



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)	KM-ER2-015		용량(등급)	1.5 ton

「산업안전보건법」 제34조 및 같은 법 시행규칙 제58조의4제4항에 따라 실시한

[] 예비심사

[■] 서면심사

[] 기술능력 및 생산체계 심사

결과가 [■] 적 합 함을 통지합니다.
[] 부적합

[] 개별 제품심사

[] 형식별 제품심사

2012년 07월 04일

인증심사원

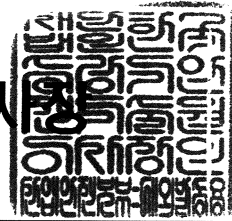
최 창 일

최창일

오 태 화

오태화

한국승강기안전기술원 이사





제 CA-2012-0033 호

안 전 인 증 서

(사업장명) (주)KITO

(소재지) 2000, Tsuijiarai, 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):	KM-ER2-015(1.5 ton)	_____
_____ 인증번호 :	12-CA4AC-0033	_____
_____ 인증기준 :	위험기계·기구 의무안전인증기준 (고용노동부고시 제2011-39호)	_____
_____ 인증조건 :	산업안전보건법 "제34조 준수"	_____

2012년 11월 30일

한국승강기안전기술원 이사장



【별지 제4호서식】

동 일 형 식 일 람 표

사업장명	KITO CORP.	개정일자 및 번호	2012.05.17	인증번호
형식 및 모델번호		동일형식 항목 및 내역		
형식번호	모델번호	동일형식 항목1	동일형식 항목2	동일형식 항목3
KM-ER2-015	KITO-ER2-015S	Lift max 30m 권상모터 1.8kW .S : 5.4m/min .IS: 5.3/0.9m/min Inverter control	횡행모터 없음	Trolley고정형
	KITO-ER2-015IS			Trolley 있음
	KITO-ER2SP015S			Trolley + 수동체인
	KITO-ER2SP015IS			
	KITO-ER2SG015S			
	KITO-ER2SG015IS			
	KITO-ER2M015S-S		전기Trolley 결합 type	
	KITO-ER2M015S-L			
	KITO-ER2M015S-IS			
	KITO-ER2M015S-IL			
	KITO-ER2M015IS-S			
	KITO-ER2M015IS-L			
	KITO-ER2M015IS-IS			
	KITO-ER2M015IS-IL			
	KITO-C-ER2M015S-S			전기Trolley 결합 Clean type
	KITO-C-ER2M015S-L			
	KITO-C-ER2M015S-IS			
	KITO-C-ER2M015S-IL			
	KITO-C-ER2M015IS-S		전기Trolley 결합 Clean type	
	KITO-C-ER2M015IS-L			
KITO-C-ER2M015IS-IS				
KITO-C-ER2M015IS-IL				



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

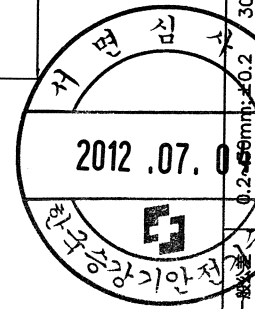
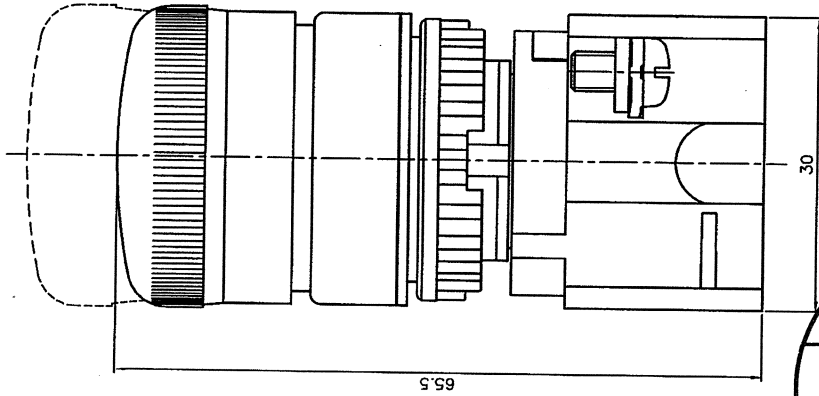
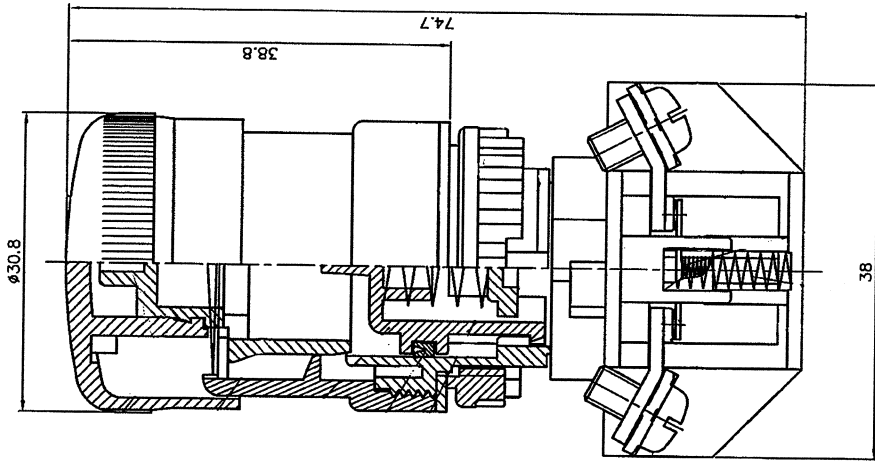
아래 주소에서 생산되는 제품에 한함.

정호엔지니어링, 경기도 광명시 노온사동 440-5

2012년 06월 11일

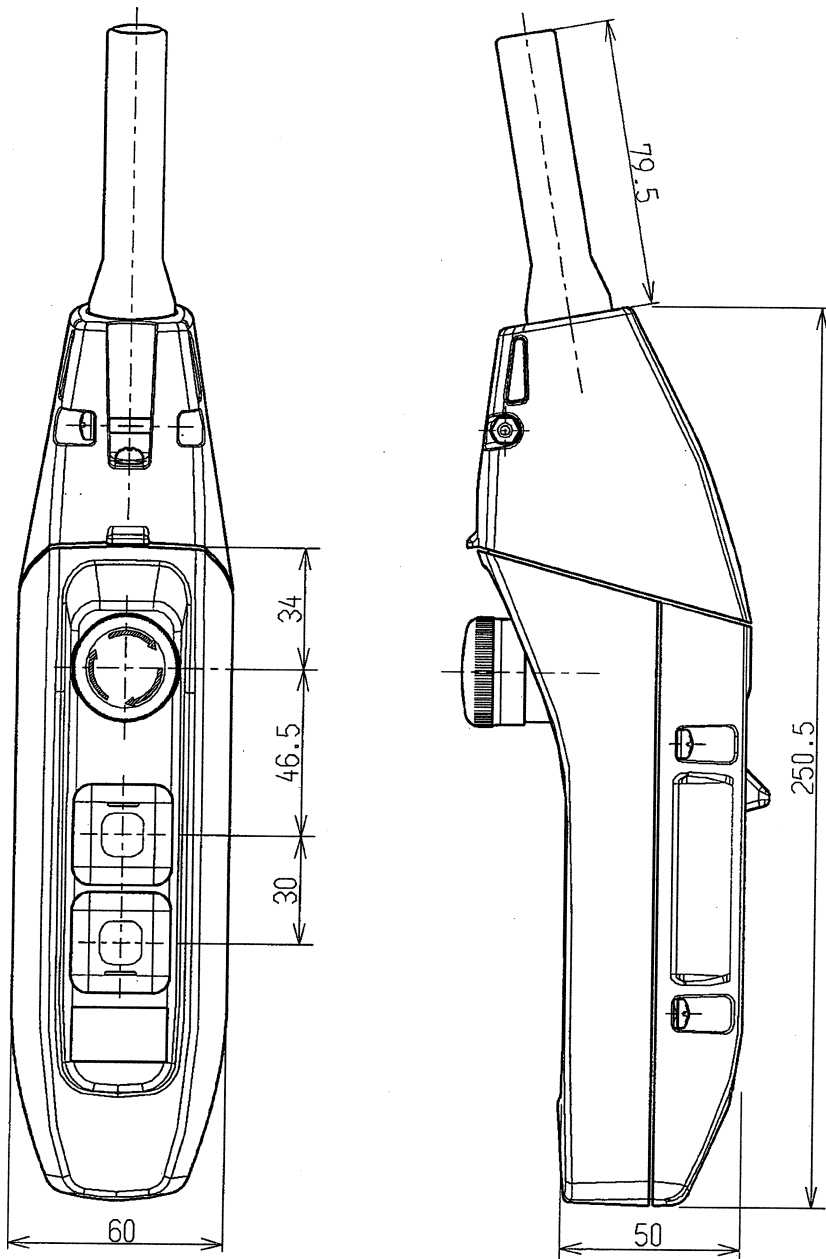
한국산업안전보건공단 이사장





1		2		3		4		5		6		7		8	
圖號	T2-BKH	材質	表面處理	單位	mm	比例	2:1	投影法	第一角	視孔數	視孔圖	視孔圖	視孔圖	視孔圖	視孔圖
品名	T2 BKH 連鎖開關	顏色													
一般公差: 0.2~0.3mm: ±0.2 0.2~6mm: ±0.3 60.1~300mm: ±0.5 最新修正 腳次修正 天得科技股份有限公司 TEND TECHNOLOGY CO., LTD. 品保 品保 品保部 95.05.24 林建志 研發部 95.05.24 饒健誌 研發部 95.05.24 周欽祥 設計課 95.05.21 吳宗達 核准 核 准 核 准 核 准 核 准 核 准 核 准															

