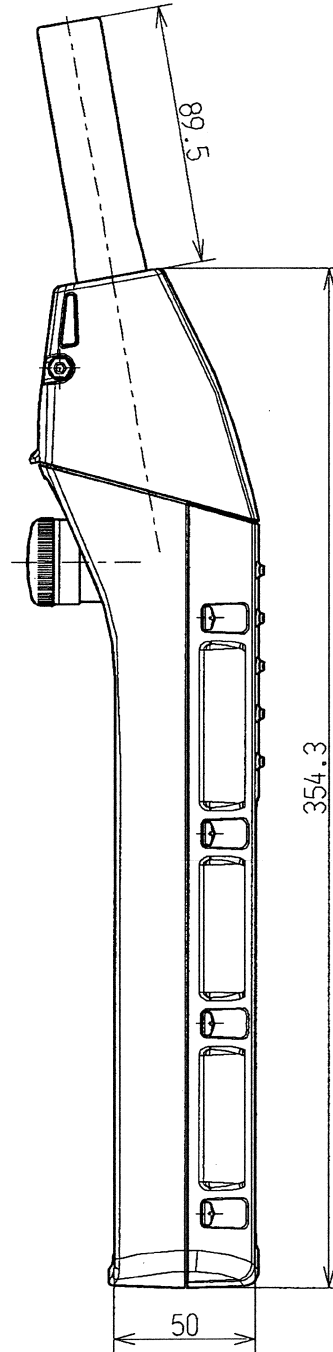
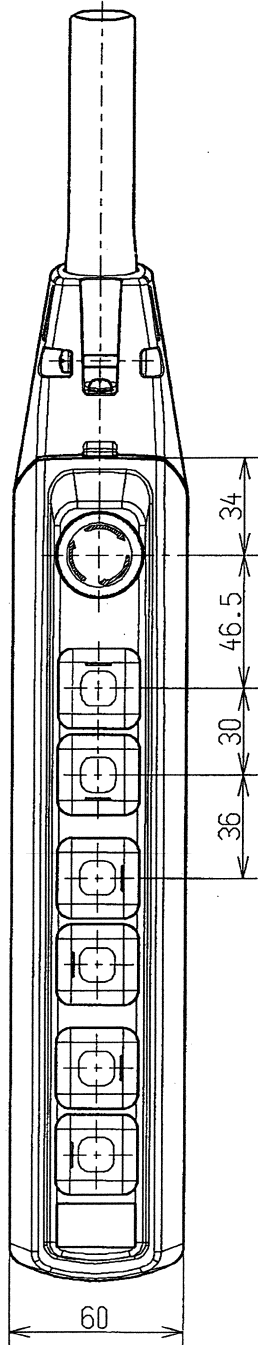
The lifting and lowering push buttons are marked with  $\uparrow\downarrow$  for single speed or  $\blacktriangle\blacktriangledown$  for dual speed.  
 The traveling push buttons are marked with E W or N S depending on the installed direction.

⑥
⑤
④
③
②
①

APPROVED	H. FURIYA	CHECKED	T. HATANO	DESIGNED	KOBAYASHI	DRAWN	KOBAYASHI	SCALE	-	DIG. NO.	SWD2	MATERIAL		NAME / CODE	5point Pendant control station MXX
	Date issued		09.04.21		09.04.21		09.04.21		09.04.21		09.04.21		09.04.21		09.04.21



Revision	Incidence	Description	Date	Change	Approved



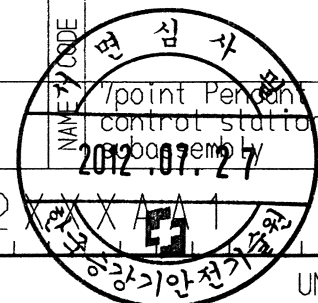
(E)  
(W)  
(S)  
(N)

⑥
⑤
④
③
②
①

NOTE

APPROVED	ISHIKAWA	CHECKED	FURIYA	DESIGNED	KOBAYASHI	DRAWN	KOBAYASHI	SCALE	-
Date issued	08.02.08		08.02.08		08.02.08		08.02.08		

DWG. NO.	NOS./UNIT	MATERIAL
SWD2	XXXXAA1	



1 2 3 4 5 6 7 8 9

형식번호: KMS-SHER2-010	諸元表 Particulars
Model number. KITO-SHER2SP010S KITO-SHER2SP010IS	基本仕様 Size ER2-D
1속고속 291 2속고속 316	定格荷重 Nominal Capacity 1t
M N O P 598 444 623 493	チェーンサイズ Chain size 3.5m(max 30m) φ7.7 x 1
	レール下面よりフックまでの最小距離 : C Min. Headroom 345mm
	相数・電圧 Phase・Voltage 3φ 220(208)V 60Hz 380,440V 60Hz

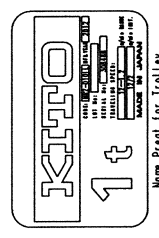
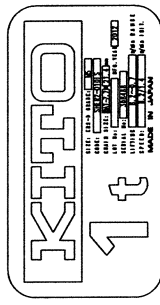
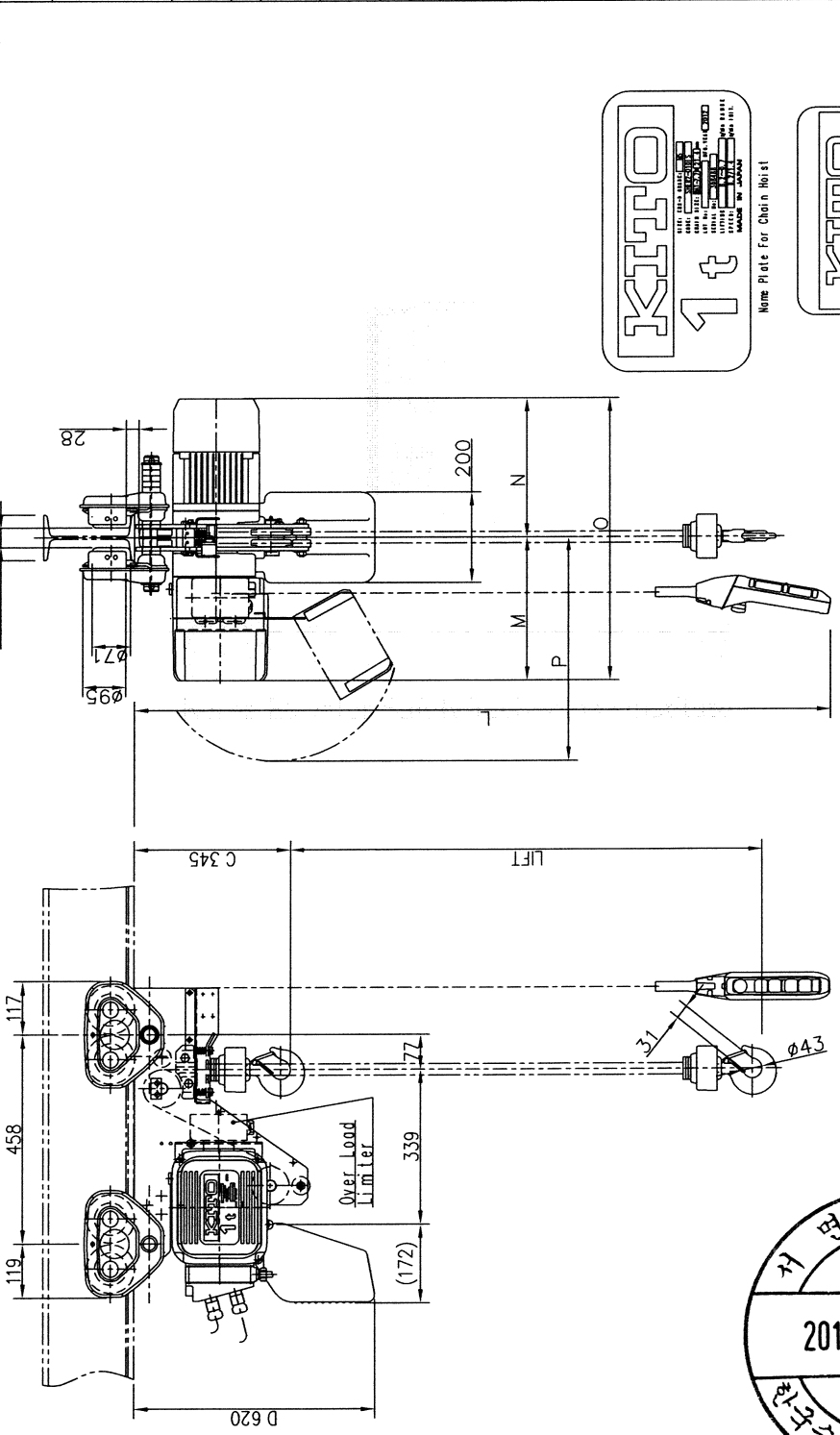
モーター出力 ・定格 ・巻数 ・巻径 ・分類	巻上モーター for Lifting IS 1.8kW・20/10%ED・M5 S 1.8kW・20/10%ED・M5
巻上速度 Lifting Speed	IS 8.2/1.4 m/min S 8.5 m/min
オンボタンの長さ : L Push Button Cord	3.5(30) m
ケーブルの長さ Length of Power Supply Cable	1 m
レール下面よりチェーンハックまでの寸法 : D Chain Catcher Distance from Bottom of Beam	620mm
最小回転半径 Min. Radius for Curve	100~125 mm
適用レールの巾 : B Flange Width	587 mm
トロリ最大巾 : G Max. Dimension of Trolley Width	587 mm
質量 Mass	Approx 102kg
塗装色 Painting Color	マンセル 7.5YR7/14 Munsell 7.5YR7/14

1. Short Head Room Type  
2. Load Chain: ND Chain

형식번호: KMS-SHER2-010  
\*자바라는 옵션 사양임

名称 TITLE	11 ER2M SERIES ELECTRIC CHAIN HOIST WITH PLAN TROLLEY
製造番号 CODE	SHER2-SP
図番 DWG. NO.	KMS-SHER2-010-001
尺度 SCALE	NOT
変回数 REV.	0

横式 075P-19  
三角法 単位: mm



承認 APPROVED	検閲 CHECKED	設計 DESIGNED	製図 DRAWN
A. Saito 12, 7, 10	K. Nakamura 12, 7, 10	K. Horiuchi 12, 7, 10	
年 DATE	月 DATE	日 DATE	承認 APPROVED
訂 REV.	数 QTY	内 CONTENTS	



XK0000651



1 2 3 4 5 6 7 8 9

정식번호: KMS-SHER2-010		Model number.																	
KITO-SHER2SG010S		KITO-SHER2SG010S																	
<table border="1"> <tr> <th colspan="4">Dimensions</th> </tr> <tr> <th>M</th> <th>N</th> <th>O</th> <th>P</th> </tr> <tr> <td>1속고속</td> <td>291</td> <td>307</td> <td>598</td> </tr> <tr> <td>2속고속</td> <td>316</td> <td>623</td> <td>493</td> </tr> </table>				Dimensions				M	N	O	P	1속고속	291	307	598	2속고속	316	623	493
Dimensions																			
M	N	O	P																
1속고속	291	307	598																
2속고속	316	623	493																
基本本体 Size		ER2-D																	
定格荷重 Nominal Capacity		1t																	
チェーンサイズ Chain size		3.5m(max 30m)																	
チェーン径 Chain dia		φ7.7 x 1																	
レール下面よりフックまでの最小距離 Min. Headroom		345mm																	
相数・電圧 Phase・Voltage		3φ 220(208)V 60Hz 380,440V 60Hz																	

