



제 CA-2012-0028 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):	KD-ER2-030(3 ton)	_____
_____ 인증번호 :	12-CA4AC-0028	_____
_____ 인증기준 :	위험기계·기구 의무안전인증기준 (고용노동부고시 제2011-39호)	_____
_____ 인증조건 :	산업안전보건법 "제34조 준수"	_____

2012년 11월 30일

한국승강기안전기술원 이사장



【별지 제4호서식】

동 일 형 식 일 랑 표

사업장명	KITO CORP.		개정일자 및 번호	2012.08.13	인증번호	
형식 및 모델번호		동일형식 항목 및 내역			비고	
형식번호	모델번호	동일형식 항목1	동일형식 항목2	동일형식 항목3		
KD-ER2-030	KITO-ER2D030S-S	Lift max 30m 권상모타 3.5kW .S : 5.3m/min .IS: 5.2/0.9m/min Inverter control	횡행모터 0.4kW .S : 24m/min .L: 12m/min .IS:24/4m/min .IL:12/2m/min	전기Trolley 결합 type		
	KITO-ER2D030S-L					
	KITO-ER2D030S-IS					
	KITO-ER2D030S-IL					
	KITO-ER2D030IS-S					
	KITO-ER2D030IS-L					
	KITO-ER2D030IS-IS					
	KITO-ER2D030IS-IL					
	KITO-C-ER2D030S-S					
	KITO-C-ER2D030S-L					
	KITO-C-ER2D030S-IS					
	KITO-C-ER2D030S-IL					
	KITO-C-ER2D030IS-S					
	KITO-C-ER2D030IS-L					
KITO-C-ER2D030IS-IS						
KITO-C-ER2D030IS-IL						
				전기Trolley 결합 Clean type		



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

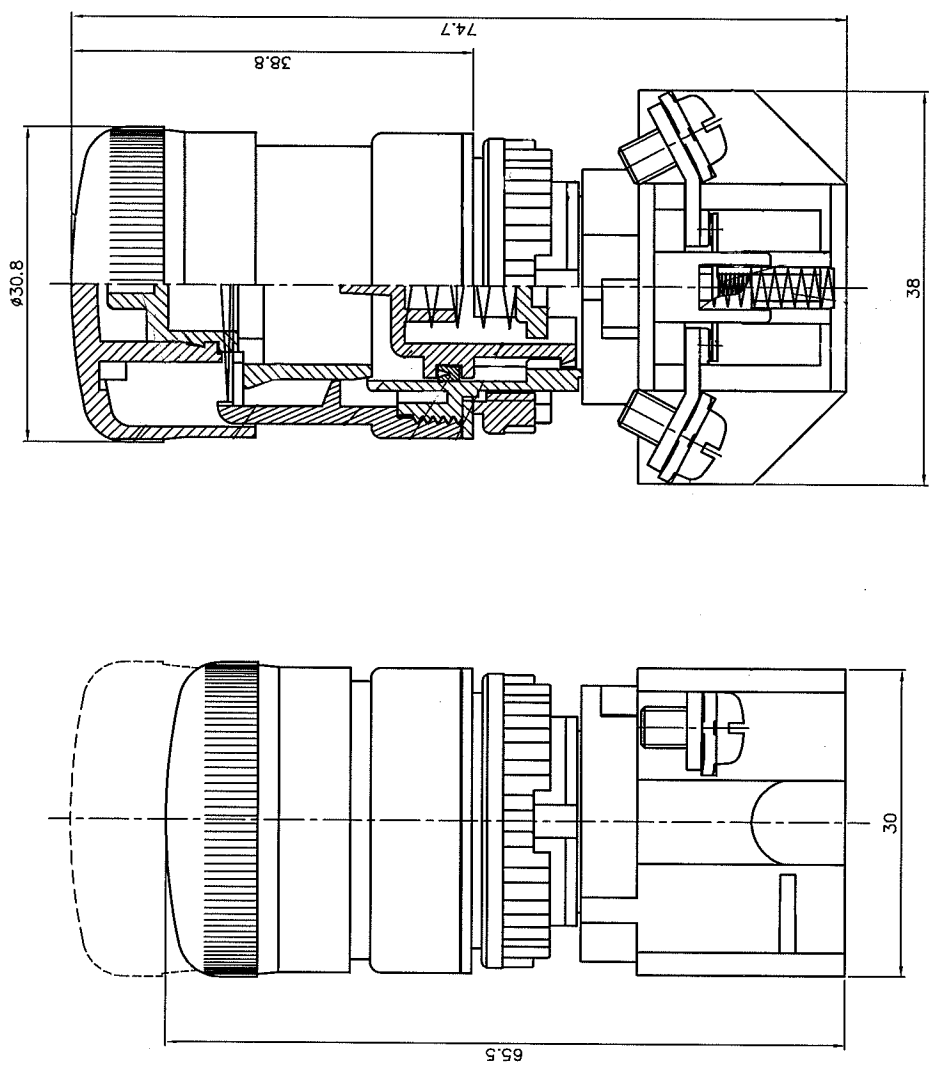
아래 주소에서 생산되는 제품에 한함.