Revision	Incidence	Description	Date	Change	Approved



⑥
⑤
④
③
②
①
Date issued

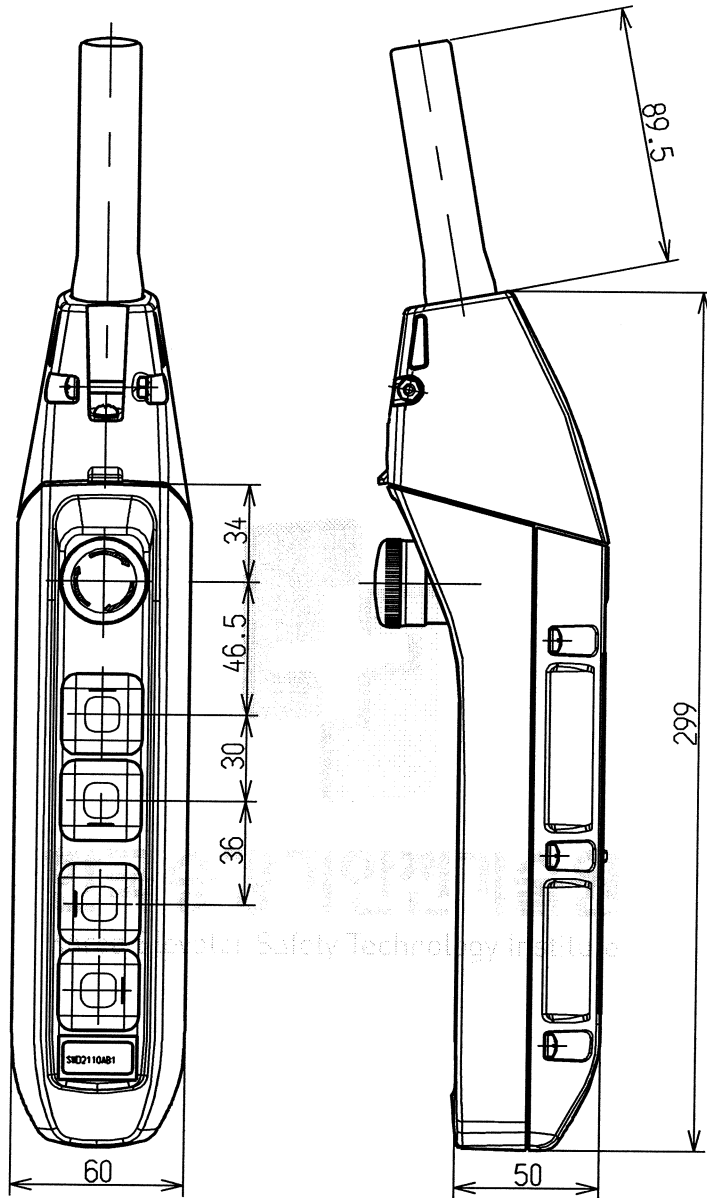
NOTE

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

DWG. NO.	SWD2X00
NOS./UNIT MATERIAL	

NAME CODE
 3p 2012.07.04
 control station MX
 subassembly
 2012.07.04
 2012.07.04
 2012.07.04

Revision	Incidence	Description	Date	Change	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.

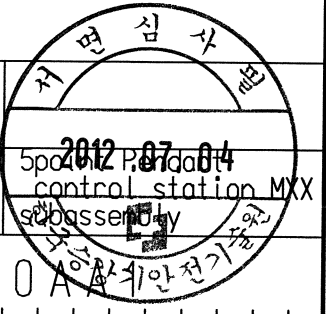
⑥
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NOTE

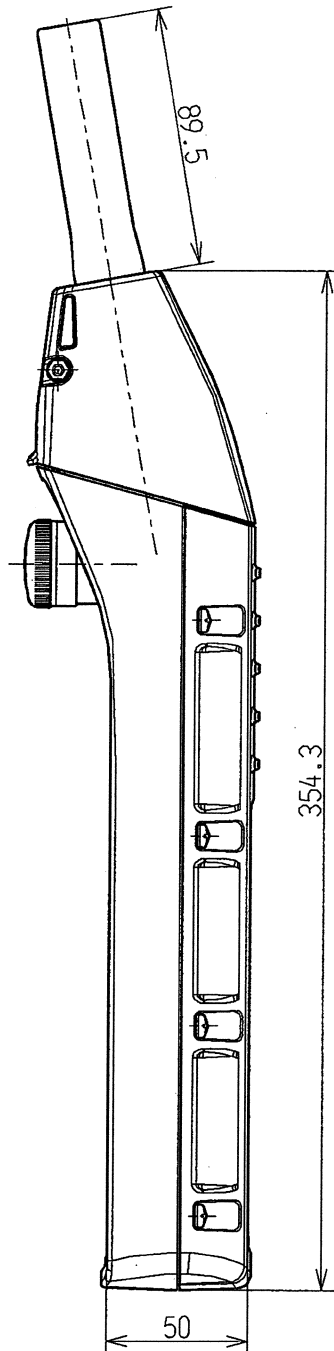
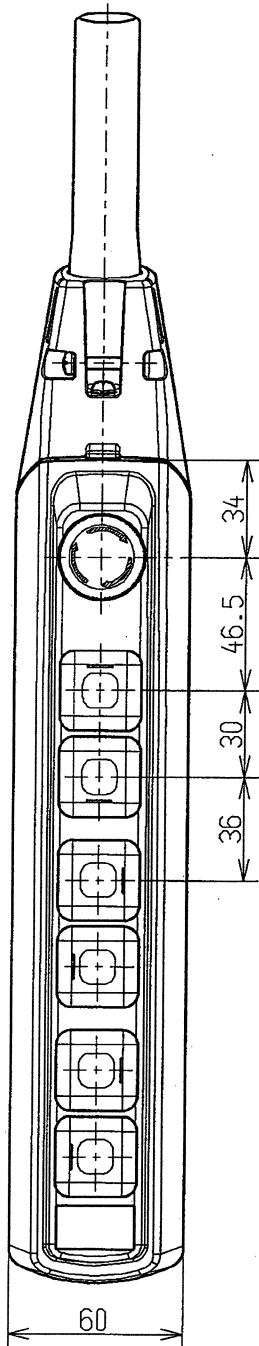
APPROVED

DWG. NO.	MS. / UNIT	MATERIAL

NAME	CODE
5pods P. dda control station MXX subassembly	



Revision	Incidence	Description	Date	Change	Approved



E
W
S
N

A
B
C
D
E
F
G
H

⑥	
⑤	
④	
③	
②	
①	

APPROVED		CHECKED		DESIGNED		DRAWN		SCALE		DWG. NO., NOS./UNIT MATERIAL		NAME CODE	
ISHIKAWA		FURIYA		KOBAYASHI		KOBAYASHI		-		SWD2XXXXA		2012.07.04 control station MXXX 2012.07.04 2012.07.04 2012.07.04	

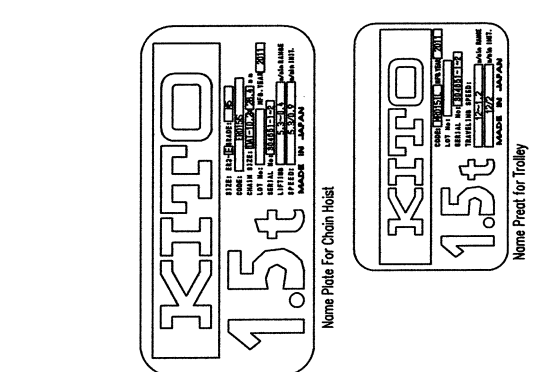
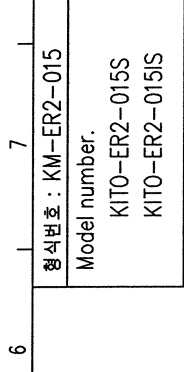
형식번호 : KM-ER2-015
 Model number.
 KITO-ER2-015S
 KITO-ER2-015IS

基本本体
 Size
 ER2-E
 定容積
 Nominal Capacity
 1.5t
 A
 チェーンサイズ
 Chain size
 3m(max 30m)
 φ10.2 x 1
 レール下面より
 フックまでの最小距離 : C
 Min. Headroom
 510mm
 相電圧・電圧
 Phase・Voltage
 3φ 220(208)V 60Hz
 380,440V 60Hz

巻上モータ
 for Lifting
 IS 1.8kW x 4P
 S 1.8kW x 4P
 Motor Output
 Duty Rating
 Classification
 巻上速度
 24倍(空荷時)
 IS 5.3/0.9 m/min
 S 5.4 m/min
 Lifting Speed
 14倍
 S 2.5 m(max 29.5m)
 オンボタンコード長さ : L
 Push Button Cord
 キヤブライヤ給電
 ケーブル長さ
 Length of Power Supply Cable
 - m
 レール下面よりチェーン
 ハケットまでの寸法 : D
 Chain Container Distance from
 Bottom of Beam
 630mm(max 1000)

質量
 Mass
 Approx 73kg
 塗装色
 Painting Color
 マスシヤン7.5R7/14
 Munsell 7.5R7/14

型式番号 : KM-ER2-015
 1. 左バリはオプション
 2. Dust Pan - option
 3. () 内は 1 速型



承認 H.Saito	11.2.5	検査 K.Nakamura	11.2.5	設計 S.Urushihara	11.2.5	製図 S.Urushihara	11.2.5
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承認 H.Saito	11.2.5	検査 K.Nakamura	11.2.5	設計 S.Urushihara	11.2.5	製図 S.Urushihara	11.2.5
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承認 H.Saito	11.2.5	検査 K.Nakamura	11.2.5	設計 S.Urushihara	11.2.5	製図 S.Urushihara	11.2.5
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名 TITLE	1.5t ER2M SERIES ELECTRIC CHAIN HOIST STANDARD		
型番 DWG. NO.	ER2015	尺度 SCALE	NOT
訂正 REV.	KM-ER2-015-001	訂正回数 REV.	0

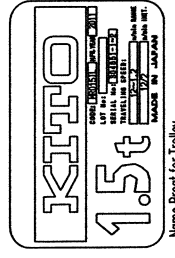
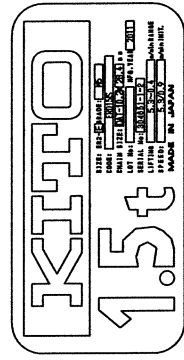
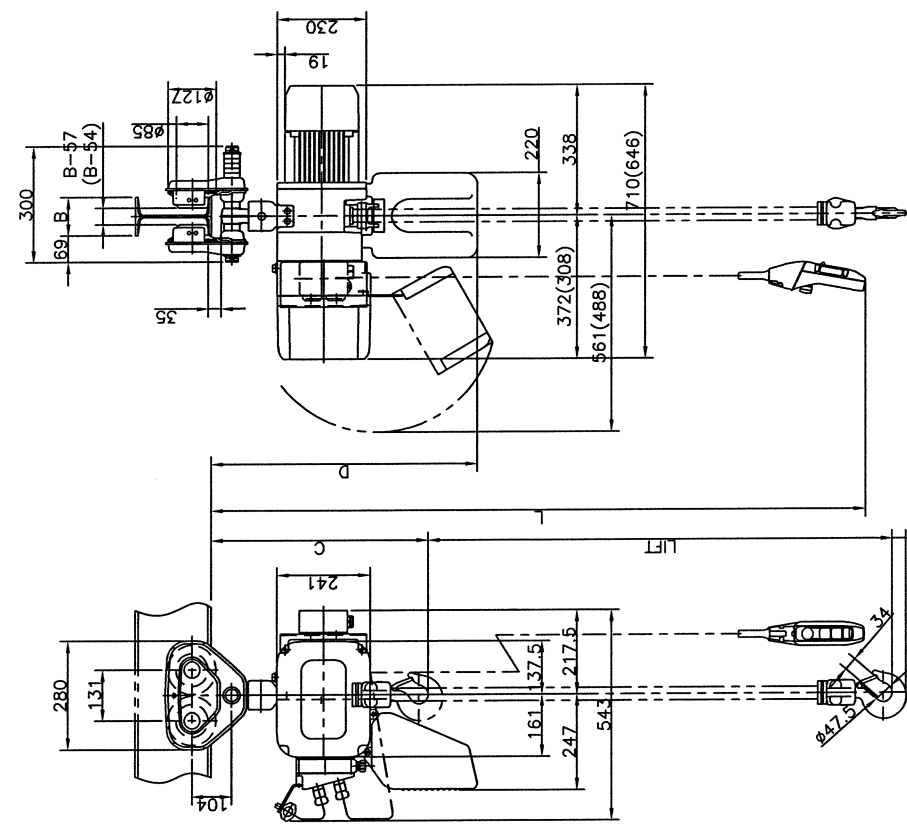
承認 H.Saito	11.2.5	検査 K.Nakamura	11.2.5	設計 S.Urushihara	11.2.5	製図 S.Urushihara	11.2.5
承認 H.Saito	11.2.5	検査 K.Nakamura	11.2.5	設計 S.Urushihara	11.2.5	製図 S.Urushihara	11.2.5