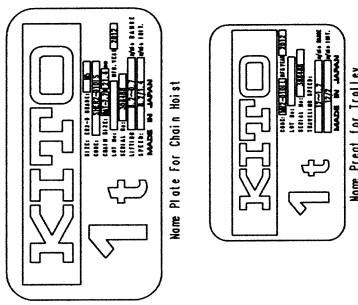
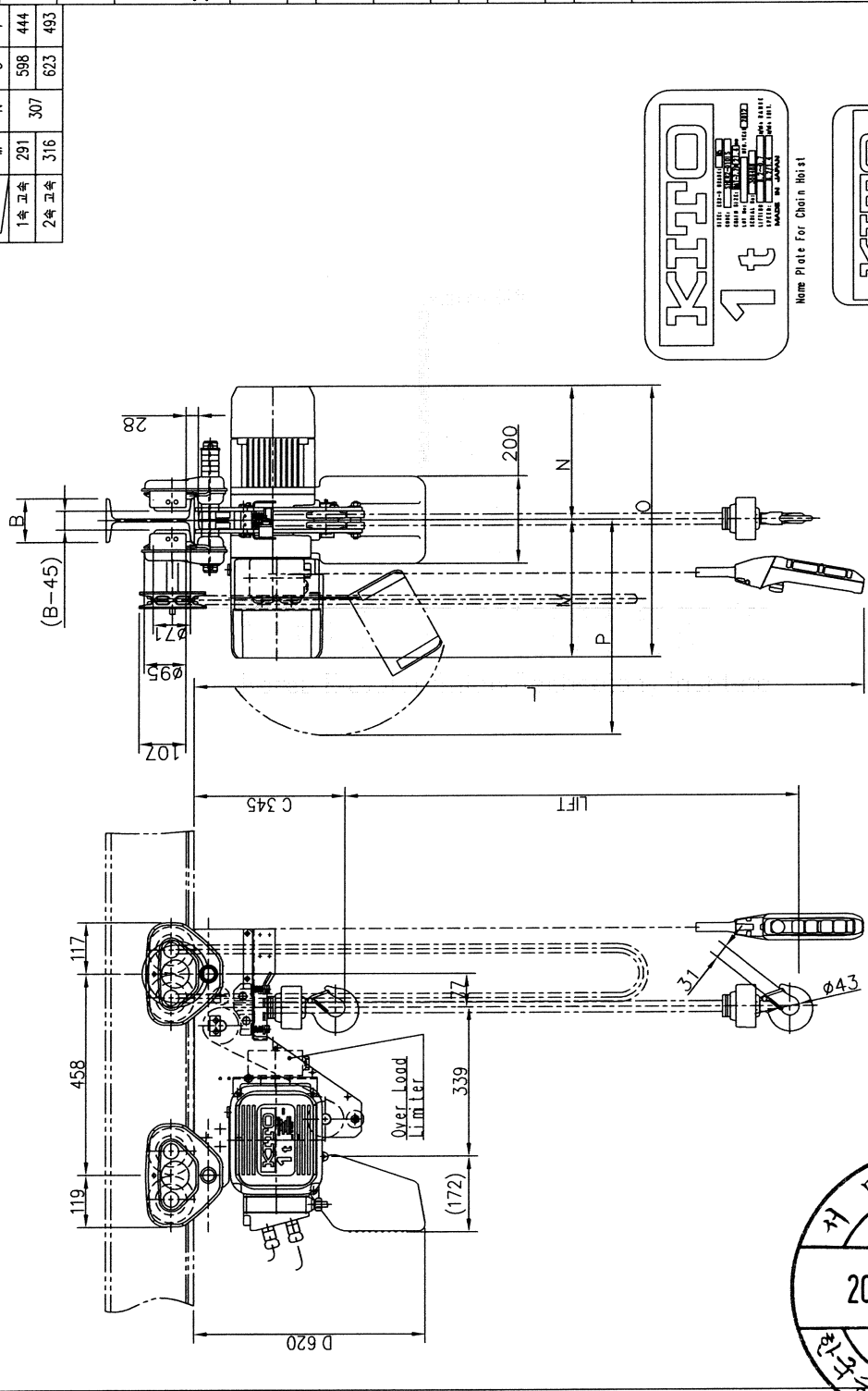
モータ出力 ・区画定格 ・巻数 Motor Output Duty Rating Cl. Classification	巻上モータ [of] Lifting	IS S	1.8kW・20/10%ED・M5 1.8kW・20/10%ED・M5
巻上速度 Lifting Speed	オンボタンスコード長さ・L Push Button Cord	IS S	8.2/1.4 m/min 8.5 m/min
チェーン長さ Length of Power Supply Cable	チェーン径 Chain Dia		3.5(30)m 1 m
レール下面よりチェーンハケットまでの寸法 Chain Coupler Distance from Bottom of Beam	最小回転半径 Min. Radius for Curve		620mm 100~125 mm
適用レール巾 : B Flange Width	トロリ最大巾 : C Max. Dimension of Trolley Width		587 mm
質量 Mass	塗装色 Painting Color		Approx 107kg マンセル 7.5YR7/14 Munsell 7.5YR7/14

1. Short Head Room Type  
2. Load Chain: ND Chain

형식번호: KMS-SHER2-010  
\*자바라는 옵션 사양임

名称 TITLE	1t ER2M SERIES ELECTRIC CHAIN HOIST WITH GEAR TROLLEY		
製造番号 CODE	SHER2-SG	尺度 SCALE	NOT
図番 DWG. NO.	KMS-SHER2-010-002	変更回数 REV.	0

接式 025P-19 三角法 単位: mm

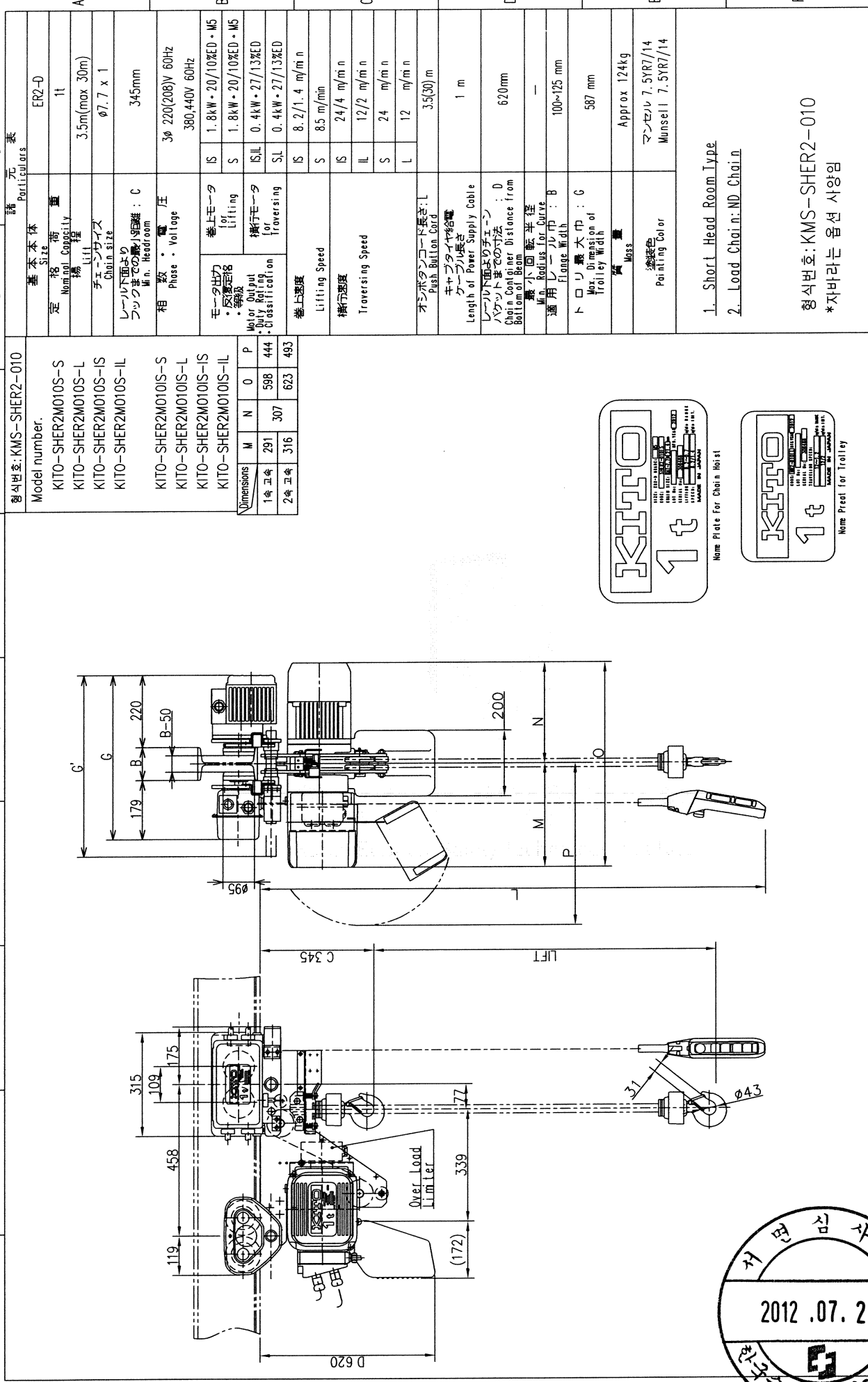


承認 APPROVED	検閲 CHECKED	設計 DESIGNED	製図 DRAWN
A. Saito	K. Nakamura	K. Horiuchi	
12, 7, 10	12, 7, 10	12, 7, 10	
承認 APPROVED	製図 DRAWN	年 DATE	月 DATE
内容 CONTENTS			
訂 REV.	数 QTY		

XK0000651

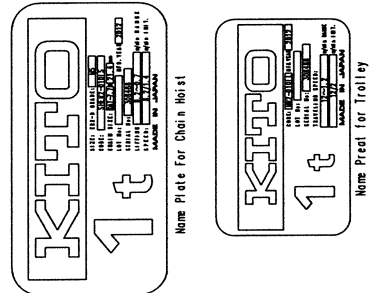


1 2 3 4 5 6 7 8 9



諸元表 Particulars		
基本本体 Size	ER2-D	
定格容量 Nominal Capacity	1t	
チェーンサイズ Chain size	3.5m(max 30m) φ7.7 x 1	
フック下の昇降距離 Min. Headroom	345mm	
相数・電圧 Phase・Voltage	3φ 220(208)V 60Hz 380,440V 60Hz	
モータ出力・定格容量 Motor Output Capacity	IS	1.8kW・20/10%ED・M5
	S	1.8kW・20/10%ED・M5
	IS,IL	0.4kW・27/13%ED
	SL	0.4kW・27/13%ED
巻上速度 Lifting Speed	IS	8.2/1.4 m/m n
横行速度 Traversing Speed	S	8.5 m/m n
横行速度 Traversing Speed	IS	24/4 m/m n
横行速度 Traversing Speed	IL	12/2 m/m n
横行速度 Traversing Speed	S	24 m/m n
横行速度 Traversing Speed	L	12 m/m n
オンボタコンコード長さ Push Button Cord		3.5(30) m
チェーン長さ Length of Power Supply Cable		1 m
フック下のチェーンコンクリートまでの寸法 Chain Concriger Distance from Bottom of Beam		620mm
最小回転半径 Min. Radius for Curve		—
適用チェーン径 Flange Width		100~125 mm
トロリ最大巾 Max. Dimension of Trolley Width		587 mm
質量 Mass		Approx 124kg
塗装色 Painting Color		マンセル 7.5YR7/14 Munsell 7.5YR7/14
1. Short Head Room Type		
2. Load Chain: ND Chain		
型式番号: KMS-SHER2-010		
*자바라는 옵션 사양임		