정호엔지니어링, 경기도 광명시 노온사동 440-5

2012년 06월 11일

한국산업안전보건공단 이사장

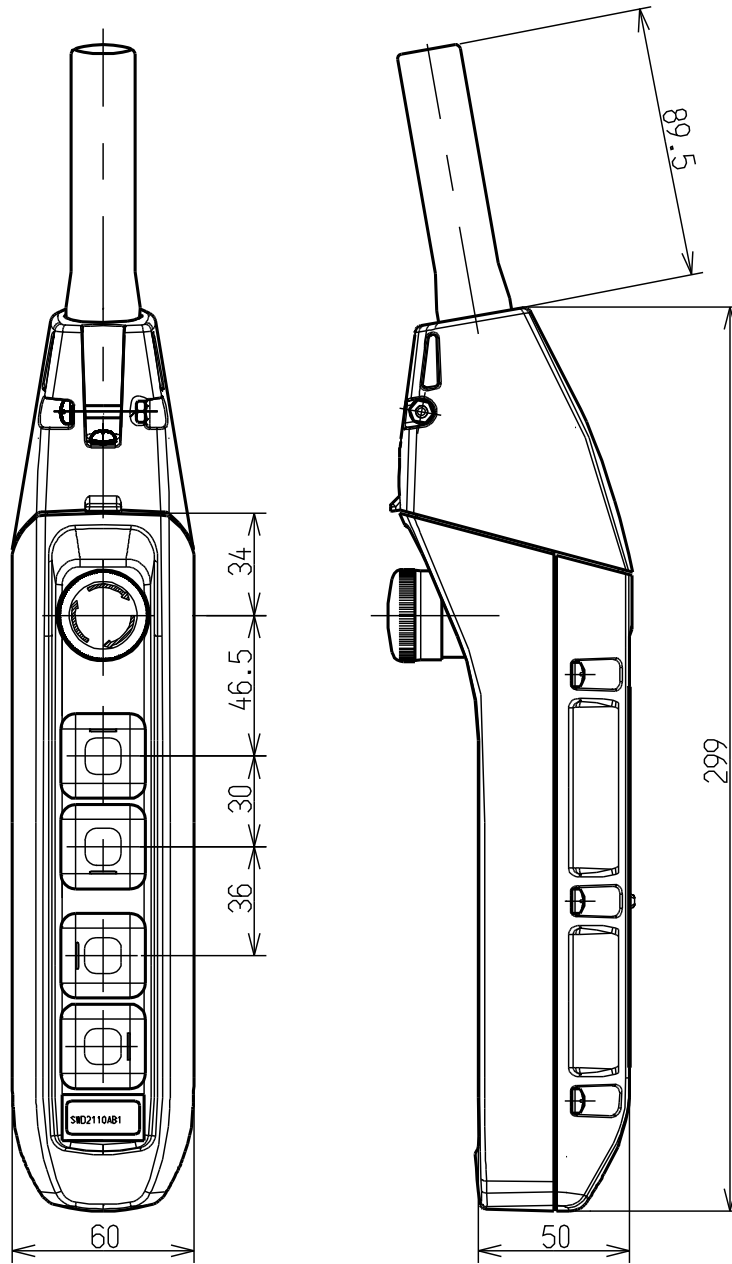






一般公差	0.2~30mm: ±0.2	30.1~60mm: ±0.3	60.1~300mm: ±0.5	模具材質	模具處理	模具孔數	單位	mm	材質	圖號	T2-BKH
				品保部 95.05.24 林建安	研發部 95.05.24 周欽祥	繪圖 95.05.24 吳保達	比例 2:1	2:1	表面處理 顏色	品名	T2 BKH 連鎖開關
				研發部 95.05.24 劉從義			投影法	⊕	顏色		
天得科技股份有限公司 TEND TECHNOLOGY CO., LTD.											

版序: A

Revision	Incidence	Description	Date	Charge	Approved



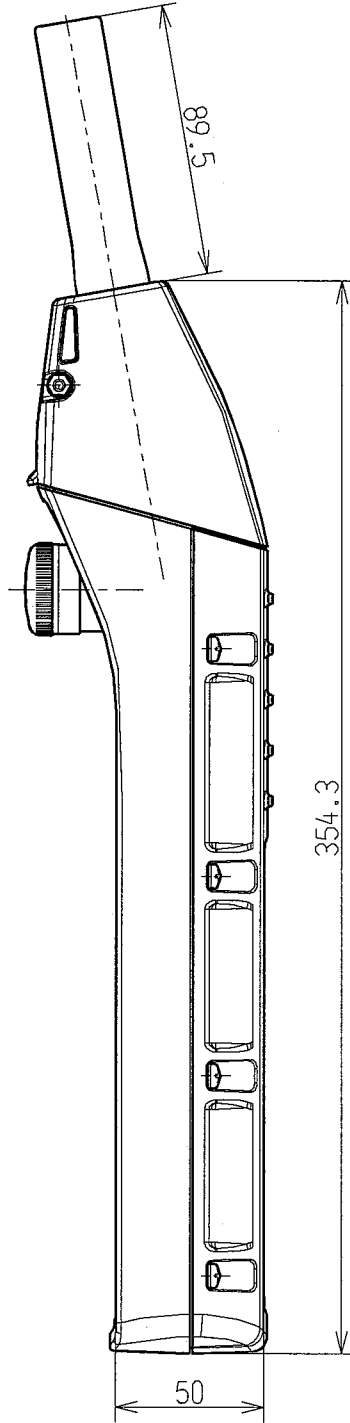
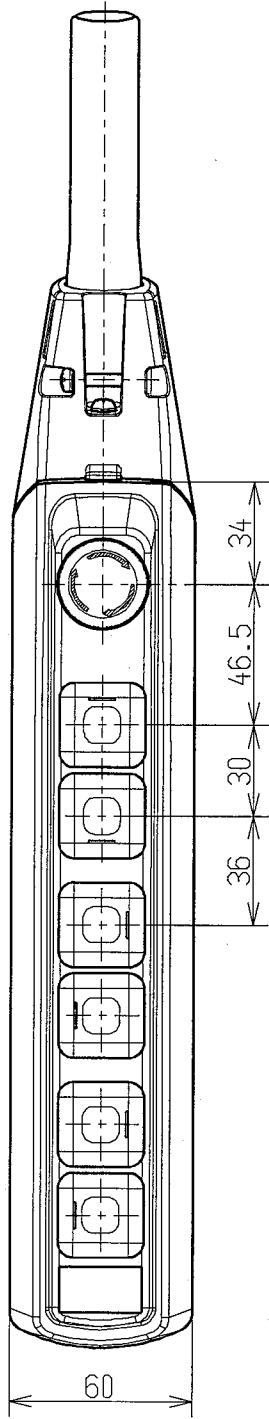
The lifting and lowering push buttons are marked with  for single speed or  for dual speed.
 The traveling push buttons are marked with E W or N S depending on the installed direction.

