



哈伯精密股份有限公司

HABOR PRECISION INC.

OIL COOLER SPECIFICATION

MODEL : HBO-750PTSBM3

SPEC. NO. : A1AC33P50MC20001

DATE : 06-13-2022

STANDARD : Complies with CE standards

VERSION : Checking

Referred spec. NO. : P-B0-750PTSBM3-554



哈伯精密股份有限公司

HABOR PRECISION INC.

TITLE	REVISE RECORD	Model	HB0-750PTSBM3	Date	02-18-2021
		Spec. no.	A1AC33P50MC20001	Version	Checking

Revise date	Revise page	Revise content	Checked	Approved	Customer approved
02/18/2021	Total pages	First version (#F21-033)	研發部 110.2.18 李文隆	研發部 110.2.19 邱雋澤	
02/18/2021	1/9 ,2/9 3/9	Reconfirm(#F21-033-1)	研發部 110.3.17 李文隆	研發部 110.3.18 邱雋澤	
04/29/2021	4/9	Change the Volt value of X1terminal plate to 400V	研發部 110.4.29 李文隆	研發部 110.4.29 邱雋澤	
02/18/2021	1/9 ,2/9	Change the condenser specifications.	研發部 110.5.19 李文隆	研發部 110.5.19 邱雋澤	
09/22/2021	2/9	Modifying the cooler oil circuit. (#110-0914)	研發部 110.9.24 李文隆	研發部 110.9.27 邱雋澤	
01/07/2022	2/9	Move the sensor to inlet.	研發部 111.1.7 李文隆	研發部 111.1.7 邱雋澤	
04/19/2022	1/9 ,3/9	Modify the value of CO2 equivalent.	研發部 111.04.19 李文隆	研發部 111.04.19 邱雋澤	
06/13/2022	1/9 ,3/9	Change the refrigerant quantity 950g to 850g.	研發部 111.6.13 李文隆	研發部 111.6.13 邱雋澤	



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HABOR PRECISION INC.

TITLE	SPECIFICATION	Model	HBO-750PTSBM3	Date	06-13-2022
		Spec. no.	A1AC33P50MC20001	Version	Checking-5