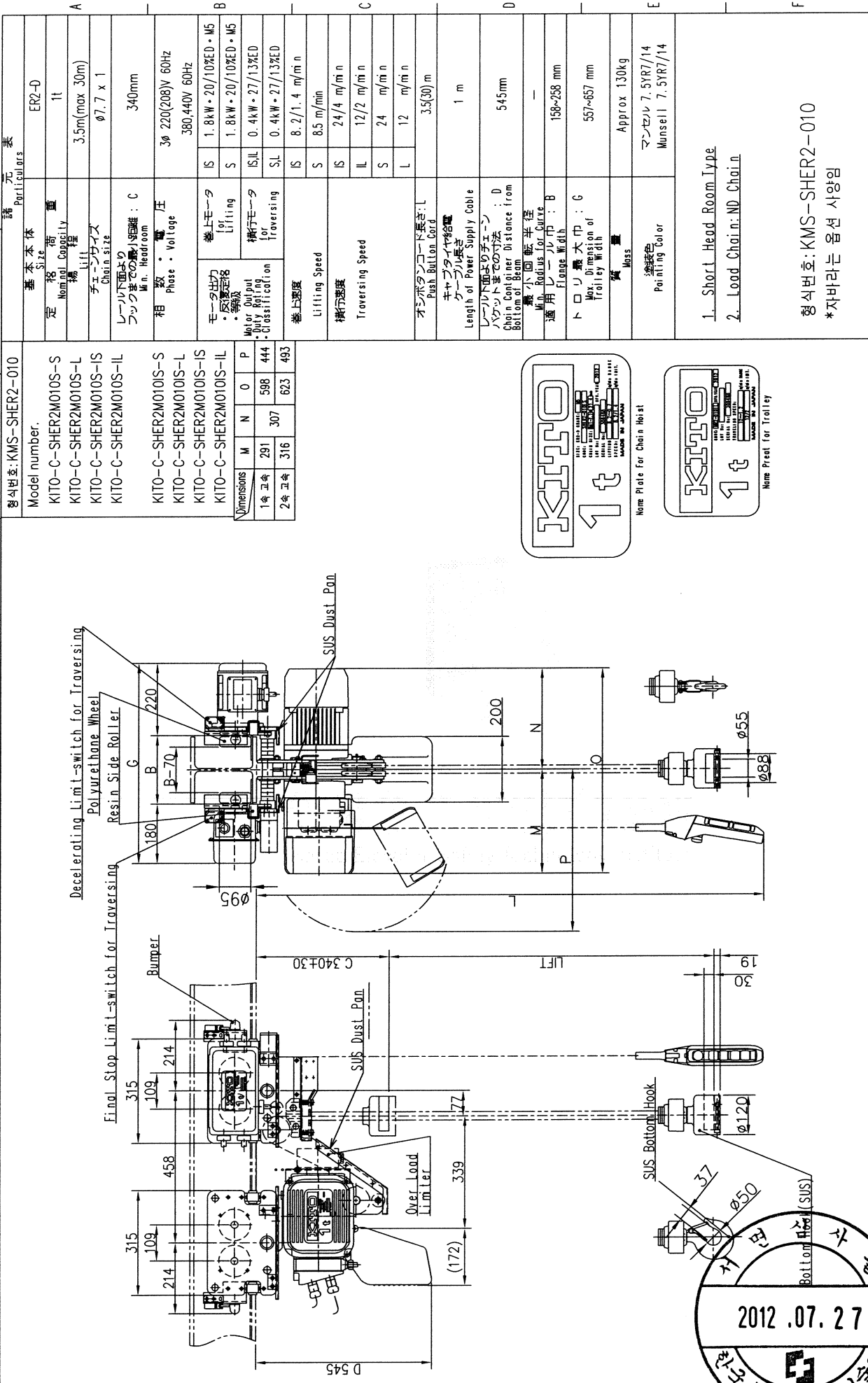
형식번호: KMS-SHER2-010 Model number.	
KITO-SHER2M010S-S	
KITO-SHER2M010S-L	
KITO-SHER2M010S-IS	
KITO-SHER2M010S-IL	
KITO-SHER2M010S-S	
KITO-SHER2M010S-L	
KITO-SHER2M010S-IS	
KITO-SHER2M010S-IL	
Dimensions	M N O P
1축 고속	291 307 598 444
2축 고속	316 623 623 493



承認 APPROVED		検閲 CHECKED		設計 DESIGNED		製図 DRAWN	
A. Saito		K. Nakamura		K. Horiuchi		—	
12, 7, 10		12, 7, 10		12, 7, 10		12, 7, 10	
年 月 日 DATE		年 月 日 DATE		年 月 日 DATE		年 月 日 DATE	
承認 APPROVED		承認 APPROVED		承認 APPROVED		承認 APPROVED	
担当 DRAWN		担当 DRAWN		担当 DRAWN		担当 DRAWN	
数量 QTY		数量 QTY		数量 QTY		数量 QTY	
内容 CONTENTS		内容 CONTENTS		内容 CONTENTS		内容 CONTENTS	
XK0000651		XK0000651		XK0000651		XK0000651	
KITO		KITO		KITO		KITO	
名称 TITLE		名称 TITLE		名称 TITLE		名称 TITLE	
1t ER2M SERIES ELECTRIC CHAIN HOIST WITH MOTORIZED TROLLEY		1t ER2M SERIES ELECTRIC CHAIN HOIST WITH MOTORIZED TROLLEY		1t ER2M SERIES ELECTRIC CHAIN HOIST WITH MOTORIZED TROLLEY		1t ER2M SERIES ELECTRIC CHAIN HOIST WITH MOTORIZED TROLLEY	
型式番号 CODE		型式番号 CODE		型式番号 CODE		型式番号 CODE	
SHER2-M		SHER2-M		SHER2-M		SHER2-M	
尺度 SCALE		尺度 SCALE		尺度 SCALE		尺度 SCALE	
NOT		NOT		NOT		NOT	
図番 Dwg. No.		図番 Dwg. No.		図番 Dwg. No.		図番 Dwg. No.	
KMS-SHER2-010-003		KMS-SHER2-010-003		KMS-SHER2-010-003		KMS-SHER2-010-003	
変更回数 REV.		変更回数 REV.		変更回数 REV.		変更回数 REV.	
0		0		0		0	
単位 Unit		単位 Unit		単位 Unit		単位 Unit	
mm		mm		mm		mm	

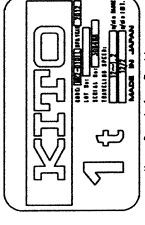
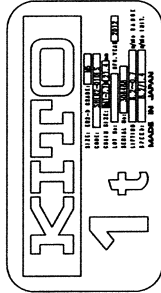


1 2 3 4 5 6 7 8 9



諸元表 Particulars	
型式番号: KMS-SHER2-010	基本本体 Model number.
	定格容量 Nominal Capacity
	チェーンサイズ Chain size
	レール下面よりフックまでの最小距離 Min. Headroom
	相数・電圧 Phase・Voltage
	モーター出力・定格電圧・定格電流・定格電圧 Motor Output or Lifting
	モーター出力・定格電圧・定格電流・定格電圧 Motor Output or Traversing
	巻上速度 Lifting Speed
	横行速度 Traversing Speed
	オシボタンコード長さ Push Button Cord
	ケーブル長 Length of Power Supply Cable
	チェーンコンテナの寸法 Chain Container Dimension from Bottom of Beam
	最小回転半径 Min. Radius for Curve
	適用レール巾 Flange Width
	トロリ最大巾 Max. Dimension of Trolley Width
	質量 Mass
	塗装色 Painting Color
	1. Short Head Room Type
	2. Load Chain: ND Chain
	型式番号: KMS-SHER2-010
	*자바라는 옵션 사양임

Dimensions	M	N	O	P
1속고속	291	588	444	444
2속고속	316	623	493	493



Name Plate for Chain Hoist

Name Plate for Trolley

承認 APPROVED	検閲 CHECKED	設計 DESIGNED	製図 DRAWN
A. Sai to	K. Nakamura	K. Horiuchi	
12, 7, 10	12, 7, 10	12, 7, 10	
年, 月, 日 DATE	年, 月, 日 DATE	年, 月, 日 DATE	年, 月, 日 DATE
訂数 REV. QTY	訂数 REV. QTY	訂数 REV. QTY	訂数 REV. QTY
1	1	1	1
内容 CONTENTS			
XK0000651			
型式 075P-19			
単位 mm			



# LOAD SUMMARY 3 – 1속고속형사양

\*POWER SOURCE : AC 3Φ 220(208)V

OBJECT	HOISTING	TRAVERSING	CONTROL CIRCUIT
MOTOR OUTPUT	1.8KW x 4P	0.4KW x 4P	
FULL LOAD CURRENT	8.4 (A)	3 (A)	0.5 (A)

\*크레인 하중상태를 HOIST의 정격 LOAD의 100(%)를 사용했을때를 기준으로 작성하였음.

\*\*\* NOMAL 전류값 \*\*\*

권상과 횡행시 : HOISTING + TRAVERSING + CONTROL CIRCUIT = 11.9 A

\*\*\* PEAK 전류값 \*\*\*

K= NOMAL 전류치가 50A미만일때 1.25, 50A이상일때 1.1적용

NOMAL 전류값 \* K = 11.9 \* 1.25 = 14.875 A

\*POWER SOURCE : AC 3Φ 380(440)V

OBJECT	HOISTING	TRAVERSING	CONTROL CIRCUIT
MOTOR OUTPUT	1.8KW x 4P	0.4KW x 4P	
FULL LOAD CURRENT	4.6 (A)	2.2 (A)	0.5 (A)

\*크레인 하중상태를 HOIST의 정격 LOAD의 100(%)를 사용했을때를 기준으로 작성하였음.

\*\*\* NOMAL 전류값 \*\*\*

권상과 횡행시 : HOISTING + TRAVERSING + CONTROL CIRCUIT = 7.3 A

\*\*\* PEAK 전류값 \*\*\*

K= NOMAL 전류치가 50A미만일때 1.25, 50A이상일때 1.1적용

NOMAL 전류값 \* K = 7.3 \* 1.25 = 9.125 A



# LOAD SUMMARY 4 - 1속고속형사양

\*POWER SOURCE : AC 3Φ 220(208)V

OBJECT	HOISTING	TRAVERSING	CONTROL CIRCUIT
MOTOR OUTPUT	1.8KW x 4P	-	
FULL LOAD CURRENT	8.4 (A)	0 (A)	0.5 (A)

\*크레인 하중상태를 HOIST의 정격 LOAD의 100(%)를 사용했을때를 기준으로 작성하였음.

\*\*\* NOMAL 전류값 \*\*\*

권상시 : HOISTING + CONTROL CIRCUIT = 8.9 A

\*\*\* PEAK 전류값 \*\*\*

K= NAMAL 전류치가 50A미만일때 1.25, 50A이상일때 1.1적용

NOMAL 전류값 \* K = 8.9 \* 1.25 = 11.125 A

\*POWER SOURCE : AC 3Φ 380(440)V

OBJECT	HOISTING	TRAVERSING	CONTROL CIRCUIT
MOTOR OUTPUT	1.8KW x 4P	-	
FULL LOAD CURRENT	4.6 (A)	0 (A)	0.5 (A)

\*크레인 하중상태를 HOIST의 정격 LOAD의 100(%)를 사용했을때를 기준으로 작성하였음.

\*\*\* NOMAL 전류값 \*\*\*

권상시 : HOISTING + CONTROL CIRCUIT = 5.1 A

\*\*\* PEAK 전류값 \*\*\*

K= NAMAL 전류치가 50A미만일때 1.25, 50A이상일때 1.1적용

NOMAL 전류값 \* K = 5.1 \* 1.25 = 6.375 A



# LOAD SUMMARY 1 – INVERTER사양(고속)

\*POWER SOURCE : AC 3Φ 220(208)V

OBJECT	HOISTING	TRAVERSING	CONTROL CIRCUIT
MOTOR OUTPUT	1.8KW x 4P	0.4KW x 4P	
FULL LOAD CURRENT	11.2 (A)	3 (A)	0.5 (A)

\*크레인 하중상태를 HOIST의 정격 LOAD의 100(%)를 사용했을때를 기준으로 작성하였음.

\*\*\* NOMAL 전류값 \*\*\*

권상과 횡행시 : HOISTING + TRAVERSING + CONTROL CIRCUIT = 14.7 A

\*\*\* PEAK 전류값 \*\*\*

K= NOMAL 전류치가 50A미만일때 1.25, 50A이상일때 1.1적용

NOMAL 전류값 \* K = 14.7 \* 1.25 = 18.375 A

\*POWER SOURCE : AC 3Φ 380(440)V

OBJECT	HOISTING	TRAVERSING	CONTROL CIRCUIT
MOTOR OUTPUT	1.8KW x 4P	0.4KW x 4P	
FULL LOAD CURRENT	5.1 (A)	2.5 (A)	0.5 (A)

\*크레인 하중상태를 HOIST의 정격 LOAD의 100(%)를 사용했을때를 기준으로 작성하였음.

\*\*\* NOMAL 전류값 \*\*\*

권상과 횡행시 : HOISTING + TRAVERSING + CONTROL CIRCUIT = 8.1 A

\*\*\* PEAK 전류값 \*\*\*

K= NOMAL 전류치가 50A미만일때 1.25, 50A이상일때 1.1적용

NOMAL 전류값 \* K = 8.1 \* 1.25 = 10.125 A



## LOAD SUMMARY 2 – INVERTER사양(고속)

\*POWER SOURCE : AC 3Φ 220(208)V

OBJECT	HOISTING	TRAVERSING	CONTROL CIRCUIT
MOTOR OUTPUT	1.8KW x 4P	-	
FULL LOAD CURRENT	11.2 (A)	0 (A)	0.5 (A)

\*크레인 하중상태를 HOIST의 정격 LOAD의 100(%)를 사용했을때를 기준으로 작성하였음.