⑥
⑤
④
③
②
①
Date issued

APPROVED	H.FURIYA	CHECKED	T.HATANO	DESIGNED	KOBAYASHI	DRAWN	KOBAYASHI	SCALE	-	DWG. NO.	SWD2XX0AA1	
	09.04.21		09.04.21		09.04.21		09.04.21		NOS./UNIT		MATERIAL	NAME
											5point Pendant control station MX subassembly	

Revision	Incidence	Description	Date	Change	Approved

E
W
S
N



⑥	
⑤	
④	
③	
②	
①	
Date issued	

NOTE

APPROVED	ISHIKAWA	CHECKED	FURUYA	DESIGNED	KOBAYASHI	DRAWN	KOBAYASHI	SCALE	-	DWG. NO.	SWD2XXXAA1	
	08.02.08		08.02.08		08.02.08		08.02.08			DWG. NO. / UNIT MATERIAL	NAME	CODE
												7point Pendant control station MXXX subassembly

LOAD SUMMARY 1 – INVERTER 사양

*POWER SOURCE : AC 3Φ 220(208)V

OBJECT	HOISTING	TRAVERSING	CONTROL CIRCUIT
MOTOR OUTPUT	3.5KW x 4P	0.4KW x 4P x 2SET	
FULL LOAD CURRENT	18.7 (A)	6 (A)	0.5 (A)

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

*** NOMAL 전류값 ***

권상과 횡행시 : HOISTING + TRAVERSING + CONTROL CIRCUIT = 25.2 A

*** PEAK 전류값 ***

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

NOMAL 전류값 * K = 25.2 * 1.25 = 31.5 A

LOAD SUMMARY 1 – INVERTER사양

*POWER SOURCE : AC 3Φ 220(208)V

OBJECT	HOISTING	TRAVERSING	CONTROL CIRCUIT
MOTOR OUTPUT	3.5KW x 4P	0.4KW x 4P x 2SET	
FULL LOAD CURRENT	18.7 (A)	6 (A)	0.5 (A)

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

*** NOMAL 전류값 ***

권상과 횡행시 : HOISTING + TRAVERSING + CONTROL CIRCUIT = 25.2 A

*** PEAK 전류값 ***

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

NOMAL 전류값 * K = 25.2 * 1.25 = 31.5 A

*POWER SOURCE : AC 3Φ 380(440)V

OBJECT	HOISTING	TRAVERSING	CONTROL CIRCUIT
MOTOR OUTPUT	3.5KW x 4P	0.4KW x 4P x 2SET	
FULL LOAD CURRENT	9.2 (A)	5 (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



LOAD SUMMARY 2 - 1속형사양

*POWER SOURCE : AC 3Φ 220(208)V

OBJECT	HOISTING	TRAVERSING	CONTROL CIRCUIT
MOTOR OUTPUT	3.5KW x 4P	0.4KW x 4P x 2SET	
FULL LOAD CURRENT	16.9 (A)	6 (A)	0.5 (A)

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

*** NOMAL 전류값 ***

권상과 횡행시 : HOISTING + TRAVERSING + CONTROL CIRCUIT = 23.4 A

*** PEAK 전류값 ***

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

NOMAL 전류값 * K = 23.4 * 1.25 = 29.2 A

*POWER SOURCE : AC 3Φ 380(440)V

OBJECT	HOISTING	TRAVERSING	CONTROL CIRCUIT
MOTOR OUTPUT	3.5KW x 4P	0.4KW x 4P x 2SET	
FULL LOAD CURRENT	8.7 (A)	4.4 (A)	0.5 (A)

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

*** NOMAL 전류값 ***

권상과 횡행시 : HOISTING + TRAVERSING + CONTROL CIRCUIT = 13.6 A




*** PEAK 전류값 ***

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





NOMAL 전류값 * K = 13.6 * 1.25 = 17 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

-  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
-  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
-  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