1 2 3 4 5 6 7 8 9

형식번호 : KM-ER2-015	Particulars
Model number.	ER2-E
KITO-ER2SP015S	1.5t
KITO-ER2SP015IS	3m(max 30m)

레ール下面より フックまでの最小距離 : C	チェーンサイズ Chain size	570mm
相数・電圧 Phase・Voltage	3φ 220(208)V 60HZ 380,440V 60HZ	
モーター出力 ・反接定格 等級 Motor Output for Lifting Classification	巻上モーター for Lifting	IS 1.8kW x 4P S 1.8kW x 4P
巻上速度 Lifting Speed	24巻 (100ft 1巻)	IS 5.3/0.9 m/min S 5.4 m/min
最小巻上半径 Min. Radius for Curve	1500mm	
押しボタンコード Push Button Cord	2.5 m(max 29.5m)	
ケーブル長さ Length of Power Supply Cable	1.0 m	
レール下面よりチェーン パッケージまでの寸法 Chain Container Distance from Bottom of Beam	690mm(max 1000)	
運用レール巾 : B	133~258mm	
質量 Mass	Approx 86kg	
塗装色 Painting Color	ブルー 7.5YR7/14 ブラック 7.5R7/14	
最小巻上半径 Min. Radius for Curve	1500mm	



형식번호 : KM-ER2-015
 1. 자바라는 옵션 사양임
 2. Dust Pan - option
 3. () 첫 수는 1속형임

제명 TITLE	1.5t ER2M SERIES ELECTRIC CHAIN HOIST WITH PLAN TROLLEY	
제조번호 CODE	ER2015	尺度 SCALE
국번호 DWG.NO.	KM-ER2-015-002	製圖 REV.
		0

承認 APPROVED	11.2.5	檢査 CHECKED	11.2.5	設計 DESIGNED	11.2.5	製圖 DRAWN	11.2.5
青柳 H. Saito		中村 K. Nakamura		菅原 S. Urushihara		菅原 S. Urushihara	

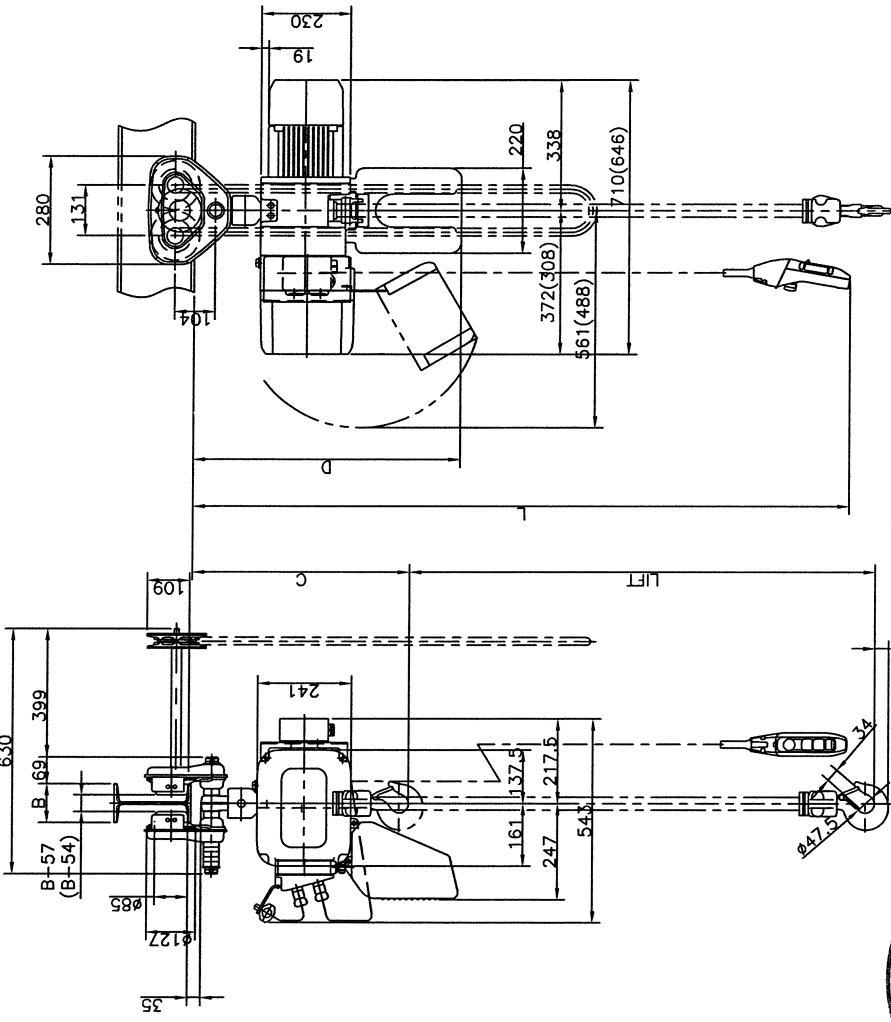
承認 APPROVED	年 月 日 DATE	製圖 DRAWN
訂 REV.	數 QTY	CONTENTS



样式 025P-19 三角法 単位 : mm

1 2 3 4 5 6 7 8 9

형식번호 : KM-ER2-015	諸元表 Particulars
Model number. KITO-ER2SG015S KITO-ER2SG015IS	基本仕様 Size ER2-E 1.5t 3m(max 30m) φ10.2 x 1



モータ出力 ・反逆定格 ・等級 Motor Output Duty Rating Classification	巻上モータ for Lifting	IS 1.8kW x 4P S 1.8kW x 4P
巻上速度 Lifting Speed	2速制(4速制 省略) 14速	IS 5.3/0.9 m/min S 5.4 m/min
最小半径 Min. Radius for Curve オンボタンコード長さ : L Push Button Cord		1500mm 2.5 m(max 29.5m)
ケーブル長さ Length of Power Supply Cable チェーン長さ Chain Length		1.0 m
レール下面より フックまでの寸法 (Chain Container Distance from Bottom of Beam 適用レール巾 : B Flange Width		690mm(max 1000)
質量 Mass		Approx 90kg
塗装色 Painting Color 小径車径 Min. Radius for Curve		マゼンタ Munsell 7.5YR7/14 1500mm

형식번호 : KM-ER2-015
1. 자바라는 옵션 사양임
2. Dust Pan - option
3. () 내수는 1속형임

제명 TITLE	1.5t ER2M SERIES ELECTRIC CHAIN HOIST WITH GEAR TROLLEY	
제번호 CODE	ER2015	尺度 SCALE
제번호 DWG.NO.	KM-ER2-015-003	변경회수 REV.
		0

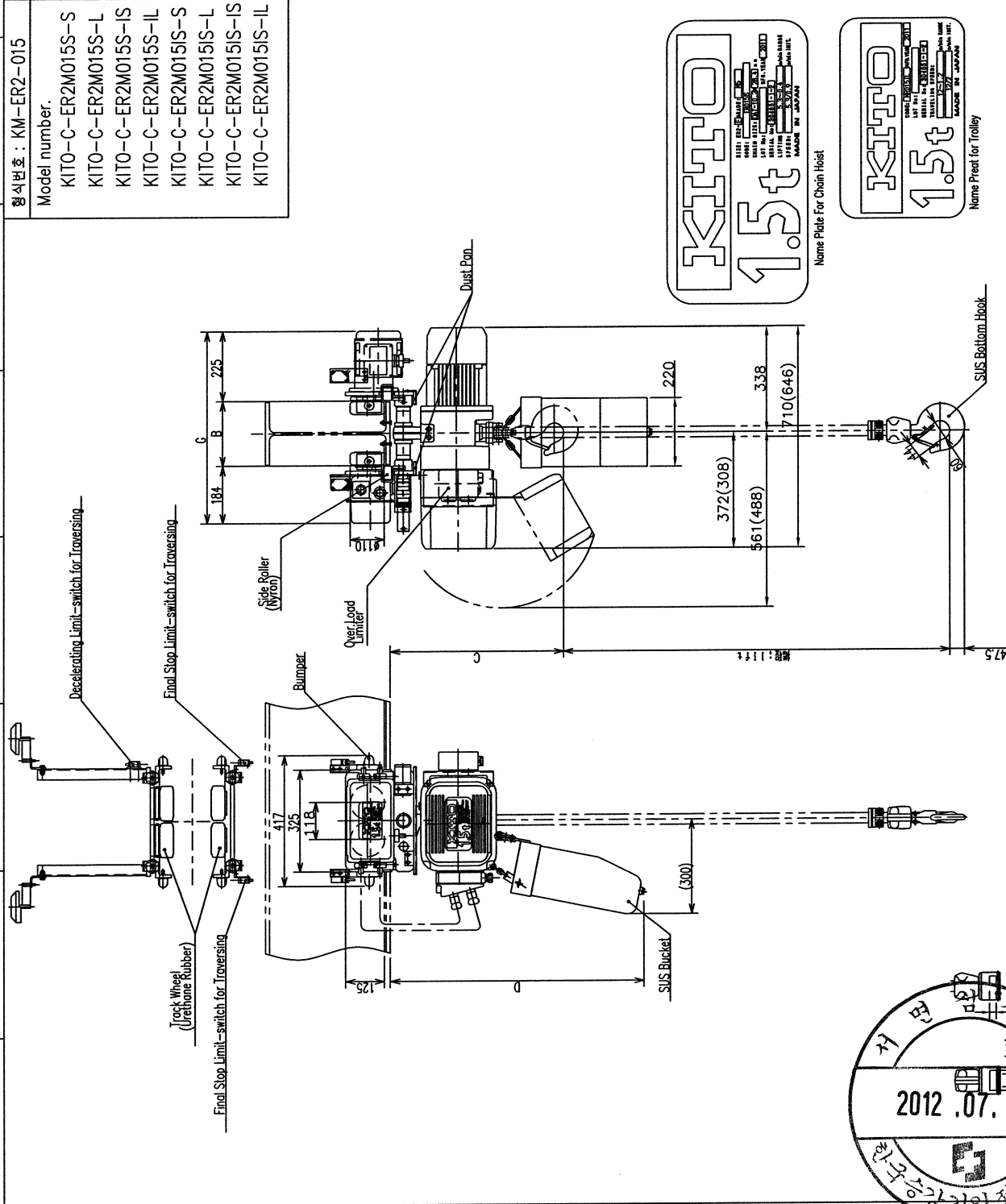
承認 APPROVED	檢査 CHECKED	設計 DESIGNED	製圖 DRAWN
H.Saito 11.2.5	K.Nakamura 11.2.5	S.Urashihara 11.2.5	S.Urashihara 11.2.5
年.月.日 DATE	年.月.日 DATE	年.月.日 DATE	年.月.日 DATE
改訂 REV.	數量 QTY	內容 CONTENTS	承認 APPROVED