\*\*\* NOMAL 전류값 \*\*\*

권상시 : HOISTING + CONTROL CIRCUIT = 11.7 A

\*\*\* PEAK 전류값 \*\*\*

K= NAMAL 전류치가 50A미만일때 1.25, 50A이상일때 1.1적용

NOMAL 전류값 \* K = 11.7 \* 1.25 = 14.625 A

\*POWER SOURCE : AC 3Φ 380(440)V

OBJECT	HOISTING	TRAVERSING	CONTROL CIRCUIT
MOTOR OUTPUT	1.8KW x 4P	-	
FULL LOAD CURRENT	5.1 (A)	0 (A)	0.5 (A)

\*크레인 하중상태를 HOIST의 정격 LOAD의 100(%)를 사용했을때를 기준으로 작성하였음.

\*\*\* NOMAL 전류값 \*\*\*

권상시 : HOISTING + CONTROL CIRCUIT = 5.6 A




\*\*\* PEAK 전류값 \*\*\*

K= NAMAL 전류치가 50A미만일때 1.25, 50A이상일때 1.1적용





NOMAL 전류값 \* K = 5.6 \* 1.25 = 7 A






ROTATING MACHINE

-  SYNCHRONOUS GENERATOR, 3-PHASE
-  AC INDUCTION MOTOR, 3-PHASE
- \* N : NORMAL DUTY
- \* S : STAND-BY
-  DC MOTOR



LIGHTNING ARRESTERS

-  LA : LIGHTNING ARRESTER
-  SA : SURGE ARRESTER
-  SS : SURGE SUPPRESSOR
-  DISCHARGE COUNTER















INSTRUMENT TRANSFORMERS

-  CURRENT TRANSFORMER
-  ZERO PHASE CURRENT TRANSFORMER
-  POTENTIAL TRANSFORMER




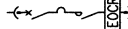

CIRCUIT BREAKERS

-  POWER CIRCUIT BREAKER, FIXED TYPE
- GCB : SF6 GAS CIRCUIT BREAKER
- VGB : VACUUM CIRCUIT BREAKER
- ACB : AIR CIRCUIT BREAKER
-  POWER CIRCUIT BREAKER, DRAWOUT TYPE





















SWITCHES

-  DISCONNECTOR SWITCH, SINGLE THROW MANUALLY OPERATED
-  LOAD BREAK SWITCH, SINGLE THROW MANUALLY OPERATED
-  EARTHING SWITCH, SINGLE THROW MANUALLY OPERATED
-  DISCONNECTOR SWITCH, SINGLE THROW MOTOR OPERATED
-  EARTHING SWITCH, SINGLE THROW MOTOR OPERATED
-  VACUUM CIRCUIT SWITCH
-  FUSED DISCONNECTOR SWITCH
-  FUSE-SWITCH
-  LIMIT SWITCH (MAKE CONTACT)
-  LIMIT SWITCH (BREAK CONTACT)
-  PUSH BUTTON, NORMALLY OPEN MOMENTARY CONTACT
-  PUSH BUTTON, NORMALLY CLOSED MOMENTARY CONTACT
-  PUSH BUTTON, NORMALLY OPEN PUSH TO LOCK, RELEASED BY KEY
-  MANUAL SELECTOR SWITCH (LOCKED)

CONTACTORS AND STARTERS

-  AUX. CONTACT, NORMALLY OPEN WHEN MAIN SWITCHING DEVICE IS DE-ENERGIZED
-  AUX. CONTACT, NORMALLY CLOSED WHEN MAIN SWITCHING DEVICE IS DE-ENERGIZED
-  MAGNETIC CONTACTOR, ELECTRICALLY OPERATED
-  COMBINATION STARTER, FULL VOLTAGE, NON-REVERSING, DRAWOUT TYPE, WITH ELECTRICALLY OPERATED CONTACTORS, WITH MAGNETIC MOTOR CIRCUIT BREAKER, BUILT IN ELECTRONIC OVER-CURRENT RELAY WITH ADJUSTABLE TRIP RATING
-  COMBINATION STARTER, FULL VOLTAGE, NON-REVERSING, FIXED TYPE, WITH ELECTRICALLY OPERATED CONTACTORS, WITH MAGNETIC MOTOR CIRCUIT BREAKER, BUILT IN THERMAL OVER-CURRENT RELAY WITH ADJUSTABLE TRIP RATING

GRAPHIC SYMBOLS

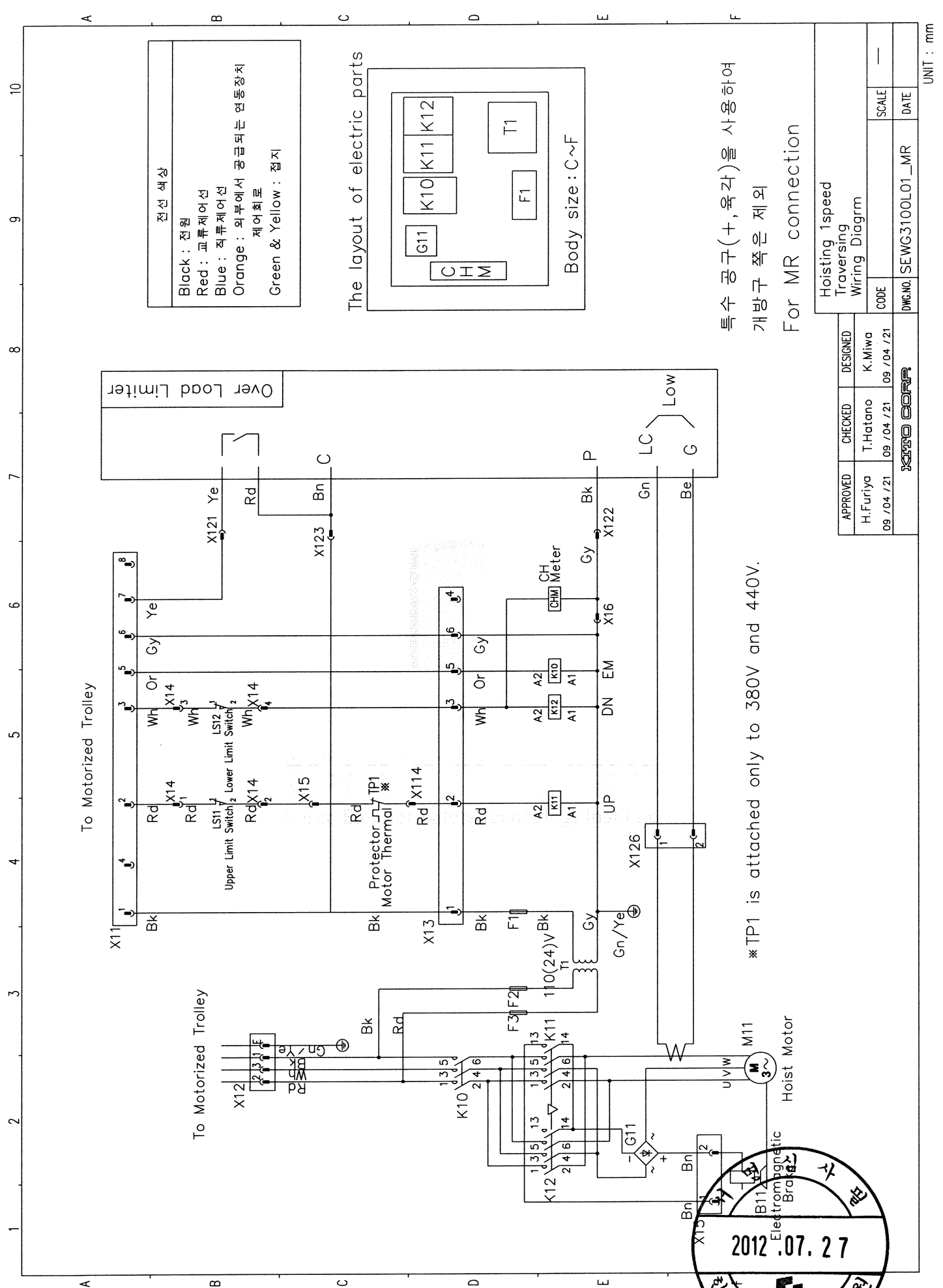
-  GENERAL OPERATING COIL
-  CAPACITOR
-  CAPACITOR VOLTAGE TRANSFORMER(CVT)
-  RESISTOR
-  DIODE
-  CONTROLLED RECTIFIER
-  DC-DC CONVERTER
-  RECTIFIER, BATTERY CHARGER
-  DC-AC INVERTER
-  BATTERY BANK
-  ELECTRIC HEATER, INDICATE 1\* OR 3\* AND KW RATING, UNLESS OTHERWISE SPECIFIED, TO BE REGARDED AS 1\*.
-  EARTHING CONNECTION
-  DISCONNECTION LINK
-  CROSSING OF CONDUCTORS NOT CONNECTED
-  JUNCTION OF CONDUCTORS OR WIRES
-  BUS DUCT
- SPB : SEGREGATED PHASE BUS DUCT
- IPB : ISOLATED PHASE BUS DUCT
-  CABLE HEAD AND CABLE CONNECTION
-  AMMETER SWITCH
-  VOLTMETER SWITCH
-  SIGNAL LAMP
- \* R = RED
- \* G = GREEN
- \* W = WHITE
- \* C = CYAN
- Y = YELLOW
- B = BLUE
- A = AMBER

SYMBOL LIST

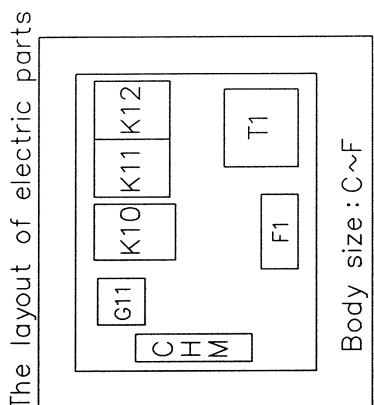
APPROVED	CHECKED	DESIGNED
<b>KOTO CORP.</b>		
CODE	SCALE	DATE





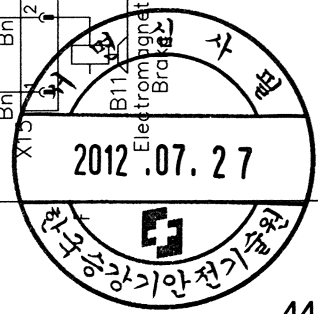


전선 색상  
 Black : 전원  
 Red : 교류제어선  
 Blue : 직류제어선  
 Orange : 외부에서 공급되는 연동장치 제어 회로  
 Green & Yellow : 접지