GRAPHIC SYMBOLS

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





SYMBOL LIST

APPROVED	CHECKED	DESIGNED
KAPCO CORP.		
	CODE	SCALE
	IMGND.	DATE
	SYMBOL LIST	---




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




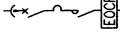

POWER CIRCUIT BREAKER, DRAWOUT TYPE

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

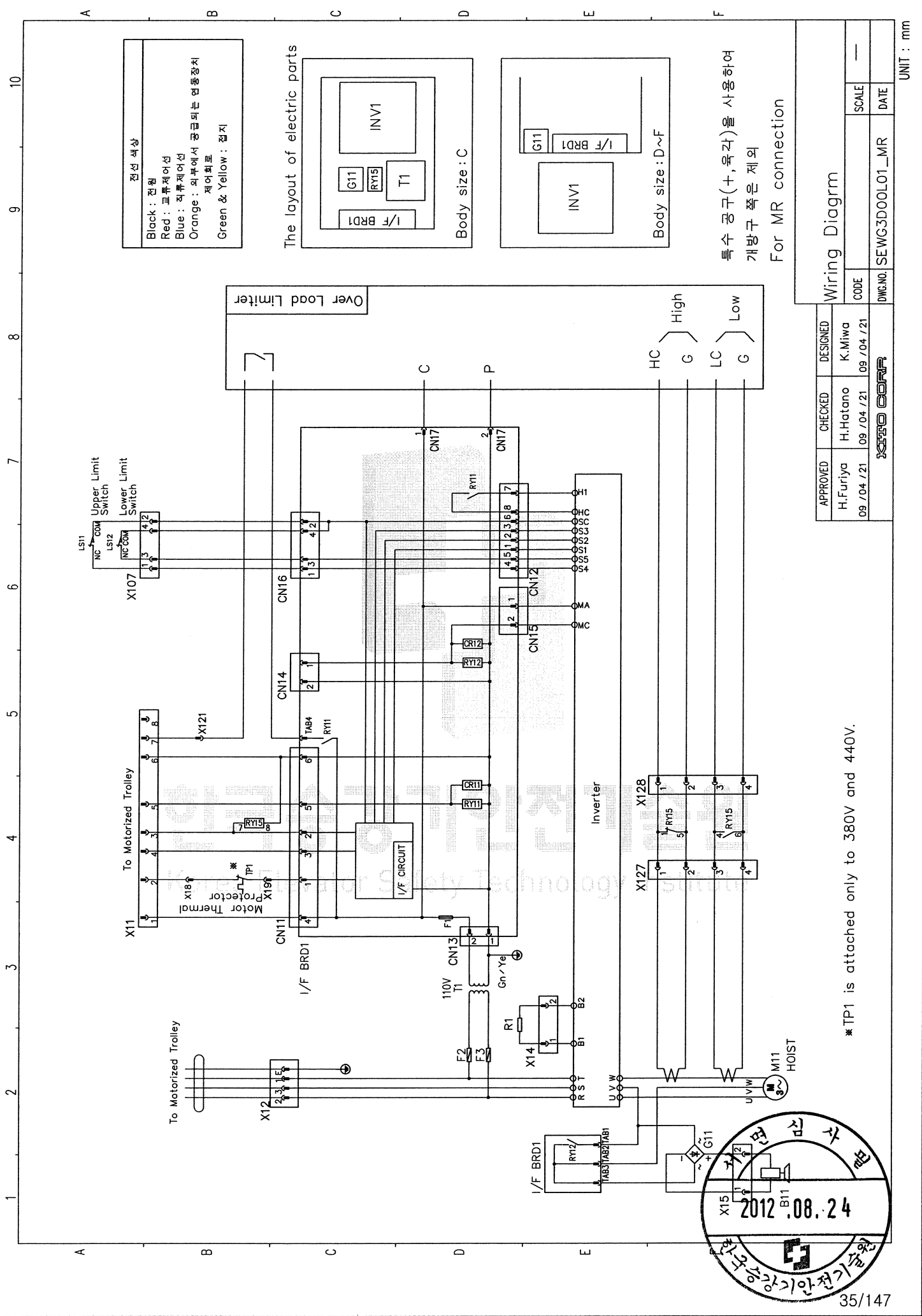
GRAPHIC SYMBOLS

-  GENERAL OPERATING COIL
-  CAPACITOR
-  CAPACITOR VOLTAGE TRANSFORMER (CVT)
-  RESISTOR
-  DIODE
-  BUS DUCT
-  SPS : 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

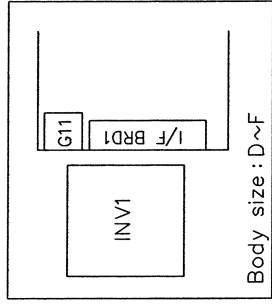
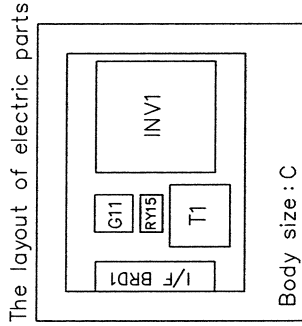
SYMBOL LIST

APPROVED	CHECKED	DESIGNED
KOTO CORP		
CODE	SCALE	DATE

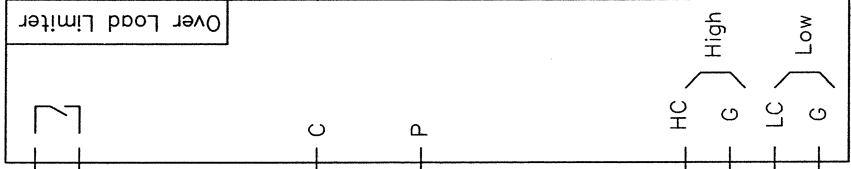




전선 색상
 Black : 전선
 Red : 교류제어선
 Blue : 직류제어선
 Orange : 외부에서 공급되는 연동장치 제어회로
 Green & Yellow : 접지