型式番号 : KM-ER2-015	基本仕様	ER2-E
Model number.	定容	1.5t
KITO-C-ER2M015S-S	Nominal Capacity	5m(max 30m)
KITO-C-ER2M015S-L	チェーンサイズ	φ10.2 x 1
KITO-C-ER2M015S-IS	レール下面よりフックまでの最小距離 : C	575mm
KITO-C-ER2M015S-IL	相数・電圧	3φ 220(208)V 60Hz 380,440V 60Hz
KITO-C-ER2M015S-S	モーター出力・定格電圧	1.8kW x 4P
KITO-C-ER2M015S-L	Motor Output	0.4kW 4P
KITO-C-ER2M015S-IS	Duty Rating	
KITO-C-ER2M015S-IL	Classi-fication	

巻上速度	24倍(倍率) : IS	5.3/0.9 m/min
Lifting Speed	倍率 : S	5.4 m/min
横行速度	24倍(倍率) : IL	12/2 m/min
Traversing Speed	倍率 : IS	24/4 m/min
	倍率 : L	12 m/min
	倍率 : S	24 m/min

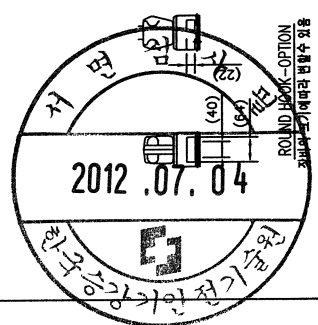
ケーブル長さ	1.0 m
チェーンコンテナまでの寸法	820mm(max 1000)
チェーンコンテナの寸法	133~258mm
トロリ幅	542~667mm
質量	Approx 130kg
塗装色	マゼンタ 7.5YR7/14
塗装	Munsell 7.5YR7/14

型式番号 : KM-ER2-015
 1. 자바라는 옵션 사양임
 2. Dust Pan - option
 3. (회수는 1속임)



承認	11.2.5	設計	11.2.5	製図	11.2.5
承認者	H.Saito	設計者	K.Nakamura	製図者	S.Urushihara
承認日	11.2.5	設計日	11.2.5	製図日	11.2.5

品名	1.5t ER2M SERIES ELECTRIC CHAIN HOIST(CLEAN) WITH MOTORIZED TROLLEY				
製造番号	ER2015				
図番	KM-ER2-015-005				
尺度	NOT				
変更回数	0				



LOAD SUMMARY 1 – INVERTER사양(저속)

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

NOMAL 전류값 * K = 14.7 * 1.25 = 18.3 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= NAMAL 전류치가 50A미만일때 1.25, 50A이상일때 1.1적용

NOMAL 전류값 * K = 8.1 * 1.25 = 10.125 A



LOAD SUMMARY 2 – INVERTER사양(저속)

*POWER SOURCE : AC 3Φ 220(208)V

OBJECT	HOISTING	TRAVERSING	CONTROL CIRCUIT
MOTOR OUTPUT	1.8KW x 4P	-	
FULL LOAD CURRENT	18.7 (A)	0 (A)	0.5 (A)

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

*** NOMAL 전류값 ***

권상시 : HOISTING + CONTROL CIRCUIT = 19.2 A

*** PEAK 전류값 ***

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

NOMAL 전류값 * K = 19.2 * 1.25 = 24 A

*POWER SOURCE : AC 3Φ 380(440)V

OBJECT	HOISTING	TRAVERSING	CONTROL CIRCUIT
MOTOR OUTPUT	1.8KW x 4P	-	
FULL LOAD CURRENT	9.2 (A)	0 (A)	0.5 (A)

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

*** NOMAL 전류값 ***

권상시 : HOISTING + CONTROL CIRCUIT = 9.7 A

*** PEAK 전류값 ***

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

NOMAL 전류값 * K = 9.7 * 1.25 = 12.1 A



LOAD SUMMARY 3 – 1속저속형사양

*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 = 14.8 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 - 1속 저속형사양

*POWER SOURCE : AC 3Φ 220(208)V

OBJECT	HOISTING	TRAVERSING	CONTROL CIRCUIT
MOTOR OUTPUT	1.8KW x 4P	-	
FULL LOAD CURRENT	16.9 (A)	0 (A)	0.5 (A)

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

*** NOMAL 전류값 ***

권상시 : HOISTING + CONTROL CIRCUIT = 17.4 A

*** PEAK 전류값 ***

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

NOMAL 전류값 * K = 17.4 * 1.25 = 21.7 A

*POWER SOURCE : AC 3Φ 380(440)V

OBJECT	HOISTING	TRAVERSING	CONTROL CIRCUIT
MOTOR OUTPUT	1.8KW x 4P	-	
FULL LOAD CURRENT	8.7 (A)	0 (A)	0.5 (A)

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

*** NOMAL 전류값 ***

권상시 : HOISTING + CONTROL CIRCUIT = 9.2 A

*** PEAK 전류값 ***

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

NOMAL 전류값 * K = 9.2 * 1.25 = 11.5 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
- VCB : 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)

- CIRCUIT BREAKER, FIXED TYPE
- MCCB : MOULDED CASE CIRCUIT BREAKER
- MCB : MINIATURE CIRCUIT BREAKER
- CIRCUIT BREAKER, DRAWOUT TYPE
- WITHDRAWABLE INTERCONNECTOR
- CIRCUIT BREAKER, MANUALLY OPERATED FIXED TYPE WITH THERMAL & MAGNETIC TRIP
- CIRCUIT BREAKER, MANUALLY OPERATED FIXED TYPE WITH MAGNETIC TRIP ONLY
- CIRCUIT BREAKER, MANUALLY OPERATED DRAWOUT TYPE WITH THERMAL & MAGNETIC TRIP
- CIRCUIT BREAKER, MANUALLY OPERATED FIXED TYPE WITH THERMAL & MAGNETIC TRIP AND RESIDUAL CURRENT RELEASE

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

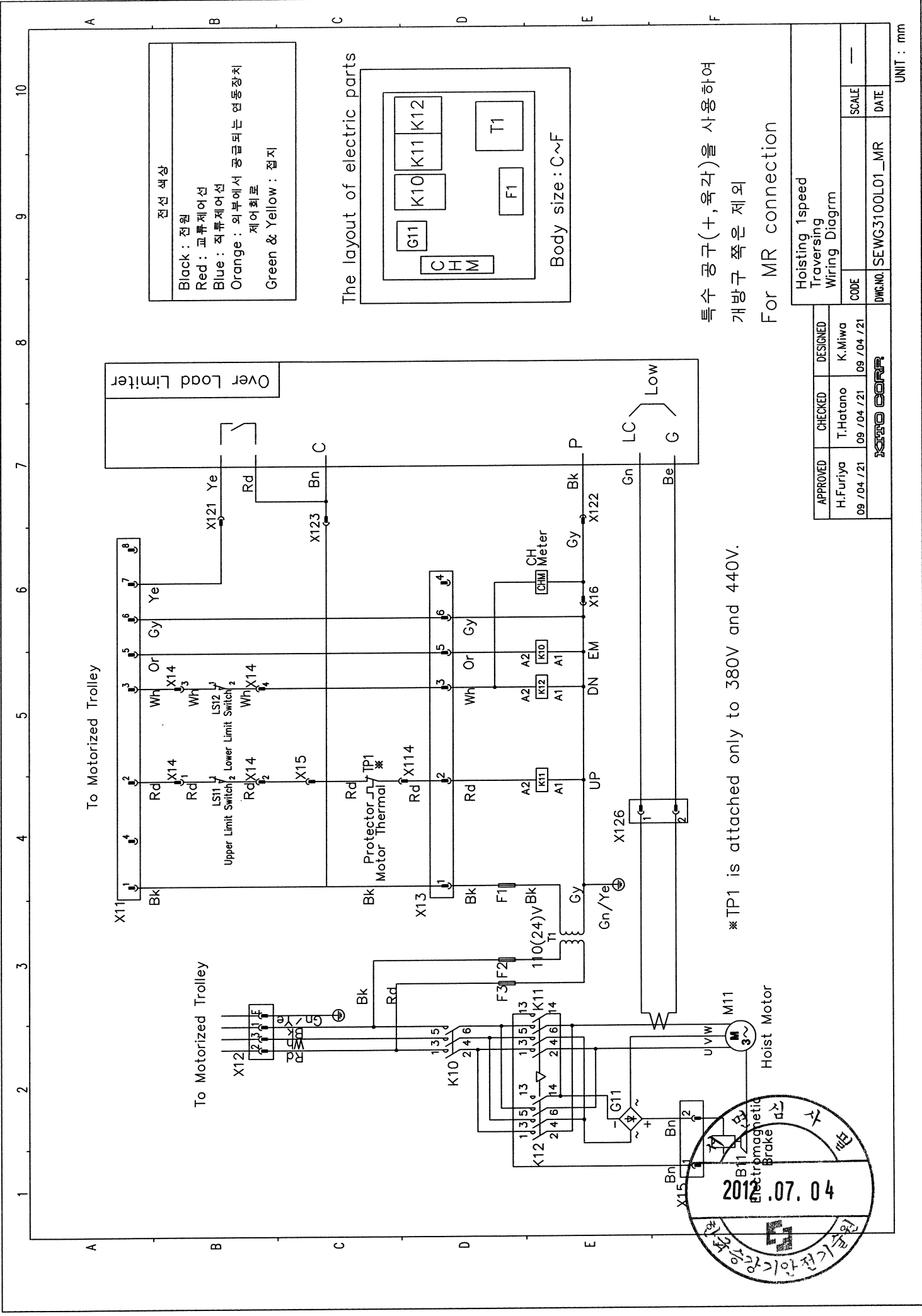
GRAPHIC SYMBOLS

- GENERAL OPERATING COIL
- CAPACITOR
- CAPACITOR VOLTAGE TRANSFORMER(CVT)
- RESISTOR
- DIODE
- 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