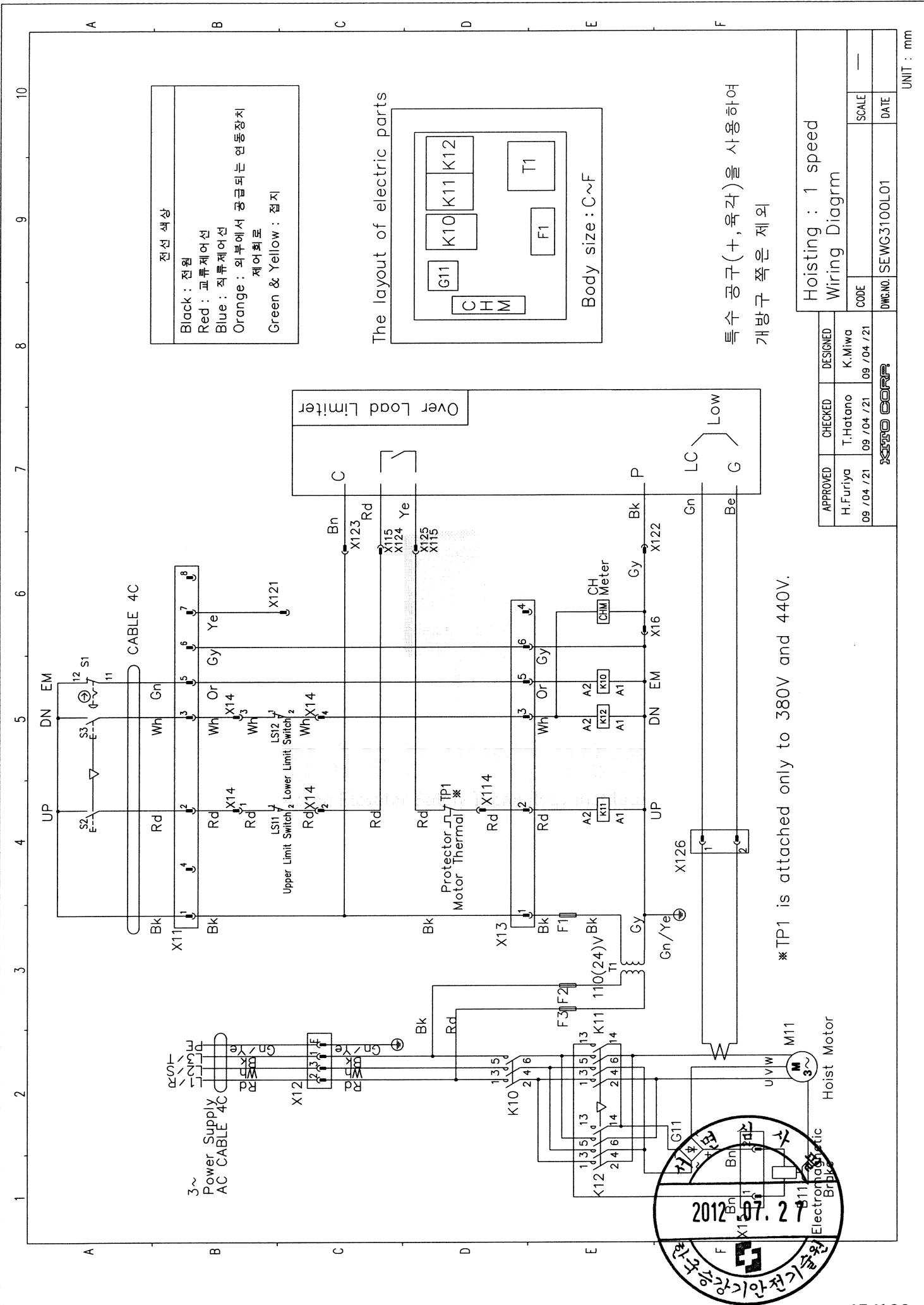


특수 공구(+, 육각)를 사용하여  
 개방구 쪽은 제외  
 For MR connection

APPROVED		CHECKED	DESIGNED	Hoisting 1speed Traversing Wiring Diagram	
H.Furiya		T.Hatano	K.Miwa	CODE	SCALE
09 / 04 / 21		09 / 04 / 21	09 / 04 / 21	DWG.NO. SEWG3100L01_MR	DATE
<b>KATO CORP.</b>					

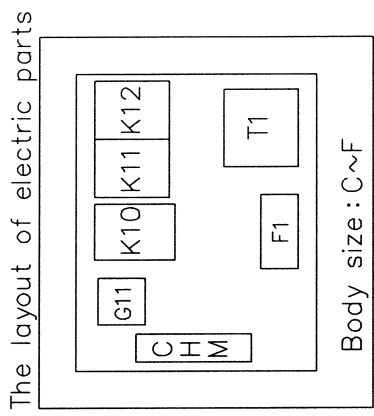


UNIT : mm



전선 색상

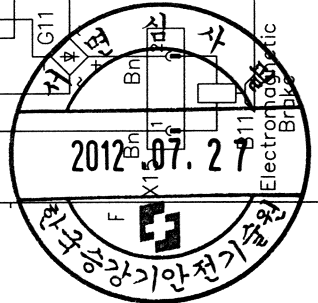
Black :	전원
Red :	교류제어선
Blue :	직류제어선
Orange :	외부에서 공급되는 연동장치 제어회로
Green & Yellow :	접지



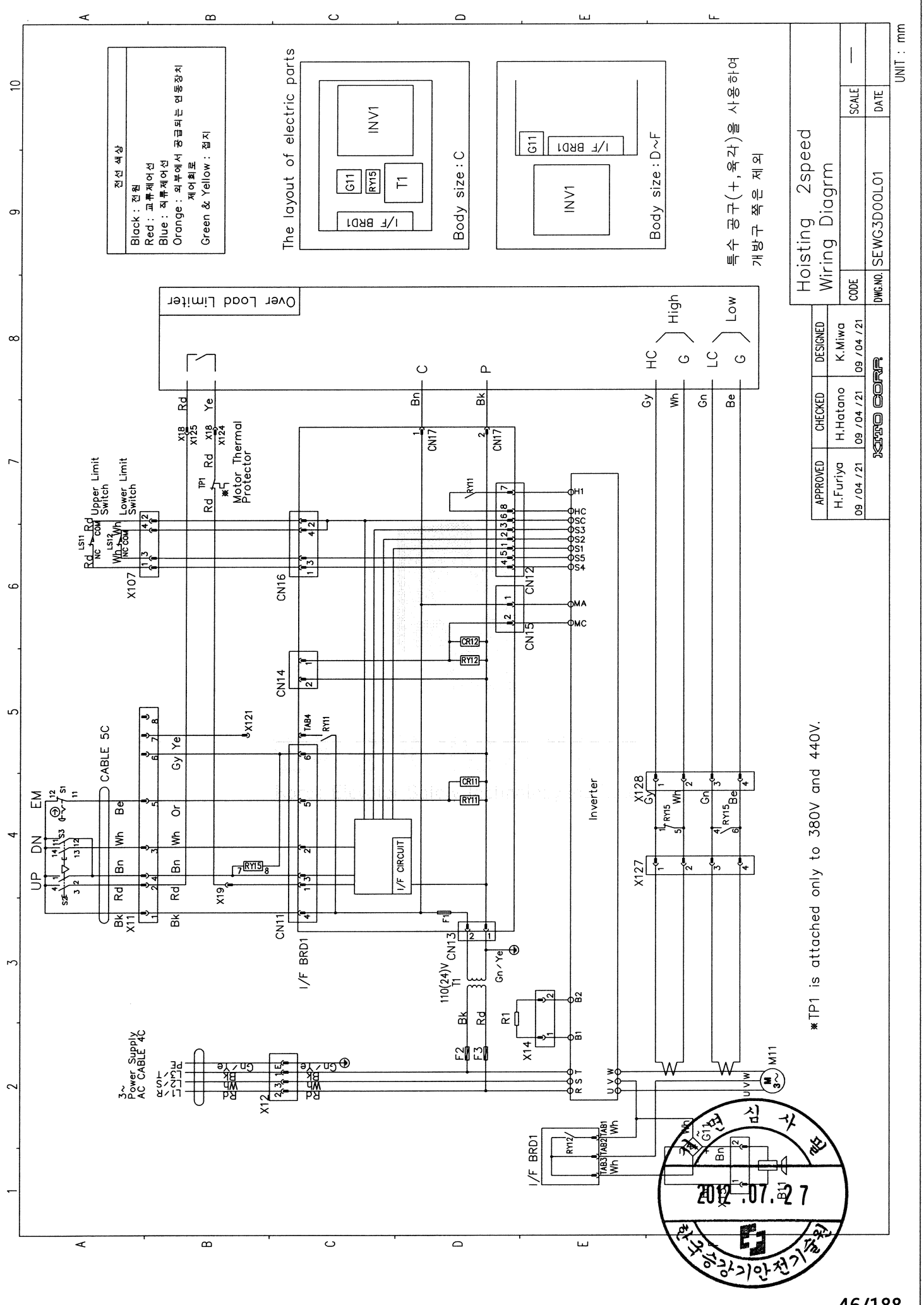
특수 공구(+, 육각)을 사용하여  
개방구 쪽은 제외

APPROVED		CHECKED	DESIGNED	Hoisting : 1 speed Wiring Diagram	
H.Furiya		T.Hatano	K.Miwa	CODE	SCALE
09 / 04 / 21		09 / 04 / 21	09 / 04 / 21	DWG.NO. SEWG3100L01	DATE
<b>KATO CORP.</b>					

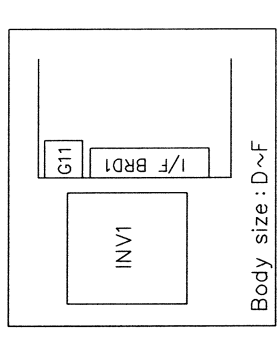
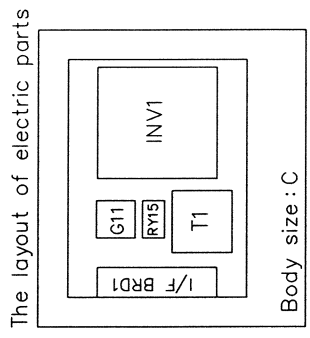
\* TP1 is attached only to 380V and 440V.



UNIT : mm



전선 색상  
 Black : 전원  
 Red : 교류제어선  
 Blue : 직류제어선  
 Orange : 외부에서 공급되는 연동장치 제어회로  
 Green & Yellow : 접지



특수 공구(+, 육각)를 사용하여  
 개방구 쪽은 제외

Hoisting 2speed  
 Wiring Diagram

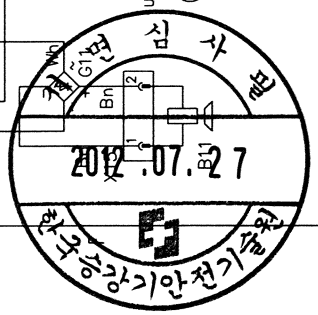
APPROVED	CHECKED	DESIGNED
H.Furiya	H.Hatano	K.Miwa
09 / 04 / 21	09 / 04 / 21	09 / 04 / 21