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

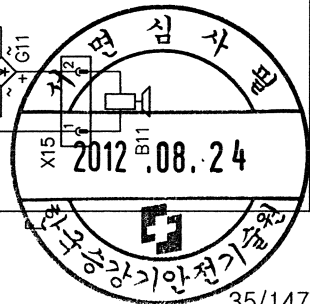


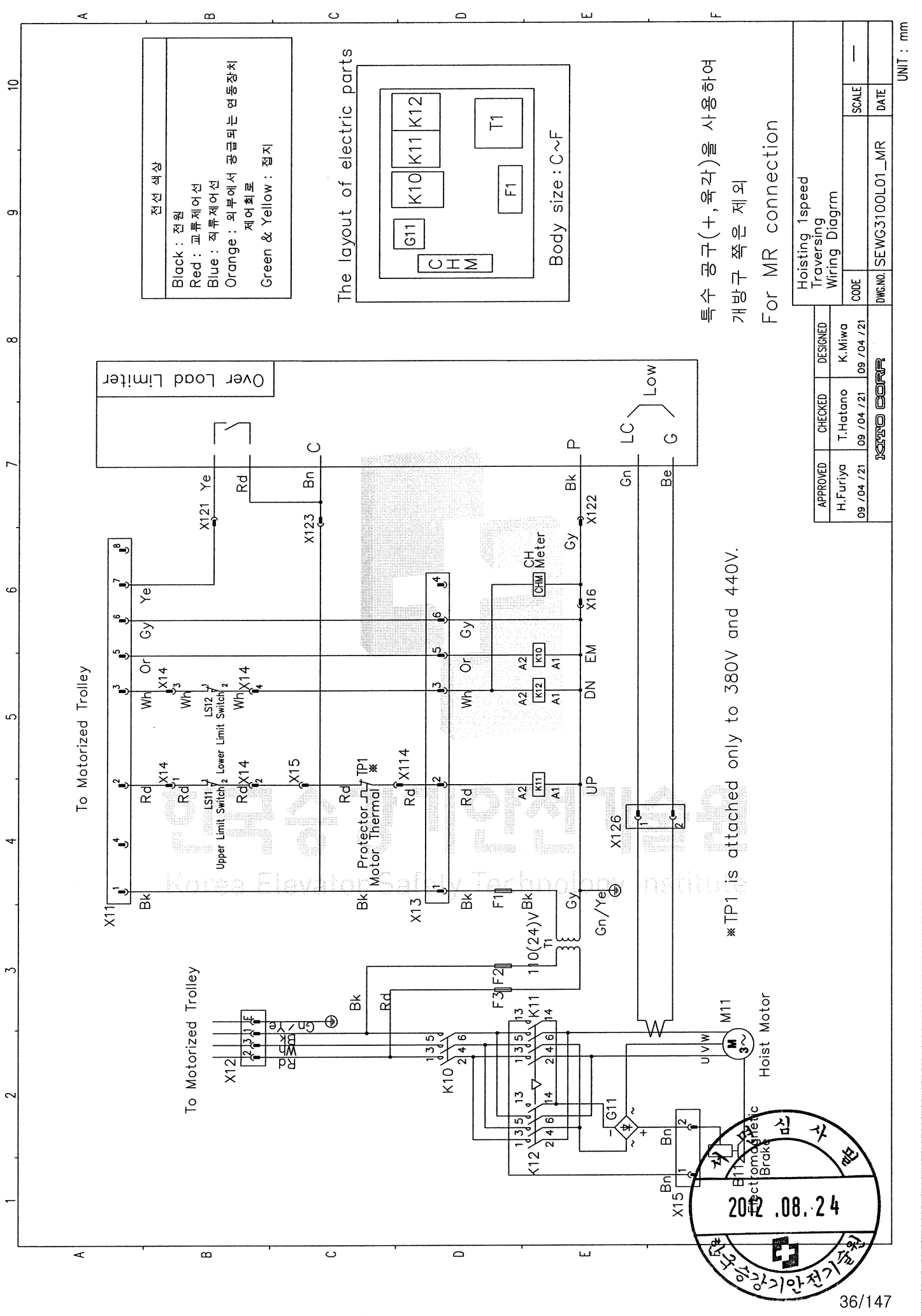
APPROVED	CHECKED	DESIGNED
H.Furiya 09 /04 /21	H.Hatano 09 /04 /21	K.Miwa 09 /04 /21

Wiring Diagram	
CODE	SCALE
SEWG3D00L01_MR	---
DATE	DATE

UNIT : mm

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





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

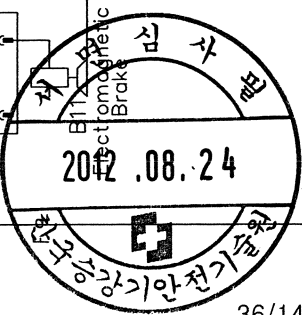
The layout of electric parts
 Body size : C~F