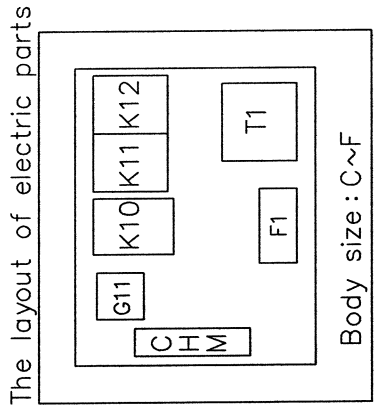
APPROVED	CHECKED	DESIGNED
KORRO CORP		
CODE	DWGNO.	SYMBOL LIST
SCALE	DATE	





전선 색상

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

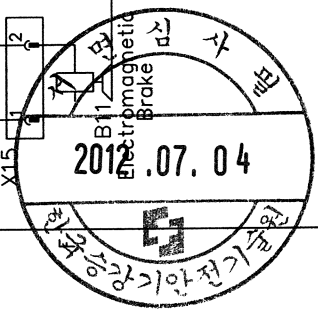


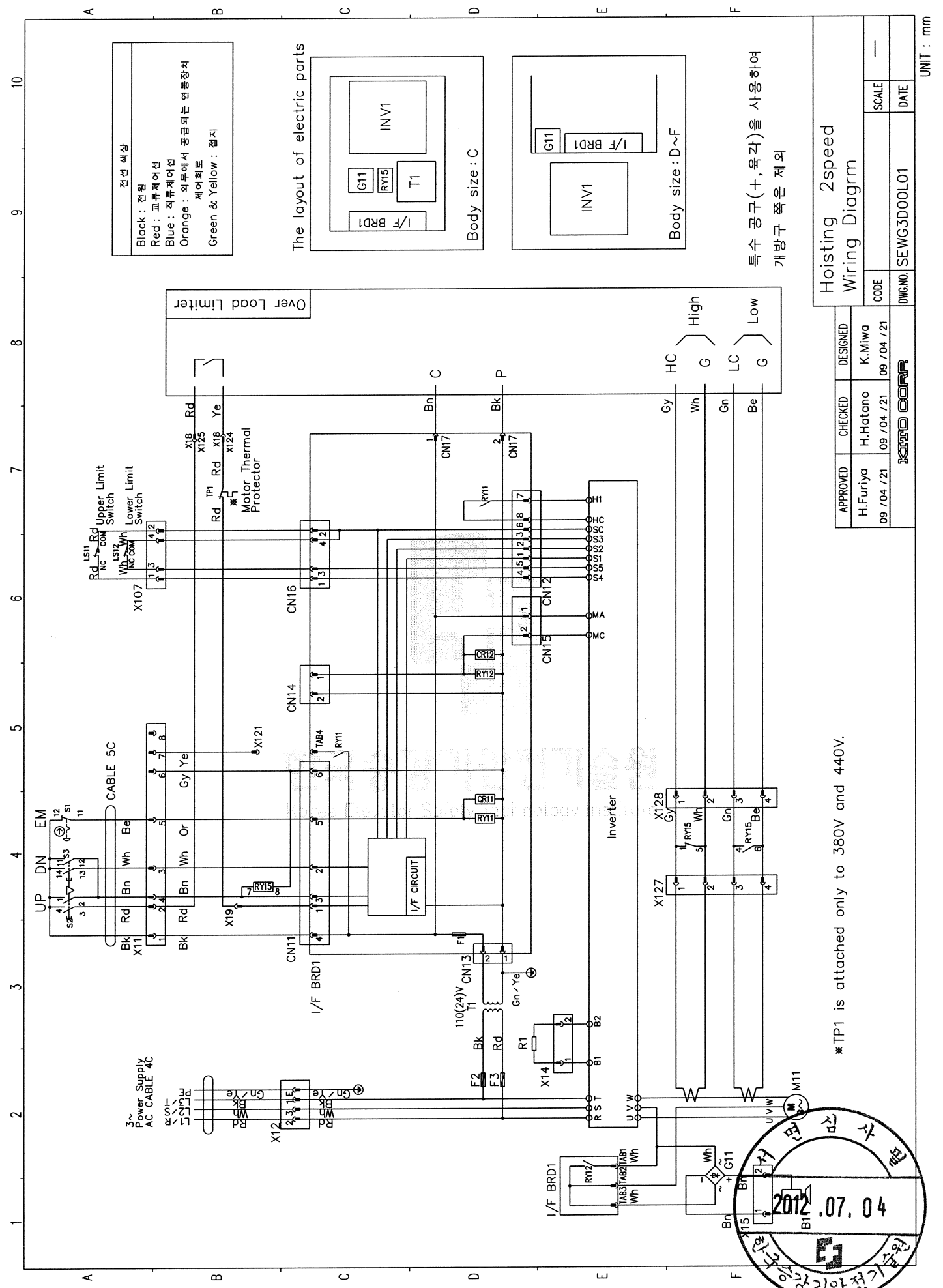
특수 공구(+, 육각)을 사용하여
개방구 쪽은 제외
For MR connection

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

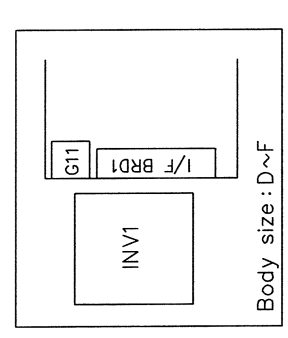
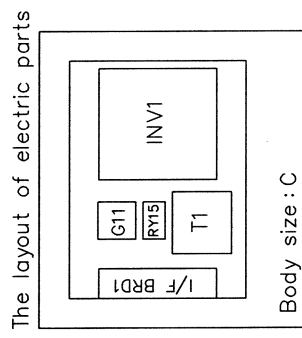
UNIT : mm

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





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

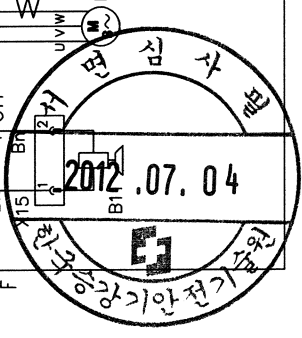


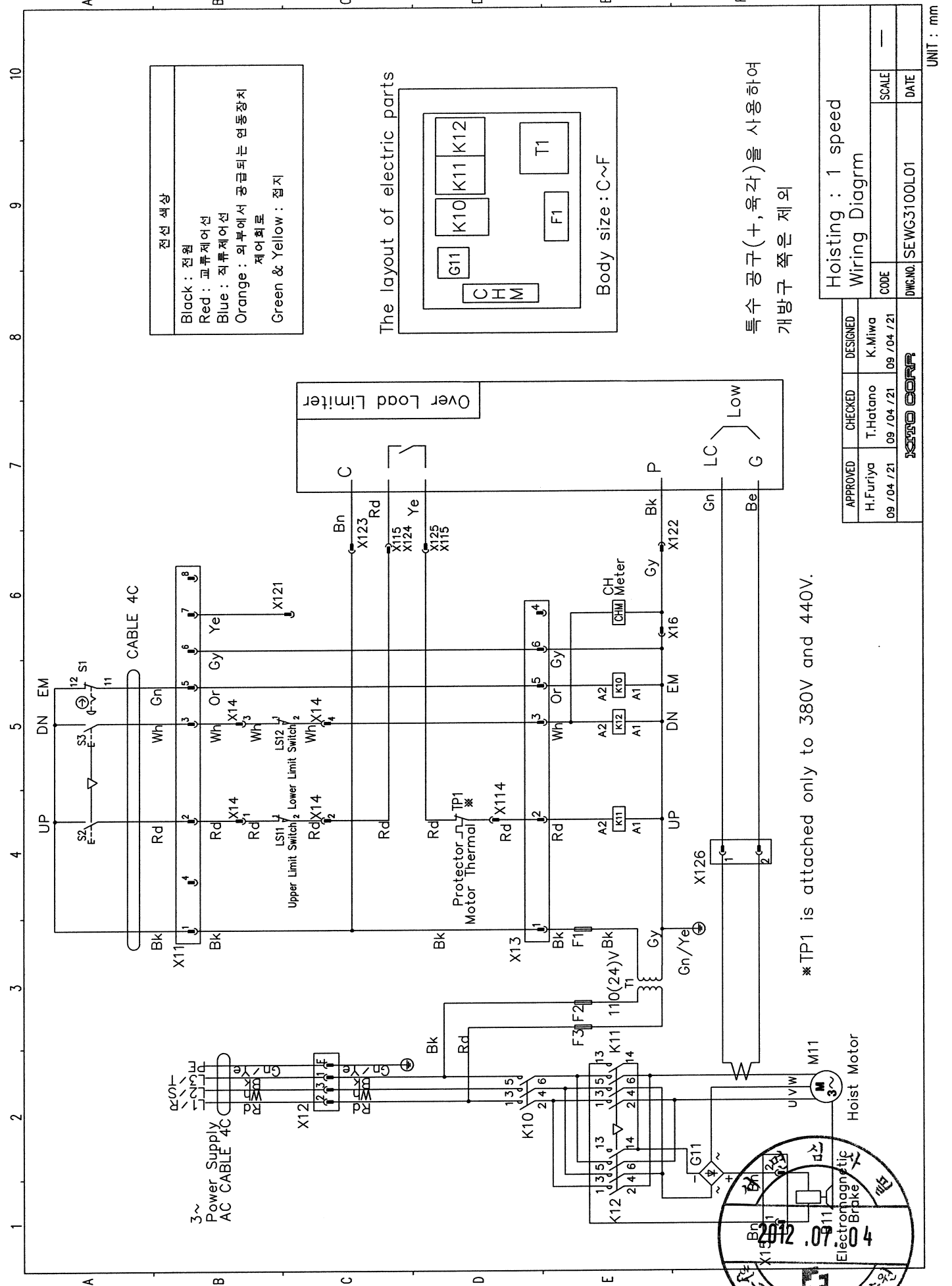
특수 공구(+, 육각)를 사용하여
 개방구 쪽은 제외

Hoisting 2speed
 Wiring Diagram

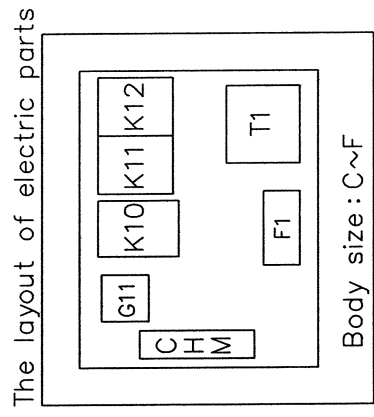
APPROVED	CHECKED	DESIGNED
H.Furiya 09 /04 /21	H.Hatano 09 /04 /21	K.Miwa 09 /04 /21
CODE	SCALE	DATE
DWG.NO	SEWG3D00L01	---