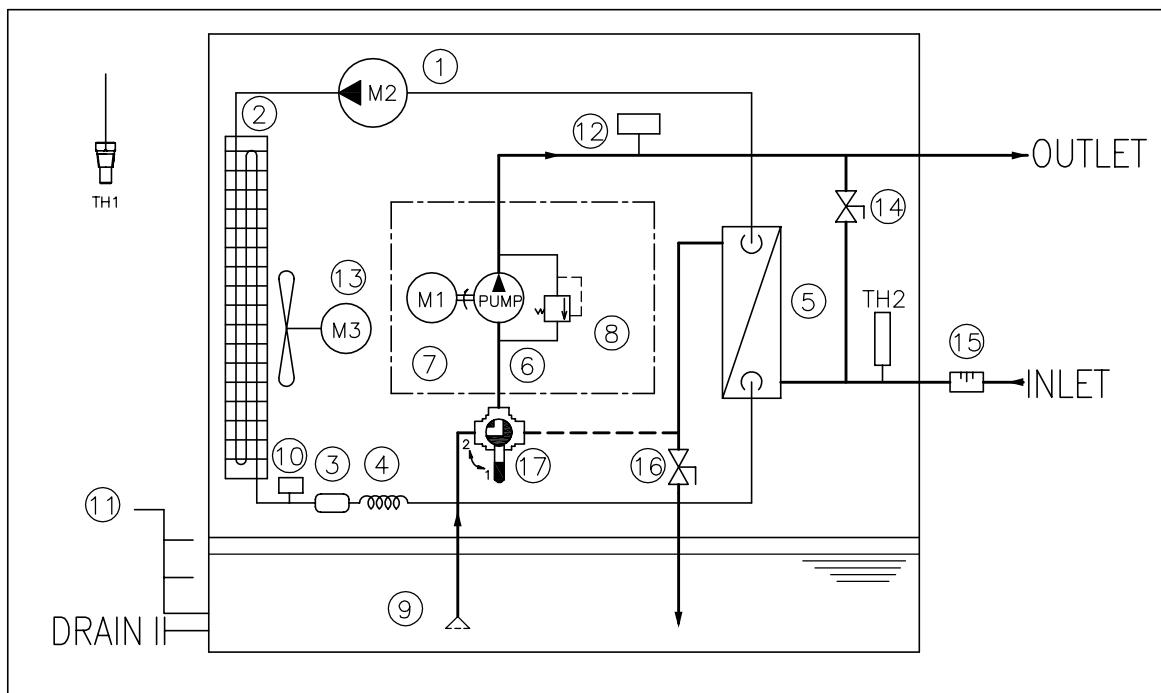
NO	ITEM	CONTENTS			
1	Capacity	2900/3500 W 50/60Hz			
	Kapazität / Leistung	Room temp. 35°C Liquid temp. 35°C			
2	Rated power Nennleistung	3ø 400V 50/60Hz 1950W 5A			
3	Compressor Kompressor	3ø 400V 50/60Hz 1180W 2.5A			
4	Motor of pump Pumpenmotor	3ø 400V 50/60Hz 750W 2.1A 25/30L/min (Theorem)			
5	Motor of fan Lüftermotor	3ø 400V 50/60Hz 63W 0.18A			
6	Condenser Kondensator	Forced ventilation fin & tube type			
7	Evaporator Verdampfer	Compact brazed heat exchangers (CBE)			
8	Control circuit Steuerkreis	1ø 220V 50/60Hz			
9	Temp. controller Temperatursteuerung	Diff. temp. control tracing machine body temp.(±10K) digital display Accuracy ±1K (theorem) The exact temp. controlling accuracy is based on the ambient environment and installing condition.Factory Setting ±0K			
10	Outside dimension Außenmaße	W462 x D555 x H1330 mm			
11	Refrigerant Kältemittel	R410A (850g) / 1.7748t CO2 equivalent			
12	Cover Gehäuse	Painting			
13	Tank capacity Tankvolumen	50L			
14	Pipe diameter Rohrdurchmesser	INLET	PT 3/4"		
		OUTLET	PT 3/4"		
		DRAIN	PT 1/2"		
15	Use range Einsatzbereich	Room temp.	10 ~ 40 °C		
		Oil temp.	10 ~ 45 °C		
		Oil viscosity	ISO VG2~5 (2~10mm ² /s)		