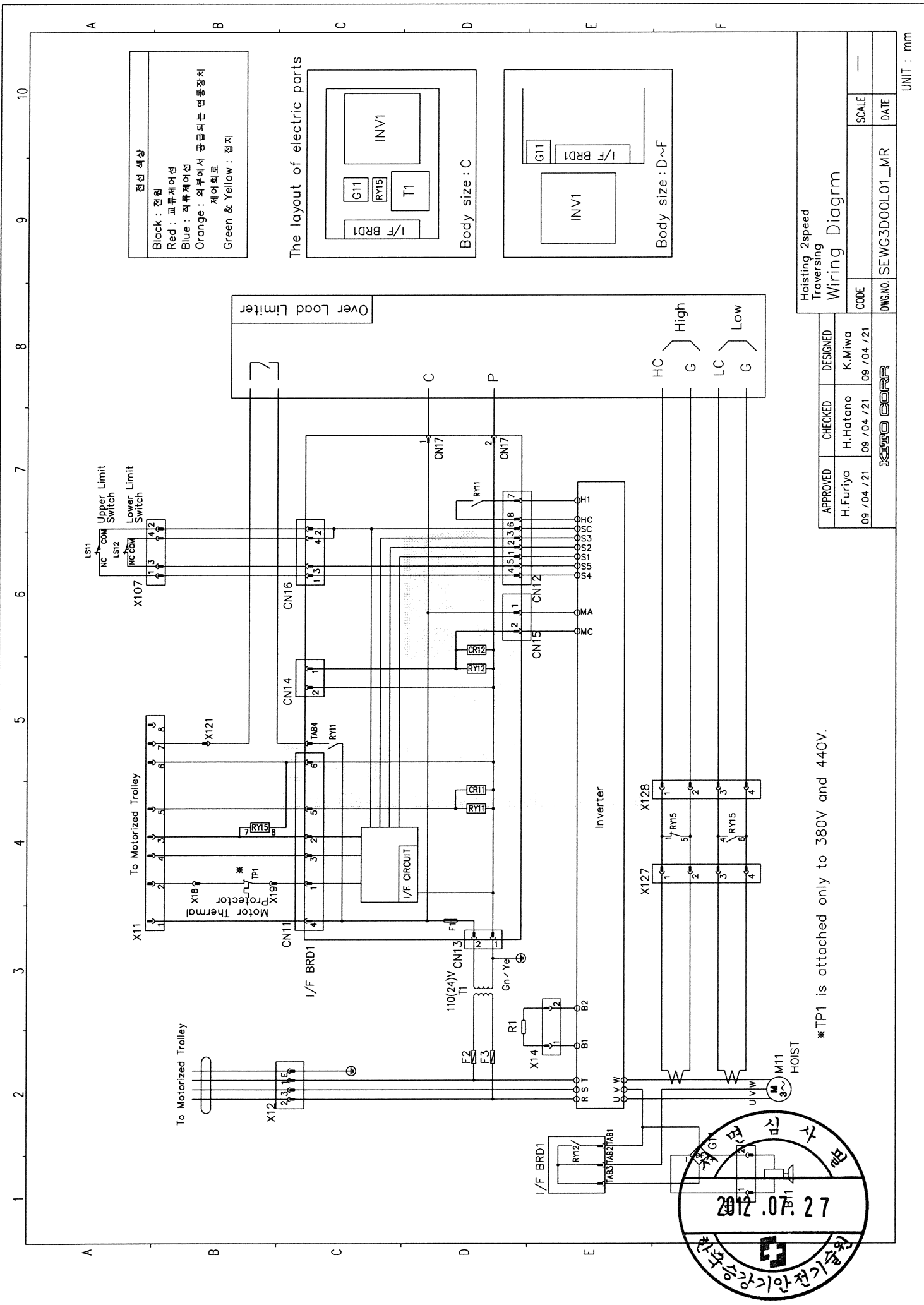
CODE	SCALE	DATE
	—	

DWG.NO: SEWG3D00L01

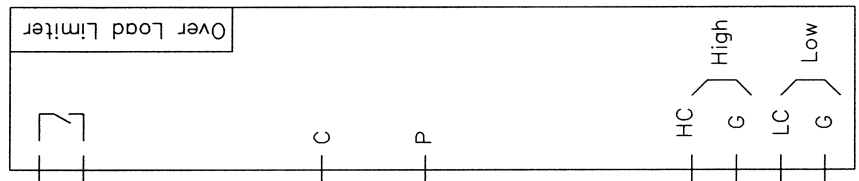
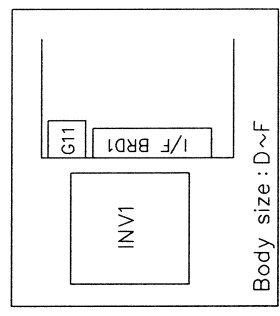
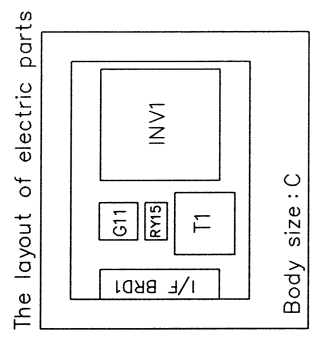
UNIT : mm

\* TP1 is attached only to 380V and 440V.





전선 색상  
 Black : 전철  
 Red : 교류제어선  
 Blue : 직류제어선  
 Orange : 외부에서 공급되는 연동장치 제어회로  
 Green & Yellow : 접지



Hoisting 2speed Traversing Wiring Diagram

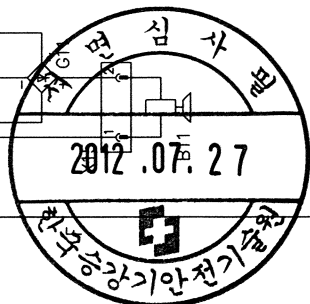
APPROVED	CHECKED	DESIGNED
H. Furiya	H. Hatano	K. Miwa
09 / 04 / 21	09 / 04 / 21	09 / 04 / 21

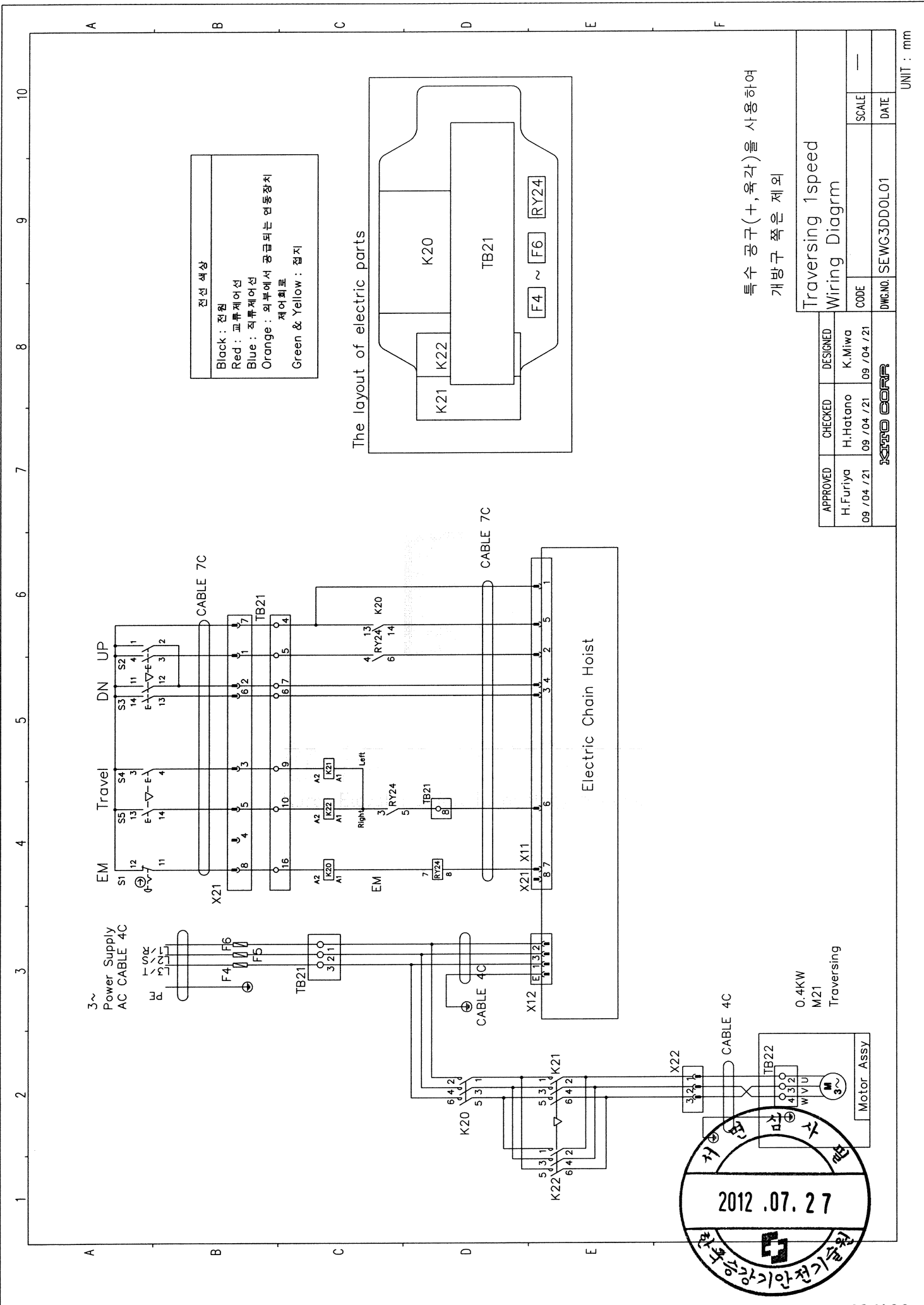
  

CODE	SCALE	DATE
DWG. NO. SEWG3D00L01_MR	—	—



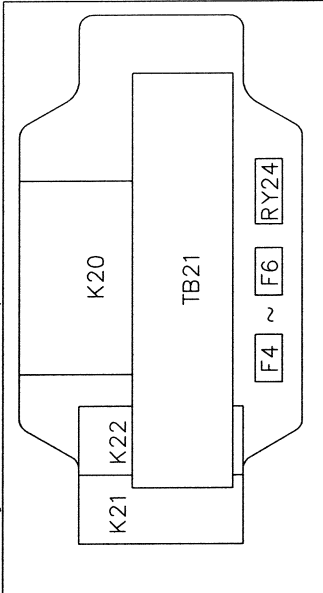
\* TP1 is attached only to 380V and 440V.





전선 색상  
 Black : 전원  
 Red : 교류제어선  
 Blue : 직류제어선  
 Orange : 외부에서 공급되는 연동장치 제어회로  
 Green & Yellow : 접지

The layout of electric parts



특수 공구(+, 육각)을 사용하여  
 개방구 쪽은 제외

Traversing 1speed  
 Wiring Diagram

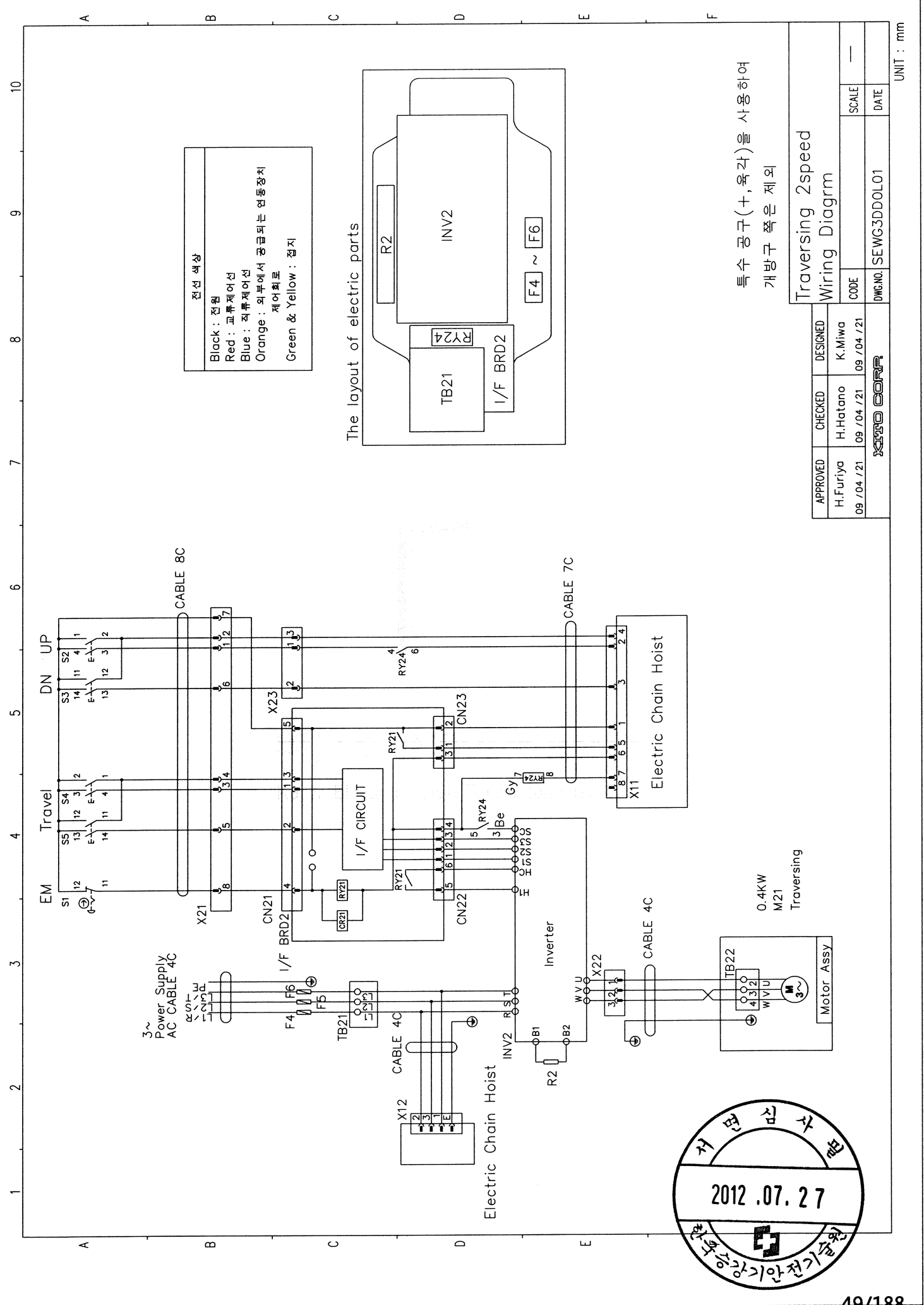
APPROVED	CHECKED	DESIGNED
H.Furiya	H.Hatano	K.Miwa
09 / 04 / 21	09 / 04 / 21	09 / 04 / 21
<b>KATO CORP</b>		
CODE	SCALE	DATE
DWG.NO: SEWG3DD0L01	—	—