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





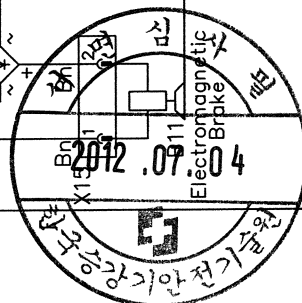
전선 색상
 Black : 전원
 Red : 교류제어선
 Blue : 직류제어선
 Orange : 외부에서 공급되는 연동장치 제어회로
 Green & Yellow : 접지



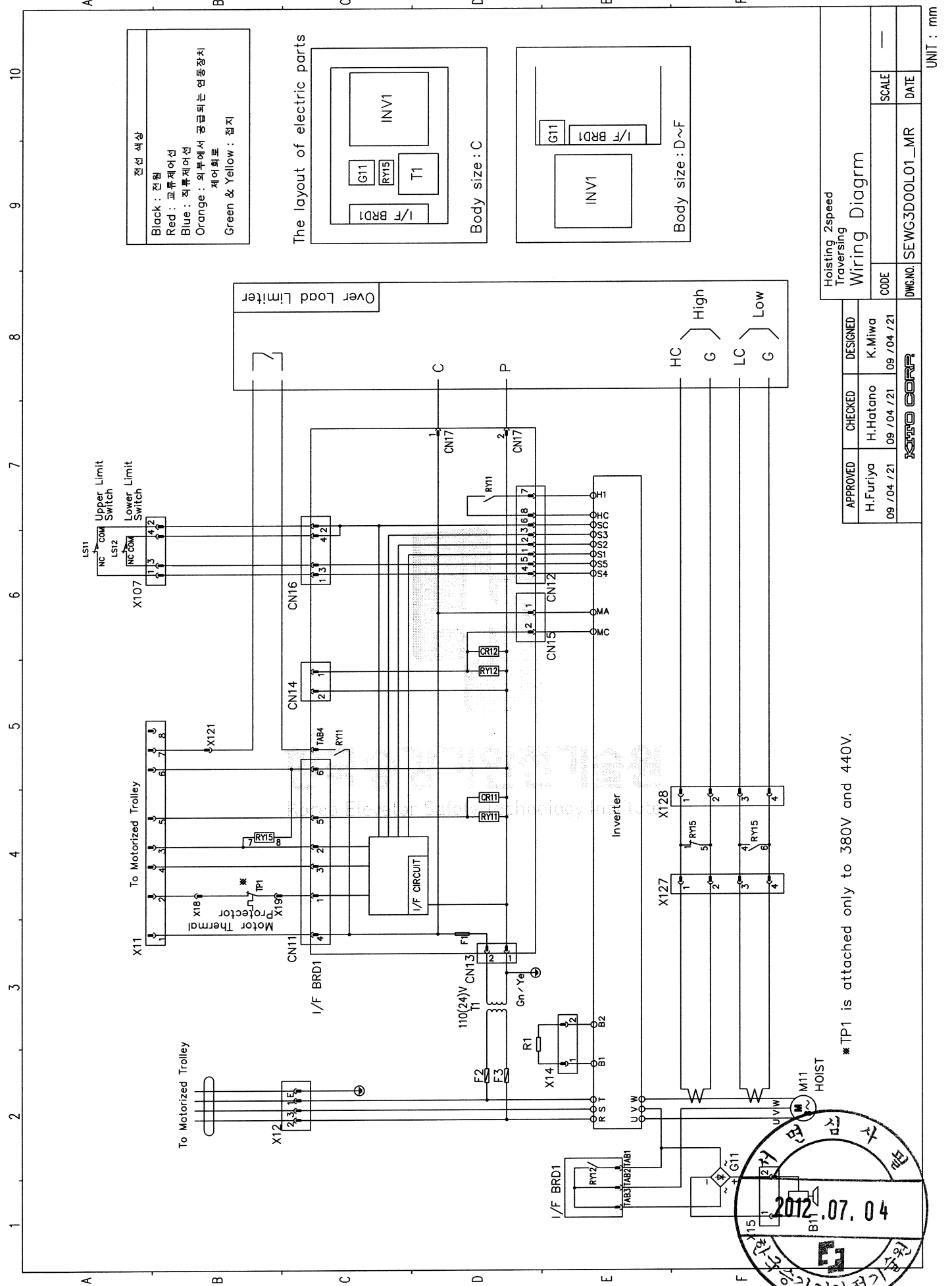
특수 공구(+, 육각)을 사용하여
 개방구 쪽은 제외

APPROVED	CHECKED	DESIGNED
H.Furiya	T.Hatano	K.Miwa
09 / 04 / 21	09 / 04 / 21	09 / 04 / 21
KOTO CORP		
Hoisting : 1 speed		CODE
Wiring Diagram		SCALE
DWGNO. SEWG3100L01		DATE

※TP1 is attached only to 380V and 440V.



UNIT : mm



전선 색상
 Black : 전원
 Red : 정류제어선
 Blue : 직류제어선
 Orange : 외부에서 공급되는 emergency stop
 Green & Yellow : 정지

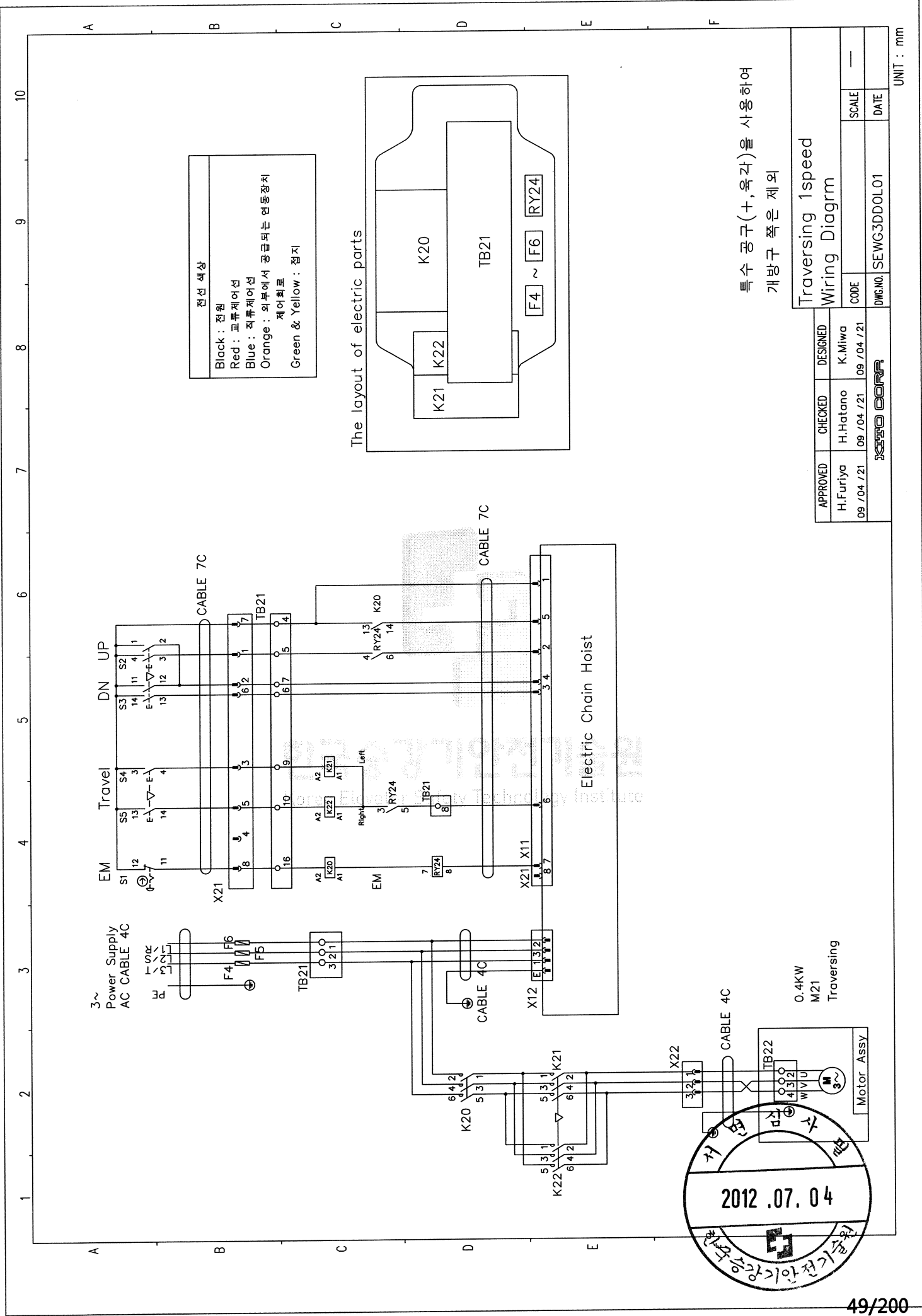
The layout of electric parts
 Body size : C

Body size : D~F

APPROVED		CHECKED		DESIGNED		
H.Furiya		H.Hatano		K.Miwa		
09 / 04 / 21		09 / 04 / 21		09 / 04 / 21		
KATO CORP						
Hoisting 2speed Traversing Wiring Diagram				CODE	SCALE	DATE
				DMG.NO.	SEWG3D00L01_MR	

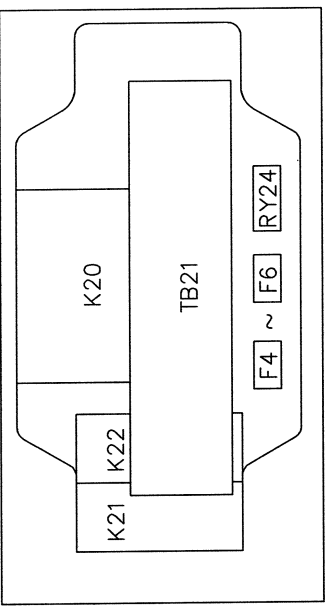
*TP1 is attached only to 380V and 440V.