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

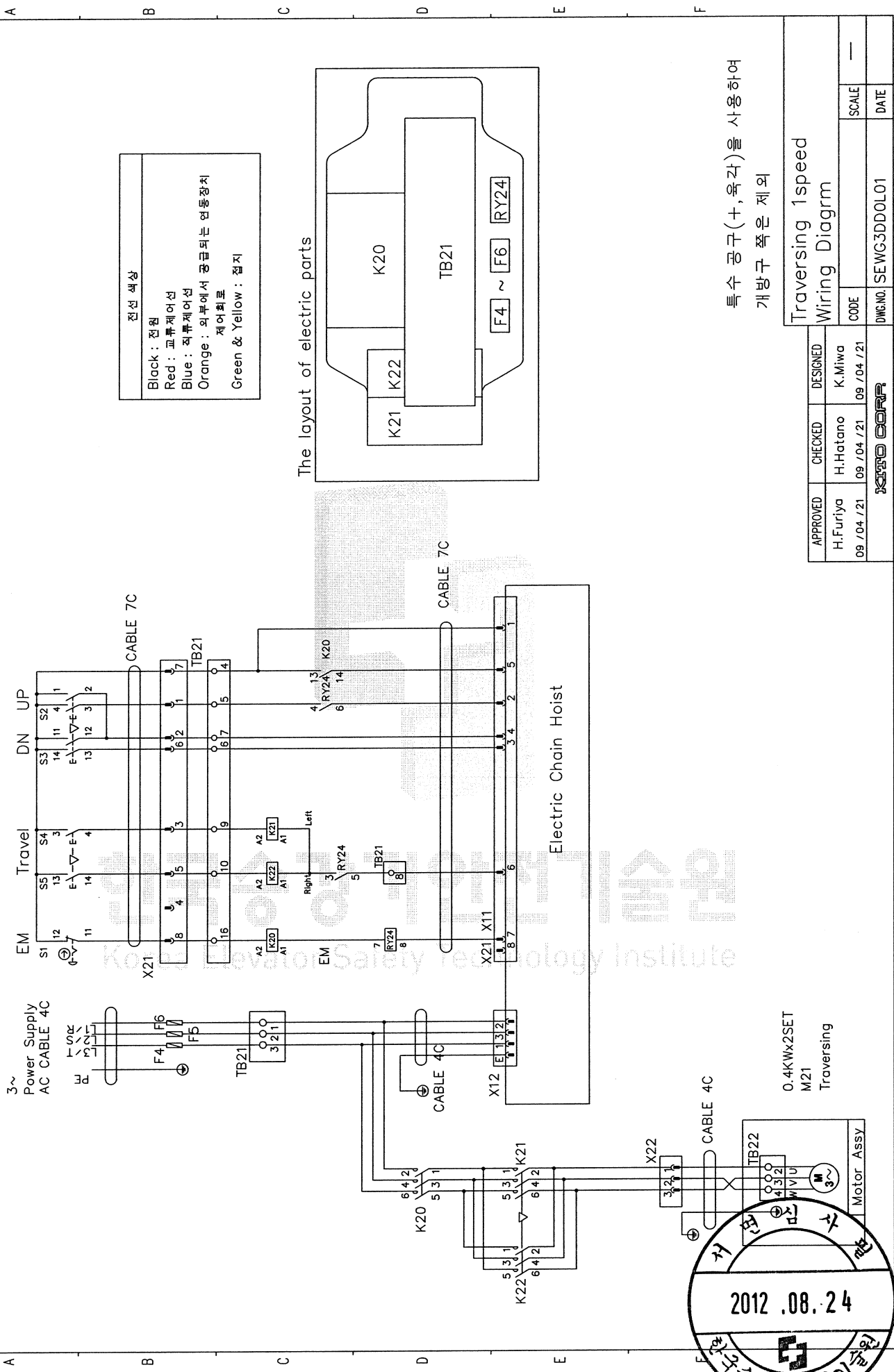
* TP1 is attached only to 380V and 440V.

APPROVED		CHECKED	DESIGNED
H.Furiya 09 / 04 / 21		T.Hatano 09 / 04 / 21	K.Miwa 09 / 04 / 21
ISTO CORP			
Dwg.No.		SCALE	DATE
SEWG3100L01_MR		—	—

UNIT : mm



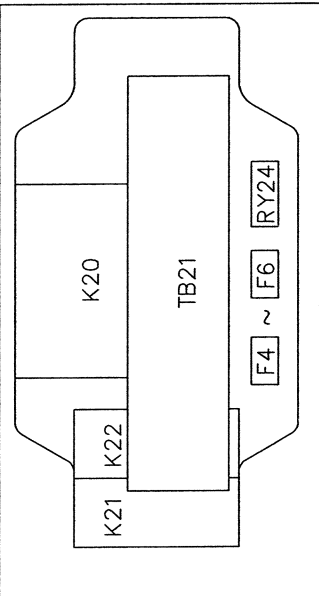
10 9 8 7 6 5 4 3 2 1



전선 색상

Black : 전압
 Red : 교류제어선
 Blue : 직류제어선
 Orange : 외부에서 공급되는 인동장치 제어회로
 Green & Yellow : 접지

The layout of electric parts



특수 공구(+, 육각)를 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. SEWC3DD0L01

UNIT : mm

2012 .08. 24

0.4KWx2SET
 M21
 Traversing

Motor Assy

CABLE 구성도 및 사양 - 권상 용량 3.5kw

CABLE SPECIFICATION FOR ER2M

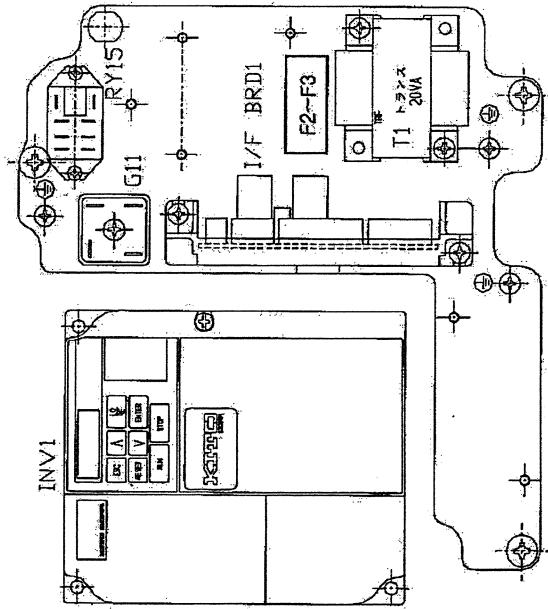
NO	ITEM	TYPE	ER2M30	
			SIZE	
①	Power Line	VCT	4sq x 4C	
②	Push Button Switch	VCT	1.5sq x 8C	
③	Loas Limit	VCT	0.75sq x 8C	
④	Power Line for ER	VCT	2.5sq x 4C	
⑤	Control Line for ER	VCT	1.5sq x 6C	
⑥	Traversing Motor With Earth	VCT	1.5sq x 4C	

(3Φ 220(208)V / 380V / 440V 60Hz)