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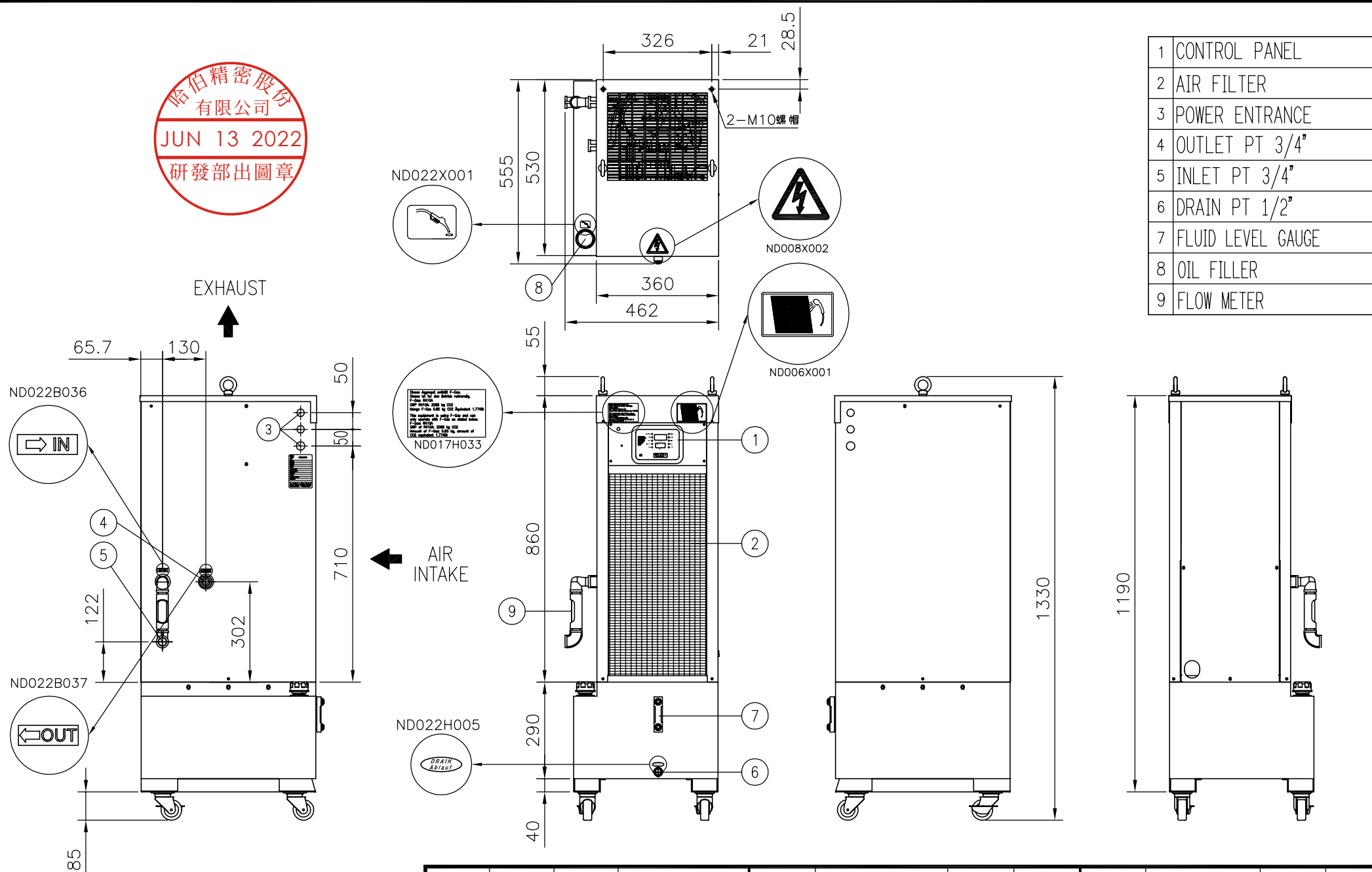
HABOR PRECISION INC.

TITLE	COOLING SYSTEM	Model	HB0-750PTSBM3	Date	01-07-2022
		Spec. no.	A1AC33P50MC20001	Version	Checking-5



MARK	NAME	MODEL	NOTES
1	Compressor Kompressor	3ø 400V 50/60Hz 1180W 2.5A	
2	Condenser Kondensator	Forced ventilation fin & tube type	
3	Dryer Trockner	3/8"	
4	Refrigerant controller Steuerung Kältemittel	Capillary tube	
5	Evaporator Verdampfer	Compact brazed heat exchangers (CBE)	
6	Circulating pump Kreislumpumpe	25/30L/min (Theorem)	
7	Motor of pump Pumpenmotor	3ø 400V 50/60Hz 750W 2.1A	
8	Oil press. regulating valve Öldruckventil	8bar SET	
9	Oil filler Öleinfüllstutzen	3/4"	
10	High-Pressure Switch Hochdruckschalter	AUTO RESET 39bar SET	
11	Fluid level and oil filler Füllstandsniveau und Öl-Einfüllstutzen	HABOR	
12	Oil pressure switch Öldruckschalter	AUTO RESET 0.2bar SET	
13	Motor of fan Lüftermotor	3ø 400V 50/60Hz 63W 0.18A	
14	By-pass Bypass	1/2"	
15	Flow meter Durchflussmesser	3/4", 4~35L/min	
16	valve ventil	3/4" (With tank valve setting opened, without tank valve setting closed.)	
17	Three-way valve Dreiwegenventil	3/4" (With tank valve setting 1 position, without tank valve setting 2 position.)	