UNIT : mm



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

The layout of electric parts



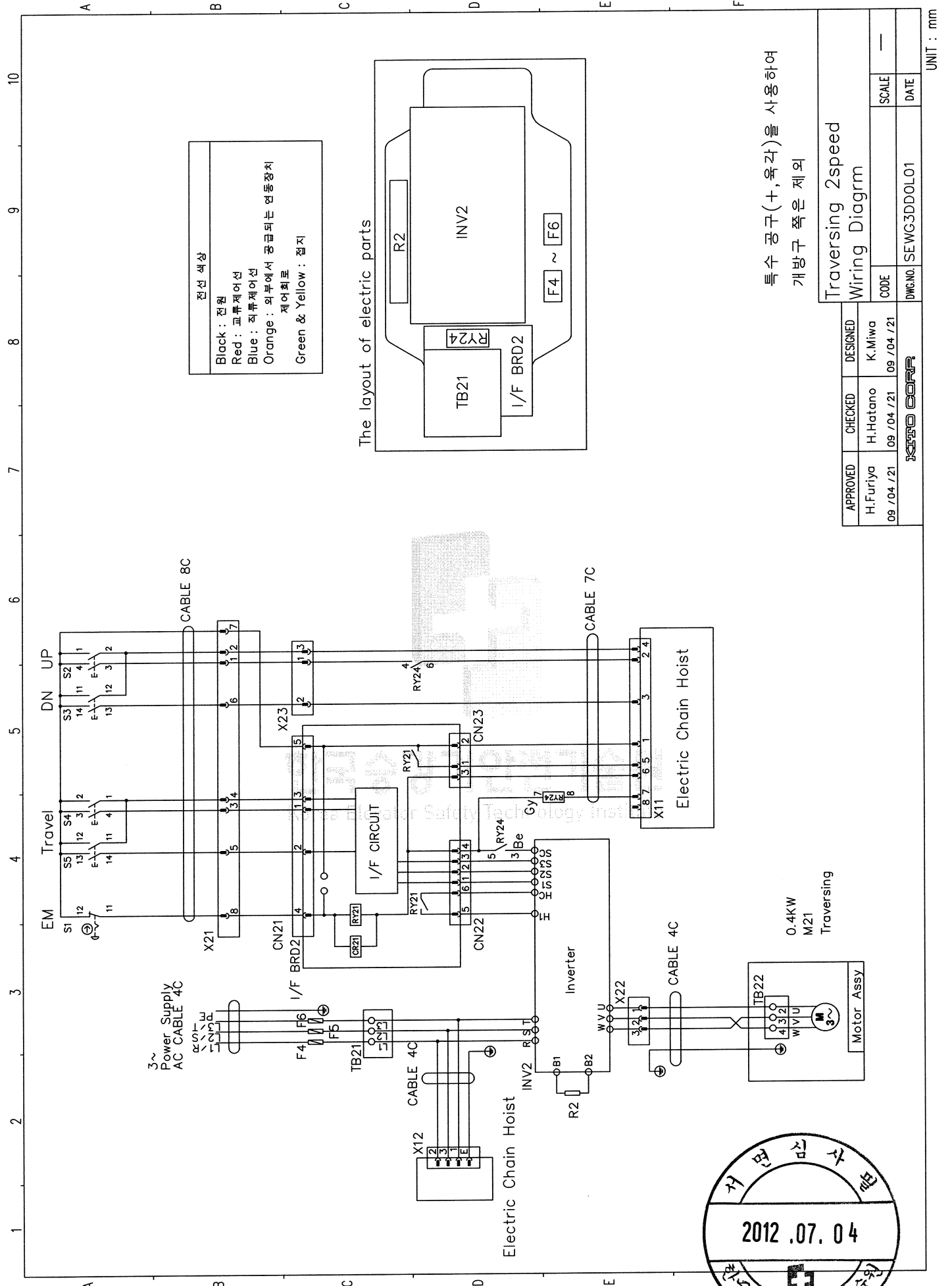
특수 공구 (+, 육각)을 사용하여
 개방구 쪽은 제외

Traversing 1speed
 Wiring Diagram

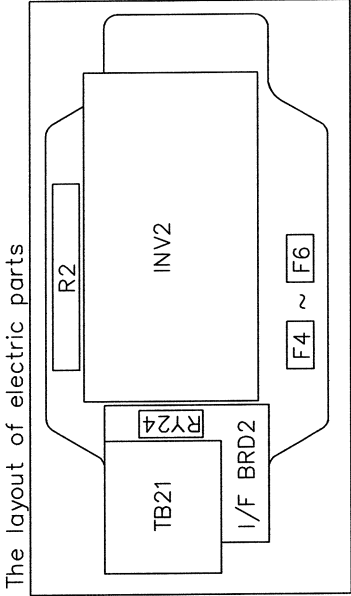
APPROVED	CHECKED	DESIGNED
H.Furiya	H.Hatano	K.Miwa
09/04/21	09/04/21	09/04/21

CODE	SCALE	DATE
DWG.NO. SEWG3DD0L01	---	---

UNIT : mm



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



특수 공구(+, 육각)를 사용하여
 개방구 쪽은 제외

APPROVED		CHECKED	DESIGNED
H. Furiya		H. Hatano	K. Miwa
09 / 04 / 21		09 / 04 / 21	09 / 04 / 21
KOTO CORP			
DWG. NO.		SEWC3DD0L01	
Traversing 2speed Wiring Diagram			
CODE	SCALE	DATE	
	—	—	

UNIT : mm



CABLE 구성도 및 사양 - 권상 용량 1.8kW

CABLE SPECIFICATION FOR ER2M

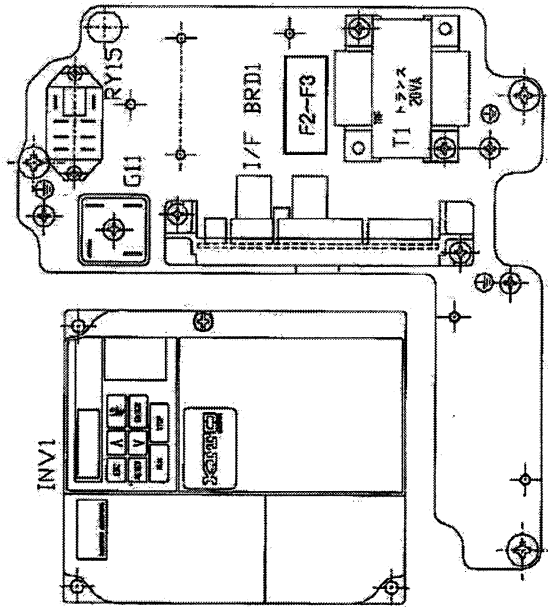
NO	ITEM	TYPE	ER2M20	
			SIZE	
①	Power Line	VCT	3.5sq x 4C	
②	Push Button Switch	VCT	1.25sq x 8C	
③	Loas Limit	VCT	0.75sq x 8C	
④	Power Line for ER	VCT	2sq x 4C	
⑤	Control Line for ER	VCT	1.25sq x 6C	
⑥	Traversing Motor With Earth	VCT	1.25sq x 4C	

(3Φ 220(208)V / 380V / 440V 60HZ)