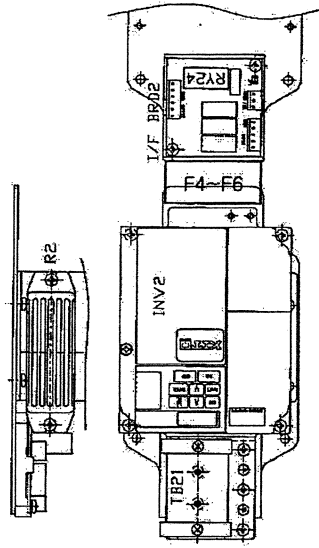


호이스트 CONTROL BOX 배치도

HOISTING CONTROL BOX

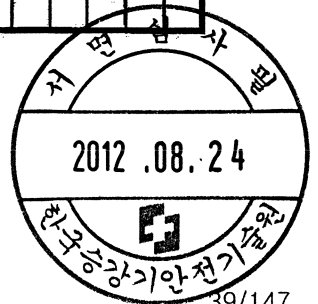


TRAVERSING CONTROL BOX



ENCLOSURE : HOIST BODY - IP55
PUSH BUTTON - IP65

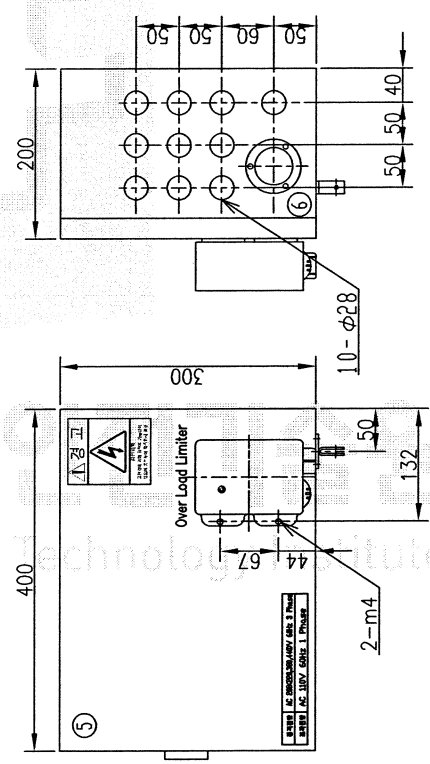
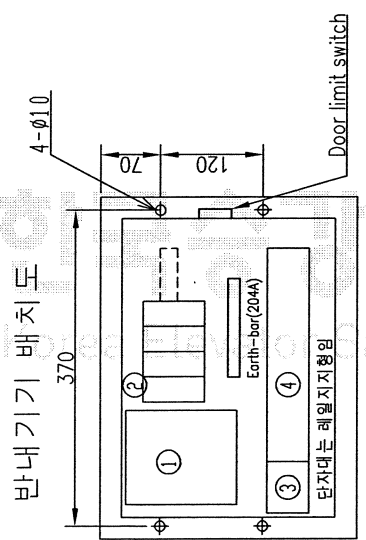
MARK	DESCRIPTION	TYPE OF MODEL			QTY	MAKER	REMARKS
		220V	380V	440V			
INV1	INVERTER	V1000	V1000	V1000	1	YASKAWA	UP/DOWN
T1	TRANSFORMER	220V/110V 20VA	380V/110V 20VA	440V/110V 20VA	1	KITO	CONTROL CIRCUIT
G11	BRIDGE DIODE	S15VB60	S15VB60	S15VB60	1	SHINDENGEN	
I/F BRD1	INTERFACE BOARD	10~15A	10~15A	10~15A	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
I/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	



1	2	3	4	5	6	7	8	9	10	
공 番								製作數量	納期	削加工普通標準 JIS B0405 中級
塗装色 : 민셀넘버 5Y7/1 (메이커 표준색)										0.5以下 以下 ±0.1 6호코트 30 , ±0.2 30 , 120 , ±0.3 120 , 400 , ±0.5 400 , 1000 , ±0.8 1000 , 2000 , ±1.2 2000 , 4000 , ±2.0

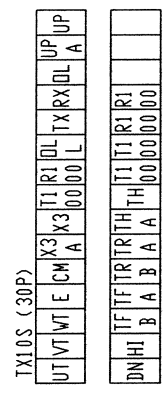
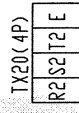
압착단자는 전부 절연피복 부착타입을 사용할것

設定機器 : 민버터



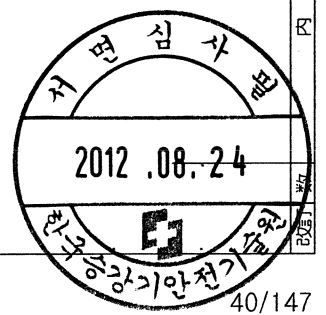
機器番號	名稱	形式	メーカー	個數	備考
1	민버터	FRN1.5CIS-2J21	富士	1	
2	릴레이	HH54P-L (AC24V)	富士	4	
	소켓	TF514X1	富士	4	
3	단자대	TX20 (4P)	春日	1式	카버부착형
4	단자대	TX10S (30P)	春日	1式	카버부착형
5	함	CH20-43A	日東	1	
6	Door limits switch	KH-9015-HL	KOIND		
7					
8					
9					
10					

단자대 배열



Note

1) 외함 개방 시 충전 부분이 차단되도록 한다.