				NO	A1AC33P50MC20001	VERSION	Checking-4	DRAWING NAME	OUSIDE DIMENSION	PC	1	
				DRAWER	陳秋輝	06.13.2022	MATERIAL		DRAW. NO.	OTRFXW	SCALE	1:16
2	06.13.2022	陳秋輝	Change the refrigerant quantity	CHECK	研發部				MODEL	HBO-750PTSBM3		
1	04.19.2022	陳秋輝	Modify the value of CO2 equivalent	QUALITY CONTROL	111.6.13				哈伯精密股份有限公司 HABOR PRECISION INC.			
VERSION	DATE	MAKER	CONTENT	APPROVE	李文隆		UNIT	MM				

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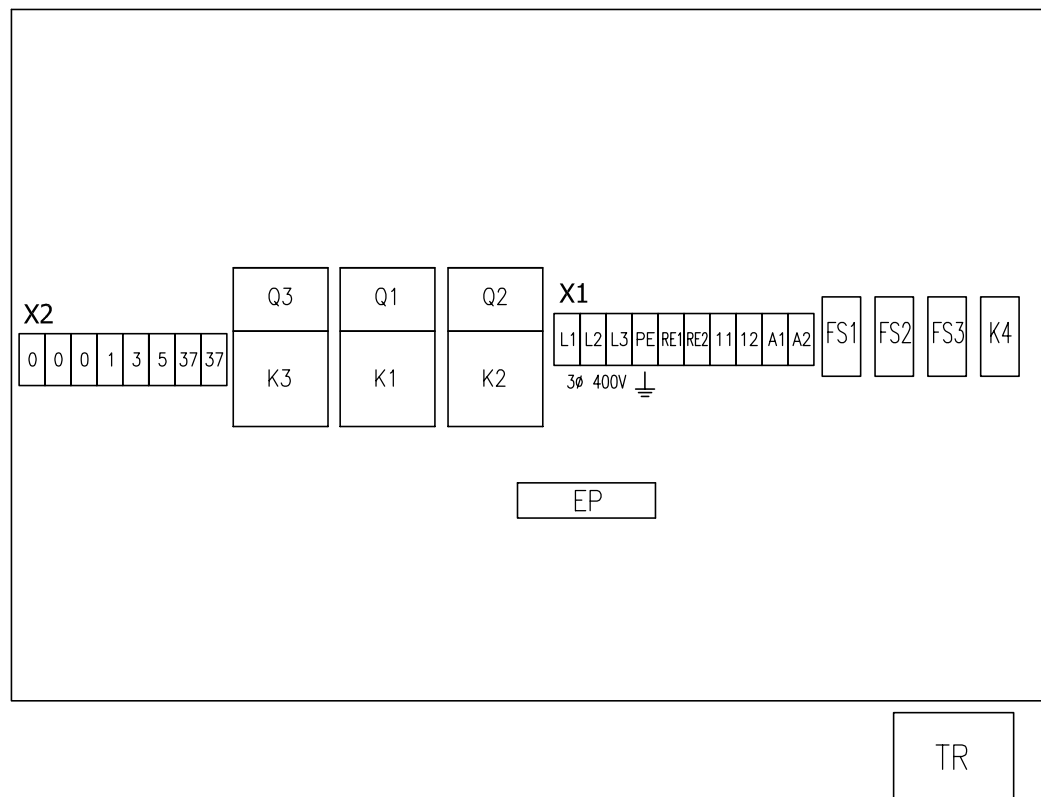
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Electric plat plan