2012 .07. 27

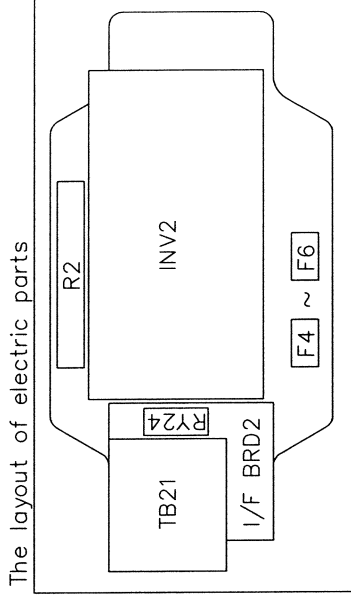
0.4KW  
 M21  
 Traversing

Motor Assy

UNIT : mm



전선 색상  
 Black : 전원  
 Red : 교류제어선  
 Blue : 직류제어선  
 Orange : 외부에서 공급되는 연동장치 제어회로  
 Green & Yellow : 접지



특수 공구(+, 육각)를 사용하여  
 개방구 쪽은 제외

Traversing 2speed  
 Wiring Diagram

APPROVED	CHECKED	DESIGNED
H.Furiya 09 / 04 / 21	H.Hatano 09 / 04 / 21	K.Miwa 09 / 04 / 21
<b>KATO CORP.</b>		
CODE	SCALE	DATE
DWG.NO. SEWG3DD0L01	—	—



UNIT : mm

CABLE 구성도 및 사양 - 권상 용량 1.8kW

CABLE SPECIFICATION FOR ER2M

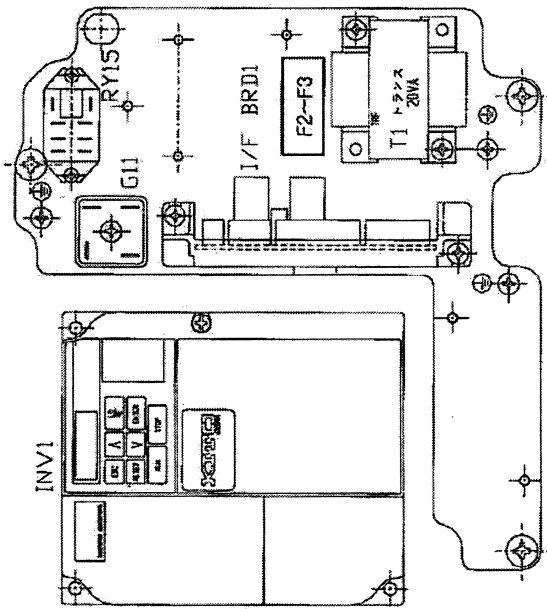
NO	ITEM	TYPE	ER2M10	
			SIZE	
①	Power Line	VCT	3.5sq x 4C	
②	Push Button Switch	VCT	1.25sq x 8C	
③	Loas Limit	VCT	0.75sq x 8C	
④	Power Line for ER	VCT	2sq x 4C	
⑤	Control Line for ER	VCT	1.25sq x 6C	
⑥	Traversing Motor With Earth	VCT	1.25sq x 4C	

(3Φ 220(208)V / 380V / 440V 60Hz)

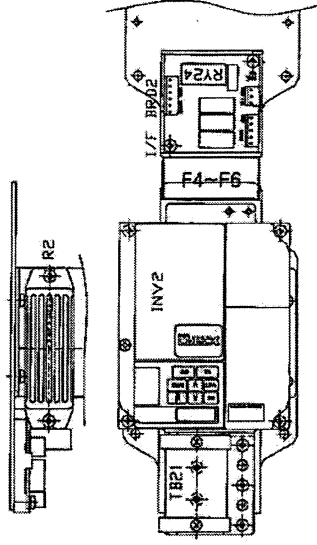


호이스트 CONTROL BOX 배치도

HOISTING CONTROL BOX

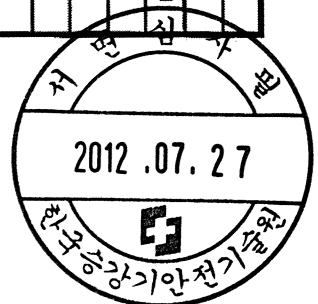


TRAVERSING CONTROL BOX

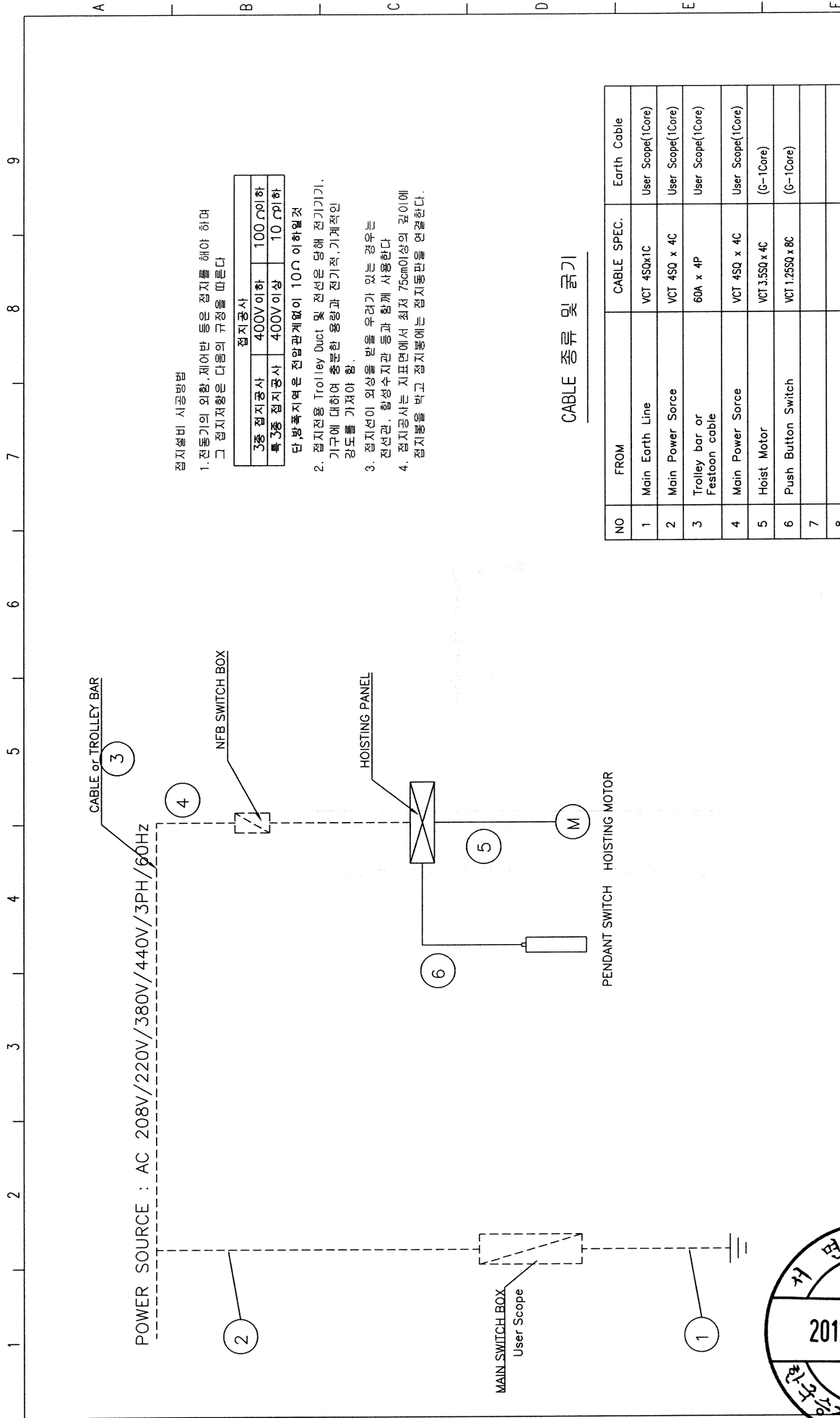


ENCLOSURE : HOIST BODY - IP55  
PUSH BUTTON - IP65

MARK	DESCRIPTION	TYPE OF MODEL		QTY	MAKER	REMARKS
		220V	380V			
INV1	INVERTER	V1000	V1000	1	YASKAWA	UP/DOWN
T1	TRANSFORMER	220V/ 24V(110V) 20VA	380V/ 24V(110V) 20VA	1	KITO	CONTROL CIRCUIT
G11	BRIDGE DIODE	S15VB60	S15VB60	1	SHINDENGEN	
I/F BRD1	INTERFACE BOARD	10~15A	10~15A	1	KITO	
F2~F3	GLASS FUSE	10A	10A	2	FUJI	
F4~F6	GLASS FUSE	30A	30A	3	FUJI	
RY15	RELAY	110V	110V	1	OMRON	HIGH/LOW
INV2	INVERTER	V1000	V1000	1	YASKAWA	RIGHT/LEFT
I/F BRD2	INTERFACE BOARD	10~15A	10~15A	1	KITO	
RY24	RELAY	110V	110V	1	OMRON	EMERGENCY STOP
TB21	TERMINAL BOARD 21	10~15A	10~15A	1	KITO	







접지설비 시공방법

1. 전동기의 외장, 제어반 등은 접지를 해야 하며 그 접지 저항은 다음의 규정을 따른다

접지공사		
3중 접지공사	400V이하	100Ω이하
특 3중 접지공사	400V이상	10Ω이하

단, 반복지역은 전압관계없이 10Ω 이하일 것

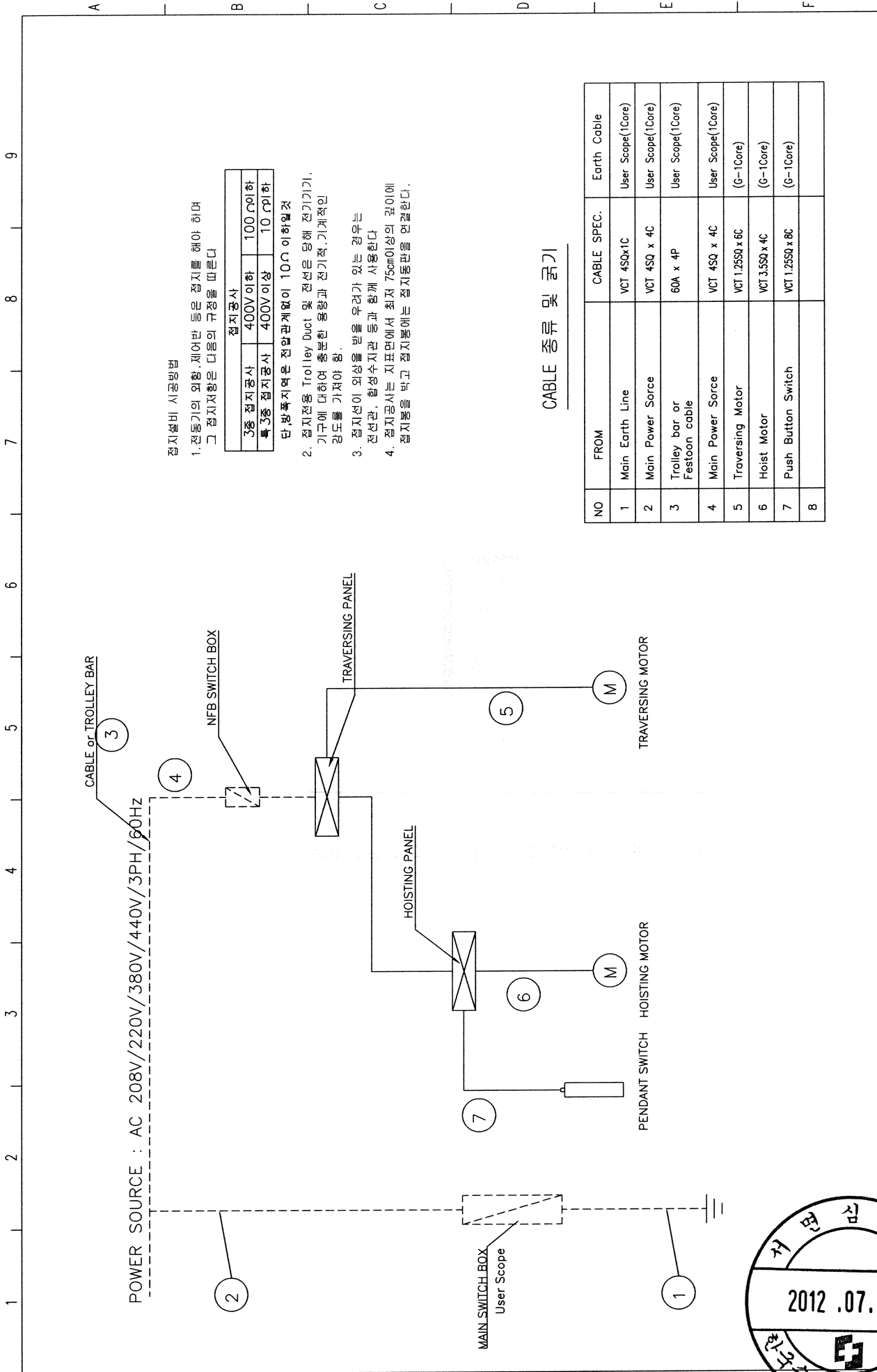
2. 접지전용 Trolley Duct 및 전선은 당해 전기기기, 기구에 대하여 충분한 용량과 전기적, 기계적인 강도를 가져야 함.
3. 접지선이 외상을 받을 우려가 있는 경우는 전선관, 합성수지관 등과 함께 사용한다
4. 접지공사는 지표면에서 최저 75cm이상의 깊이에 접지봉을 박고 접지봉에는 접지용판을 연결한다.