材質	303910
製造標準	303910
名稱	세팅크라호
圖番	303910-35011
尺 度	NDT
製 圖	
細 田	10.10.8
設 計	10.10.8
檢 査	10.10.8
承認	10.10.8

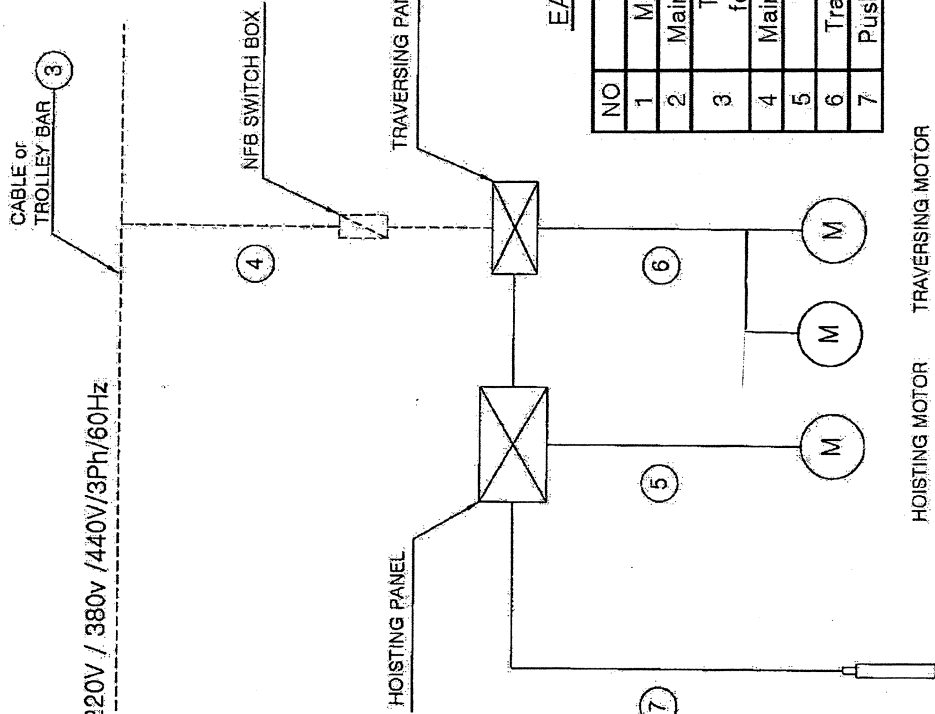
年 月 日	設 計 承 認
容	

점지설비 시공방법

1. 전동기의 외함, 제어반 등은 점지를 해야하며 그 점지처함은 다음의 규정에 따른다.

점지공시	
3중 점지공시	400V 이하: 100Ω이하
복3중 점지공사	400V 이상: 10Ω이하

2. 점지전용 Trolley Duct 및 전선은 양해 전기기기, 기구에 대하여 충분한 용량과 전기축, 기계적인 강도를 가져야 함.
3. 점지선이 외상을 받을 우려가 있는 경우에는 전선관, 합성수지관 등과 함께 사용한다.
4. 점지공시는 지표면에서 최저 75cm 이상의 길이에 점지봉을 박고 점지봉에는 점지동판을 연결한다.



EARTH CABLE

NO	ITEM	Cable size	Earth Cable
1	Main Earth Line	User Scope	1 Core
2	Main Power Source	User Scope	1 Core
3	Trolley bar or festoon cable	User Scope	1 Core
4	Main Power Source	User Scope	1 Core
5	Hoist Motor	VCT 4 sq	1 Core
6	Traversing Motor	VCT 4 sq	1 Core
7	Push Button Switch	VCT 1.5 sq	1 Core

HOISTING MOTOR TRAVERSING MOTOR

PENDANT SWITCH

Note

USER SCOPE
 USER SCOPE

APPROVED	CHECKED	DESIGNED	TITLE
			점지계동도
			3 ton CHAIN HOIST
		CODE	SCALE
		REV. NO.	1/10



UNIT : mm

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

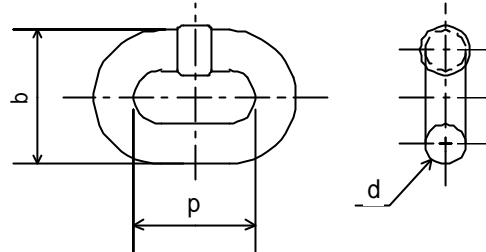
Messrs.

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



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	3.5kW	4P	40/20%ED	220(208)V	Speed Control by Inverter

Full load characteristics

Voltage	Frequency	220(208)V	Speed Control by Inverter
Load	%		100
Current	A		18.7
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



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

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	220(208)V	Speed Control by Inverter

Full load characteristics

Voltage	Frequency	220(208)V	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



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

Quality Assurance Group
Quality Assurance Department
Development & Technology Division

M. Ogihara (Manager)

Certificate No.: MM080011g

Date of Issue: 2009/3/4

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	3.5kW	4P	60%ED	220V	60Hz

Full load characteristics

Voltage Frequency	220V 60Hz	
Load %	100	
Current A	16.9	
Speed rpm	1670	

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



2000 Tsuijjarai, Showa-cho,
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	3.5kW	4P	60%ED	380 - 440V	60Hz

Full load characteristics

Voltage Frequency	380 - 440V 60Hz	
Load	%	100
Current	A	8.7
Speed	rpm	1650

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



2000 Tsuijirai, Showa-cho,
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	3.5kW	4P	40/20%ED	220V	Speed Control by Inverter

Full load characteristics

Voltage Frequency	220V Speed Control by Inverter	
Load %	100	
Current A	18.7	
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



2000 Tsuijiarai, Showa-cho,
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	3.5kW	4P	60%ED	380 - 440V	Speed Control by Inverter

Full load characteristics

Voltage Frequency	380 - 440V	Speed Control by Inverter
Load %	100	
Current A	9.2	
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



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

Quality Assurance Group
Quality Assurance Department
Development & Technology Division

(Manager)

R. 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



2000 Tsuijiarai, Showa-cho,
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



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

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	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



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

Quality Assurance Group
Quality Assurance Department
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	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 Korea Elevator Safety Technology Institute

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



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

Quality Assurance Group
Quality Assurance Department
Development & Technology Division

(Manager)

K. Kishimoto

1) 과부하 방지장치