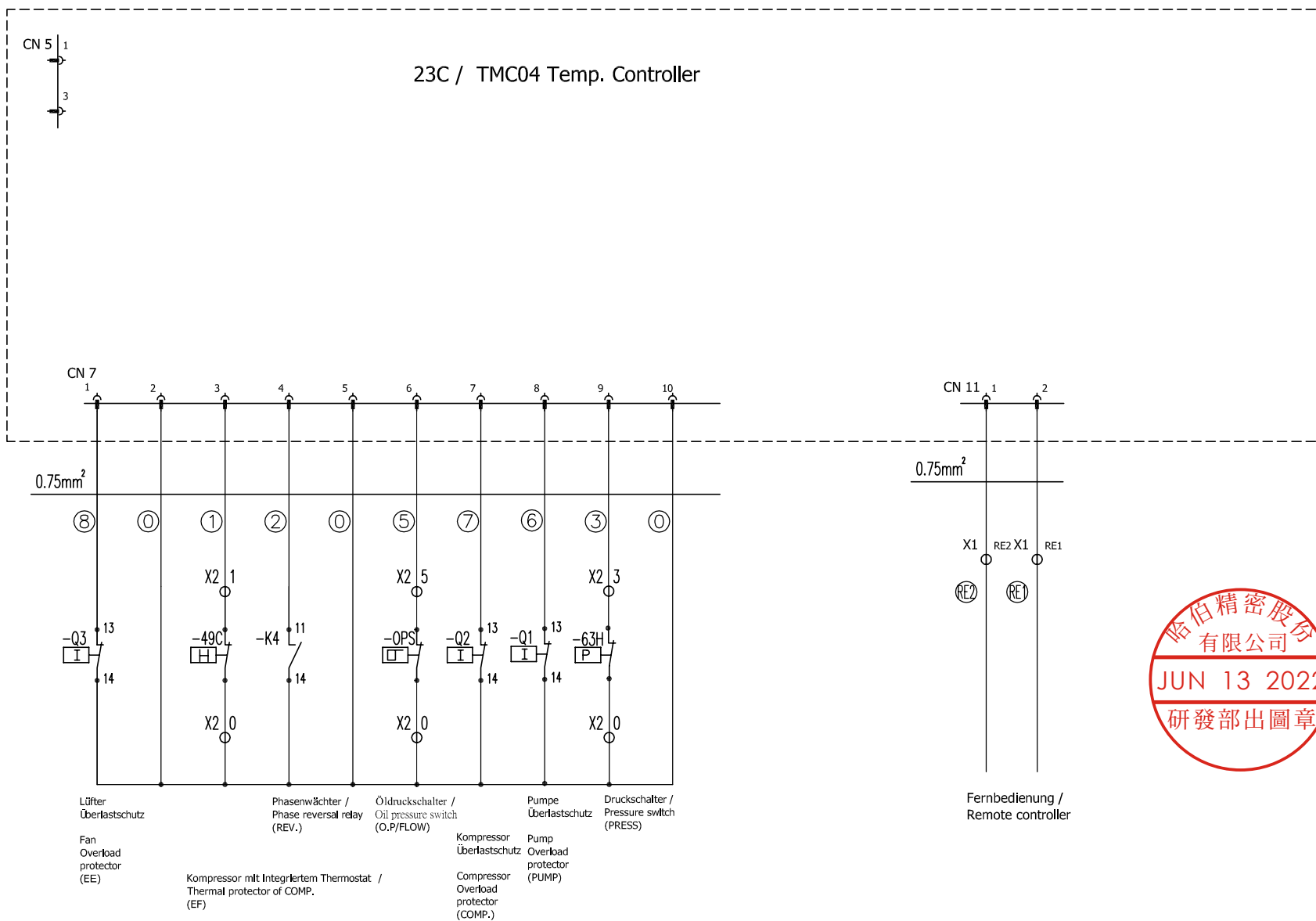


Explanation of sign

M3	Motor of fan Lüftermotor	23C	Temp. controller Temperatursteuerung
K3	Magnetic contactor of fan Magnetschütz des Lüftermotor	TH1	Machine body temp. sensor Temperatursensor am Maschinenkörper
Q3	Circuit breaker of fan Schalter für Lüftermotor	TH2	Liquid temp. sensor Temperatursensor Kuhlflüssigkeit
M2	Motor of comp. Kompressormotor	EP	Earth plate Erdungsplate
K2	Magnetic contactor of comp. Magnetschütz des Kompressormotor	OPS	Oil pressure switch Öldruckschalter
Q2	Circuit breaker of comp. Schalter für Kompressormoto	63H	High-Pressure Switch Hochdruckschalter
M1	Motor of pump Pumpenmotor	49C	Thermal protector of comp. Wärmeschutzschalter für Kompressor
K1	Magnetic contactor of pump Magnetschütz des Pumpenmotor	TR	Transformer Transformator
Q1	Circuit breaker of pump Schalter für Pumpenmotor	K4	Phase reversal relay Phasenwächter
FS1-3	Fuse Sicherung		