CABLE 종류 및 굵기

NO	FROM	CABLE SPEC.	Earth Cable
1	Main Earth Line	VCT 450x1C	User Scope(1Core)
2	Main Power Source	VCT 450 x 4C	User Scope(1Core)
3	Trolley bar or Festoon cable	60A x 4P	User Scope(1Core)
4	Main Power Source	VCT 450 x 4C	User Scope(1Core)
5	Hoist Motor	VCT 3.550 x 4C	(G-1Core)
6	Push Button Switch	VCT 1.2550 x 8C	(G-1Core)
7			
8			

APPROVED	CHECKED	DESIGNED	DRAWN	TITLE	
M. Fukasawa	I. Inuma	A. Shimura	---	1t MOTORIZED-2점식 케이블 구성도 및 접지계통도	
11.07.20	11.07.20	11.07.20		MDL. 942513	SCALE NOT
				DWG. NO. 3NNU942513	REV. 0
				UNIT : mm	





접지설비 시공방법

1. 전동기의 외함, 제어반 등은 접지를 해야 하며 그 접지저항은 다음의 규정을 따른다

접지공사		
3중 접지공사	400V 이하	100Ω 이하
복 3중 접지공사	400V 이상	10Ω 이하

2. 접지전용 Trolley Duct 및 전선은 당해 전기기기, 기구에 대하여 충분한 용량과 전기적, 기계적인 강도를 가져야 함.
3. 접지선이 외상을 받을 우려가 있는 경우는 전선관, 합성수지관 등과 함께 사용한다
4. 접지공사는 지표면에서 최저 75cm 이상의 깊이에 접지봉을 박고 접지봉에는 접지동판을 연결한다.

CABLE 종류 및 굵기

NO	FROM	CABLE SPEC.	Earth Cable
1	Main Earth Line	VCT 450x1C	User Scope(1Core)
2	Main Power Source	VCT 45Q x 4C	User Scope(1Core)
3	Trolley bar or Festoon cable	60A x 4P	User Scope(1Core)
4	Main Power Source	VCT 45Q x 4C	User Scope(1Core)
5	Traversing Motor	VCT 1.2550 x 6C	(G-1Core)
6	Hoist Motor	VCT 3.550 x 4C	(G-1Core)
7	Push Button Switch	VCT 1.2550 x 8C	(G-1Core)
8			

REV.	QTY	CONTENTS	DATE	DRAWN	APPROVED	DESIGNED	DRAWN	TITLE
								1t MOTORIZED-4점식 케이블 구성도 및 접지계통도
								MDL. 942513
								DWG. NO. 3NNU942513
								SCALE NOT
								REV. 0

UNIT : mm

图式 025G-05



Date: 2009/04/14

## Certificate of Compliance

We certify that the ER2 protection degrees conform to the IP rating as follows:

Hoist body - IP55 based on JIS C 4034-5, "Rotating electrical machines – Part5: Classification of degrees of protection provided by enclosures of rotating electrical machines (IP code)".

Push button - IP65 based on JIS C 0920, "Tests to prove protection against ingress of water and degrees of protection against ingress of solid objects for electrical equipment".

Technical Control Group

# Test Certificate

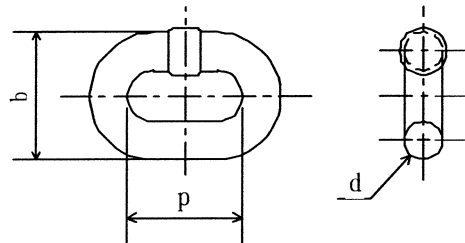
Messrs.

Commodity: NC Load Chain

Code : KER077

Lot No. : —

Quantity: — line(s)



1. Material: Manganese Alloy Steel

2. Dimensions

	d	p	b
Specified	7.7mm $\pm 0.3$	21.4mm $\begin{matrix} +0.46 \\ 0 \end{matrix}$	Max. 27.0mm
Result	Good	Good	Good

3. Breaking test

	Breaking load	Total ultimate elongation
Specified	Min. 75 (kN)	Min. 10 (%)
Result	Good	Good

4. Manufacturing Proof force test (Test load: 46.6 kN)

	Permanent elongation
Specified	0.25 (%)
Result	Good

**General judgment: Satisfactory**



2000 Tsuijiarai, Showa-cho,  
Nakakoma-gun, Yamanashi, JAPAN

Quality Assurance Group  
Quality Assurance Department  
Development & Technology Division

*K. Kishimoto* (Manager)

Messrs. \_\_\_\_\_

**Motor Test Report for Electric Chain Hoist**

Motor type : Three phase squirrel cage type induction motor.

Manufacturer : Yasukawa Electric Mfg. Co.

Production No. : -

## Rating

Model	Output	Pole	Intermittent Rating	Voltage	Frequency
IBQ	1.8kW	4P	60%ED	220V	60Hz

## Full load characteristics

Voltage	Frequency	220V 60Hz
Load	%	100
Current	A	8.4
Speed	rpm	1620

## Insulation class E

The above characteristics are obtained from calculation where the motor is assembled with an electric chain hoist and the hoist is subjected to full load



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Nakakoma-gun, Yamanashi, JAPAN

Quality Assurance Group  
Quality Assurance Department  
Development & Technology Division

*M. Ogihara* (Manager)

Messrs. \_\_\_\_\_

**Motor Test Report for Electric Chain Hoist**

Motor type : Three phase squirrel cage type induction motor.

Manufacturer : Yasukawa Electric Mfg. Co.

Production No. : -

## Rating

Model	Output	Pole	Intermittent Rating	Voltage	Frequency
IBQ	1.8kW	4P	40/20%ED	220V	Speed Control by Inverter

## Full load characteristics

Voltage	Frequency	220V	Speed Control by Inverter
Load	%		100
Current	A		11.2
Speed	rpm		~

## Insulation class E

The above characteristics are obtained from calculation where the motor is assembled with an electric chain hoist and the hoist is subjected to full load



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Nakakoma-gun, Yamanashi, JAPAN

Quality Assurance Group  
Quality Assurance Department  
Development & Technology Division

*M. Ogihara* (Manager)

Certificate No.: MM070011e

Date of Issue: 2008/03/21

Messrs. \_\_\_\_\_

### Motor Test Report for Electric Chain Hoist

Motor type : Three phase squirrel cage type induction motor.

Manufacturer : Yasukawa Electric Mfg. Co.

Production No. :

#### Rating

Model	Output	Pole	Intermittent Rating	Voltage	Frequency
IBQ	1.8kW	4P	60%ED	380 - 440V	60Hz

#### Full load characteristics

Voltage	Frequency	380 - 440V 60Hz
Load	%	100
Current	A	4.6
Speed	rpm	1610

#### Insulation class B

The above characteristics are obtained from calculation where the motor is assembled with an electric chain hoist and the hoist is subjected to full load



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Nakakoma-gun, Yamanashi, JAPAN

Quality Assurance Group  
Quality Assurance Department  
Development & Technology Division

(Manager)

*K. Kishimoto*

Messrs. \_\_\_\_\_

**Motor Test Report for Electric Chain Hoist**

Motor type : Three phase squirrel cage type induction motor.

Manufacturer : Yasukawa Electric Mfg. Co.

Production No. :

## Rating

Model	Output	Pole	Intermittent Rating	Voltage	Frequency
IBQ	1.8kW	4P	60%ED	380 - 440V	Speed Control by Inverter

## Full load characteristics

Voltage	Frequency	380 - 440V	Speed Control by Inverter
Load	%	100	
Current	A	5.1	
Speed	rpm	~	

## Insulation class B

The above characteristics are obtained from calculation where the motor is assembled with an electric chain hoist and the hoist is subjected to full load



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Quality Assurance Group  
Quality Assurance Department  
Development & Technology Division

(Manager)

*K. Kishimoto*



Messrs. \_\_\_\_\_

**Motor Test Report for Electric Trolley**

Motor type : Three phase squirrel cage type induction motor.

Manufacturer : Yasukawa Electric Mfg. Co.

Production No. : -

## Rating

Model	Output	Pole	Intermittent Rating	Voltage	Frequency
IBQ-T	0.4kW	4P	40%ED	220V	60Hz

## Full load characteristics

Voltage Frequency	220V 60Hz	
Load	%	100
Current	A	3.0
Speed	rpm	1685

## Insulation class E

The above characteristics are obtained from calculation where the motor is assembled with an electric trolley and the trolley is subjected to full load



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Quality Assurance Group  
Quality Assurance Department  
Development & Technology Division

*M. Ogihara* (Manager)

Messrs. \_\_\_\_\_

**Motor Test Report for Electric Trolley**

Motor type : Three phase squirrel cage type induction motor.

Manufacturer : Yasukawa Electric Mfg. Co.

Production No. : -

## Rating

Model	Output	Pole	Intermittent Rating	Voltage	Frequency
IBQ-T	0.4kW	4P	27/13%ED	220V	Speed Control by Inverter

## Full load characteristics

Voltage	Frequency	220V	Speed Control by Inverter
Load	%		100
Current	A		3.0
Speed	rpm		~

## Insulation class E

The above characteristics are obtained from calculation where the motor is assembled with an electric trolley and the trolley is subjected to full load



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Nakakoma-gun, Yamanashi, JAPAN

Quality Assurance Group  
Quality Assurance Department  
Development & Technology Division

*M. Ogihara* (Manager)

Certificate No.: MM070013a

Date of Issue: 2008/03/21

Messrs. \_\_\_\_\_

### Motor Test Report for End Carriage

Motor type : Three phase squirrel cage type induction motor.

Manufacturer : Yasukawa Electric Mfg. Co.

Production No. :

#### Rating

Model	Output	Pole	Intermittent Rating	Voltage	Frequency
IBQ-T	0.4kW	4P	40%ED	380 - 440V	60Hz

#### Full load characteristics

Voltage	Frequency	380 - 440V 60Hz
Load	%	100
Current	A	2.2
Speed	rpm	1670

#### Insulation class B

The above characteristics are obtained from calculation where the motor is assembled with an electric chain hoist and the hoist is subjected to full load



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Nakakoma-gun, Yamanashi, JAPAN

Quality Assurance Group  
Quality Assurance Department  
Development & Technology Division

(Manager)

*K. Kishimoto*

Messrs. \_\_\_\_\_

**Motor Test Report for End Carriage**

Motor type : Three phase squirrel cage type induction motor.

Manufacturer : Yasukawa Electric Mfg. Co.

Production No. :

## Rating

Model	Output	Pole	Intermittent Rating	Voltage	Frequency
IBQ-T	0.4kW	4P	40%ED	380 - 440V	Speed Control by Inverter

## Full load characteristics

Voltage	Frequency	220 - 230V	Speed Control by Inverter
Load	%	100	
Current	A	2.5	
Speed	rpm	~	

## Insulation class B

The above characteristics are obtained from calculation where the motor is assembled with an electric chain hoist and the hoist is subjected to full load



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Nakakoma-gun, Yamanashi, JAPAN

Quality Assurance Group  
Quality Assurance Department  
Development & Technology Division

(Manager)

*K. Kishimoto*

1) 과부하 방지장치