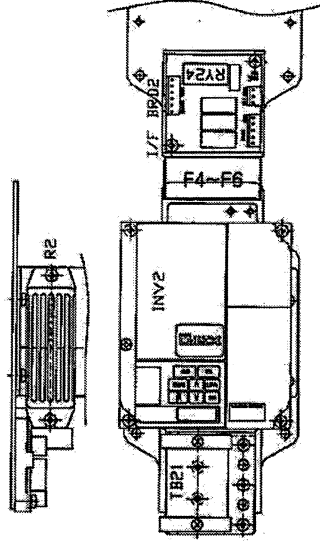


호이스트 CONTROL BOX 배치도

HOISTING CONTROL BOX

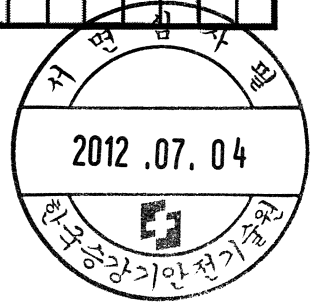


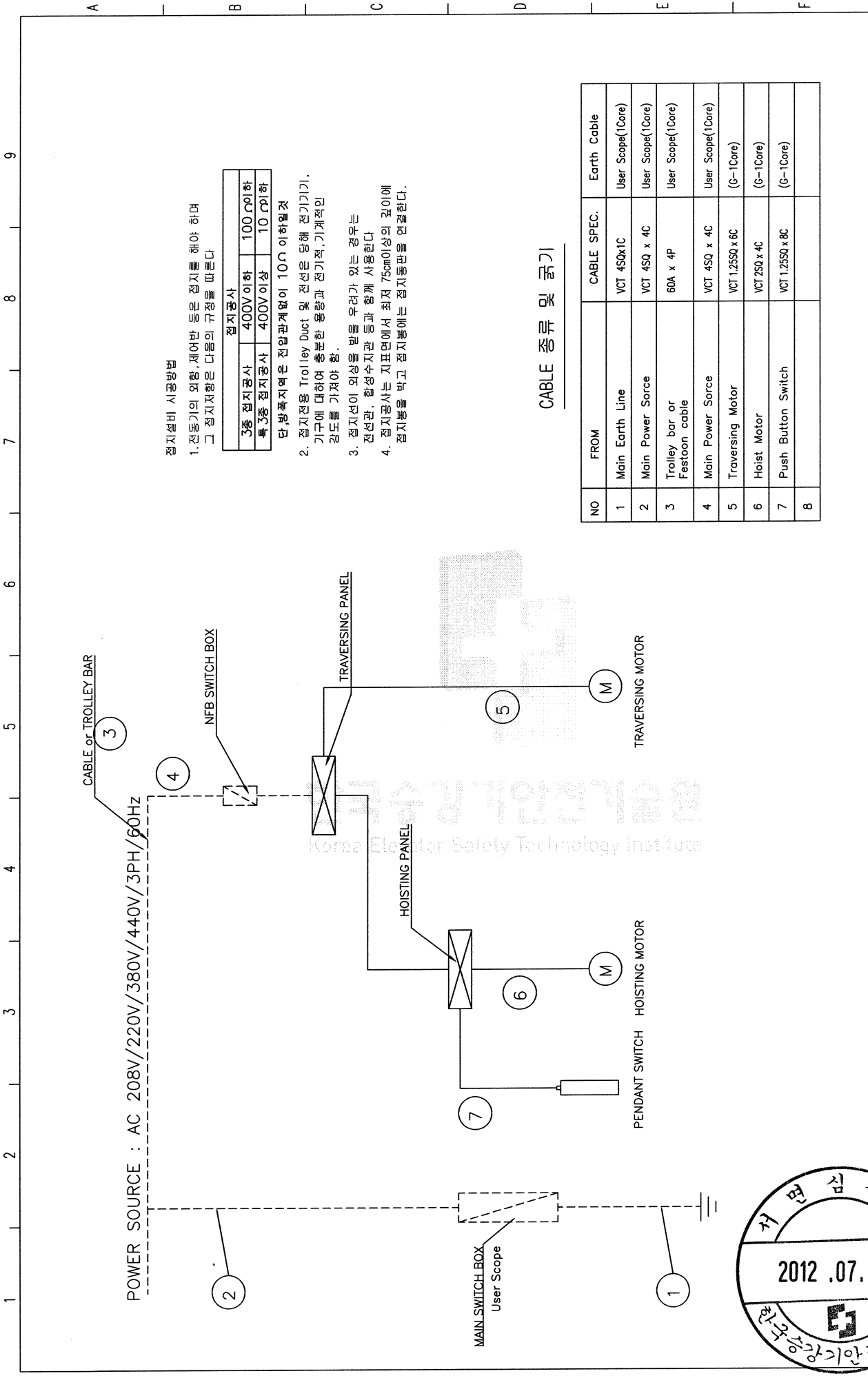
TRAVERSING CONTROL BOX



ENCLOSURE : HOIST BODY - IP55
PUSH BUTTON - IP65

MARK	DESCRIPTION	TYPE OF MODEL			Q'TY	MAKER	REMARKS
		220V	380V	440V			
INV1	INVERTER	V1000	V1000	V1000	1	YASKAWA	UP/DOWN
T1	TRANSFORMER	220V/ 24V(110V) 20VA	380V/ 24V(110V) 20VA	440V/24V(110V) 20VA	1	KITO	CONTROL CIRCUIT
G11	BRIDGE DIODE	S15VB60	S15VB60	S15VB60	1	SHINDENGEN	
1/F BRD1	INTERFACE BOARD	10~15A	10~15A	10~15A	1	KITO	
F2-F3	GLASS FUSE	10A	10A	10A	2	FUJI	
F4-F6	GLASS FUSE	30A	30A	30A	3	FUJI	
RY15	RELAY	110V	110V	110V	1	OMRON	HIGH/LOW
INV2	INVERTER	V1000	V1000	V1000	1	YASKAWA	RIGHT/LEFT
1/F BRD2	INTERFACE BOARD	10~15A	10~15A	10~15A	1	KITO	
RY24	RELAY	110V	110V	110V	1	OMRON	EMERGENCY STOP
TB21	TERMINAL BOARD 21	10~15A	10~15A	10~15A	1	KITO	





접지설비 시공방법

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

3중 접지공사	400V이하	100Ω이하
특3중 접지공사	400V이상	10Ω이하

단, 방폭지역은 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

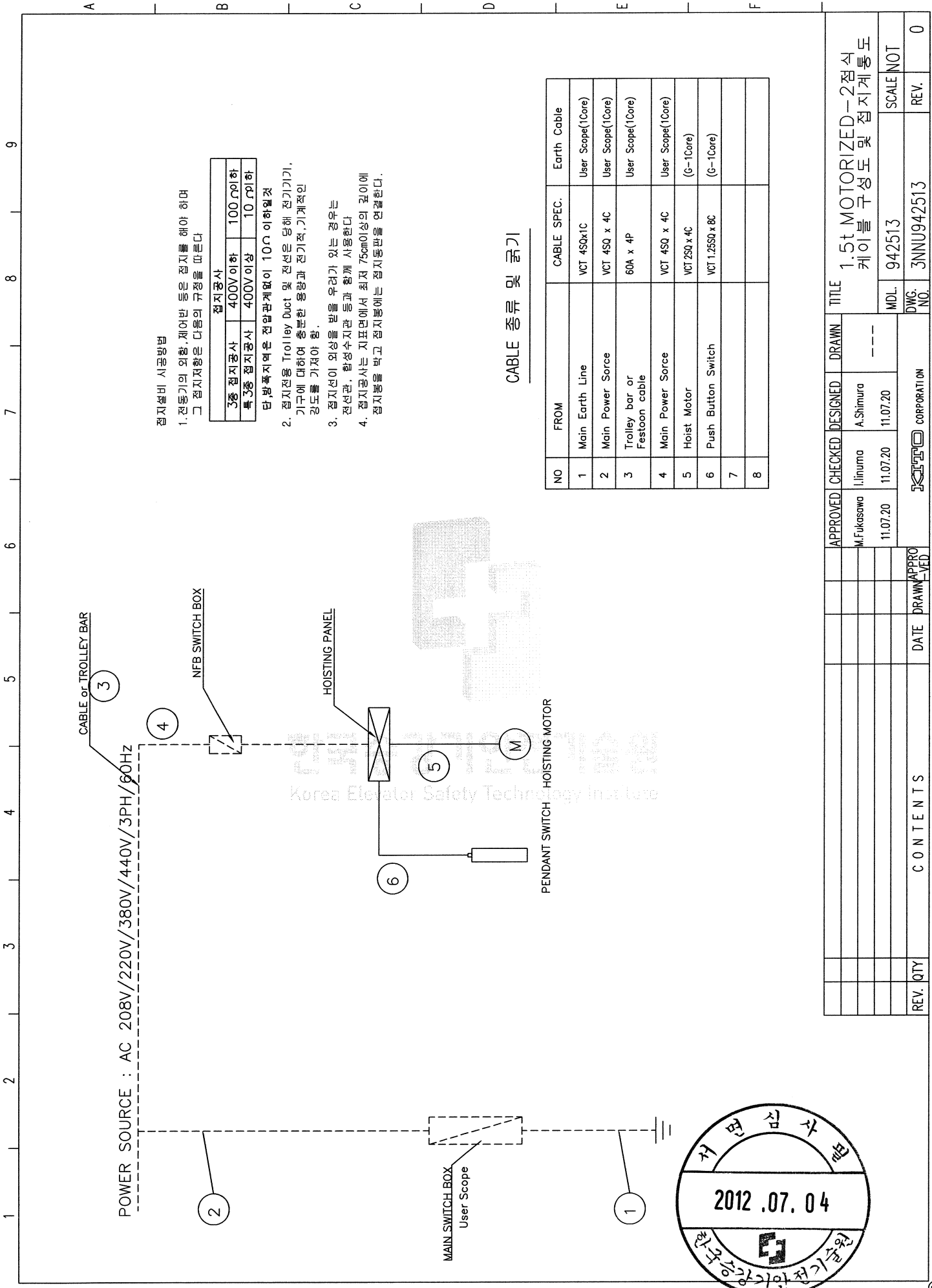
4. 접지공사는 지표면에서 최저 75cm이상의 깊이에 접지봉을 박고 접지봉에는 접지동판을 연결한다.

CABLE 종류 및 규격

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	Traversing Motor	VCT 1.2550 x 6C	(G-1Core)
6	Hoist Motor	VCT 250 x 4C	(G-1Core)
7	Push Button Switch	VCT 1.2550 x 8C	(G-1Core)
8			

REV.	QTY	CONTENTS	DATE	DRAWN	APPROVED	CHECKED	DESIGNED	DRAWN	TITLE
									1.5t MOTORIZED-4점식 케이블 구성도 및 접지계통도
					M. Fukasawa	I. Iinuma	A. Shimura	---	
						11.07.20	11.07.20	11.07.20	
					KSTECO CORPORATION				
									MDL 942513
									DWG. NO. 3NNU942513
									SCALE NOT
									REV. 0





접지설비 시공방법

- 전동기의 외함, 제어반 등은 접지를 해야 하며 그 접지 저항은 다음의 규정을 따른다

접지공사	
3중 접지공사	400V 이하 100 Ω 이하
특3중 접지공사	400V 이상 10 Ω 이하

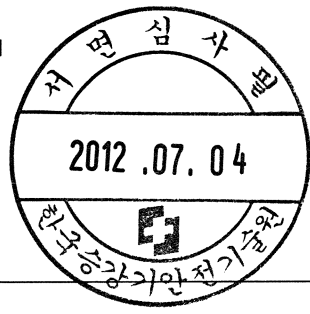
단, 반복지역은 전압관계없이 10Ω 이하일 것

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

CABLE 종류 및 길이

NO	FROM	CABLE SPEC.	Earth Cable
1	Main Earth Line	VCT 45Qx1C	User Scope(1Core)
2	Main Power Sorce	VCT 45Q x 4C	User Scope(1Core)
3	Trolley bar or Festoon cable	60A x 4P	User Scope(1Core)
4	Main Power Sorce	VCT 45Q x 4C	User Scope(1Core)
5	Hoist Motor	VCT 25Q x 4C	(G-1Core)
6	Push Button Switch	VCT 1.25SQ x 8C	(G-1Core)
7			
8			

REV.	QTY	CONTENTS	DATE	DRAWN	APPROVED	CHECKED	DESIGNED	DRAWN	TITLE
							A. Shimura	---	1.5t MOTORIZED-2점식 케이블 구성도 및 접지계통도
						11.07.20	11.07.20	MDL. 942513	
									DWG. NO. 3NNU942513
									SCALE NOT
									REV. 0



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

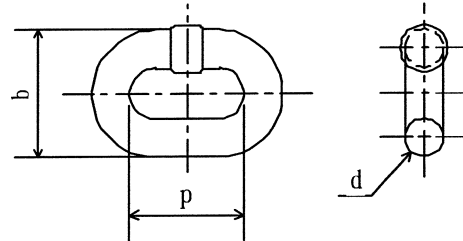
Messrs.

Commodity: NC Load Chain

Code : KER102

Lot No. : -

Quantity: - line(s)



1. Material: Manganese Alloy Steel

2. Dimensions

	d	p	b
Specified	10.2mm ± 0.4	28.4mm $\begin{matrix} +0.56 \\ 0 \end{matrix}$	Max. 35.7mm
Result	Good	Good	Good

3. Breaking test

	Breaking load	Total ultimate elongation
Specified	Min. 131 (kN)	Min. 10 (%)
Result	Good	Good

4. Manufacturing Proof force test (Test load: 81.7 kN)

	Permanent elongation
Specified	0.25 (%)
Result	Good

General judgment: Satisfactory

KITO CORP.

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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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Development & Technology Division

M. Ogihara (Manager)

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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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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	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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Development & Technology Division

(Manager)

K. Kishimoto

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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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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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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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Development & Technology Division

M. Ogihara

(Manager)

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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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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K. Kishimoto

1) 과부하 방지장치