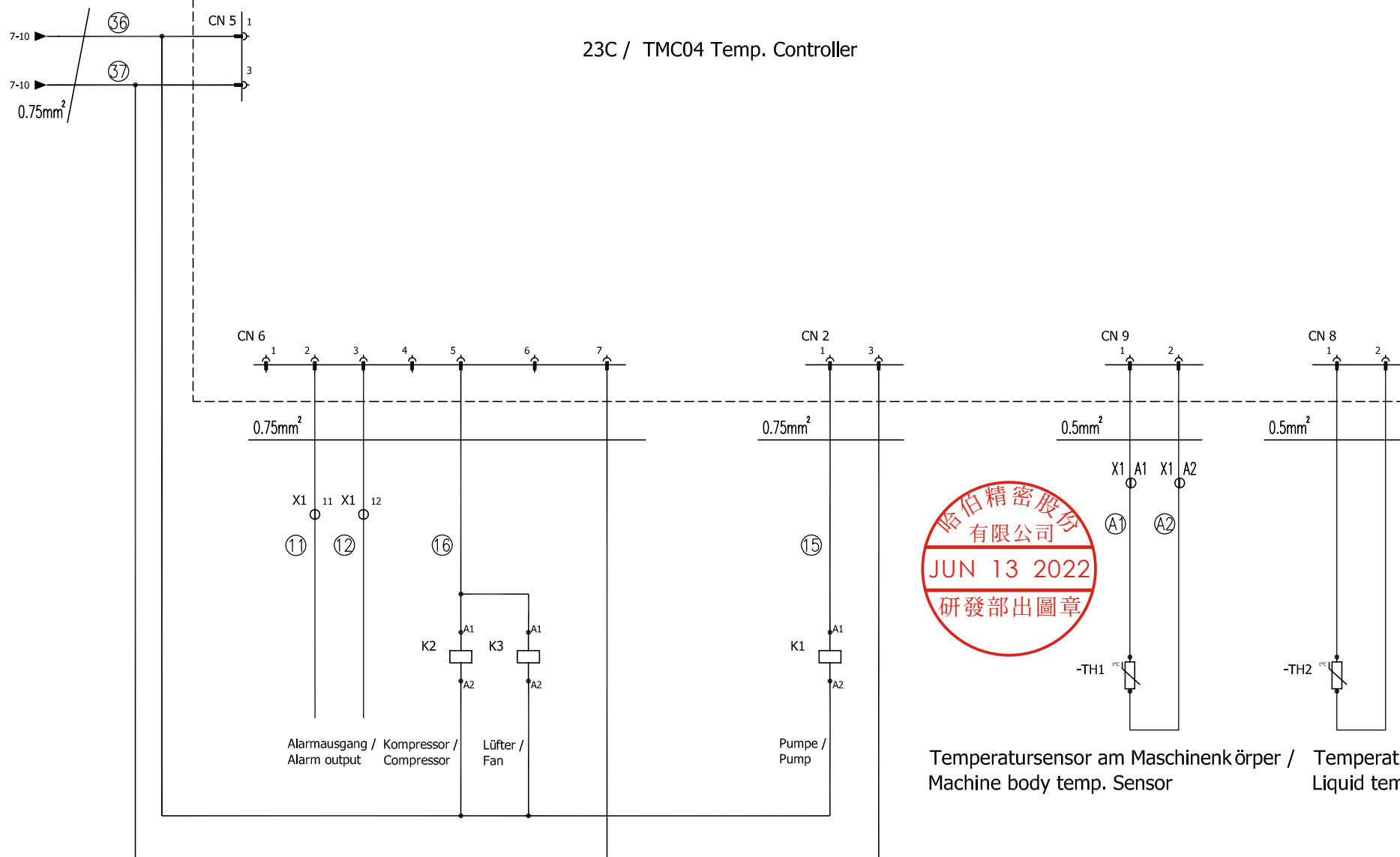


				COOLER MODEL	A1AC33P50MC20001	VERSION	Checking-2	TITLE	ELECTRIC PLAT LAYOUT		
				DESIGNED	陳秋輝	DATE	04.29.2021	DRG NO.	OTRFXE1	SCALE	1:1
1	04.29.2021	陳秋輝	Change the Volt value of X1terminal plate to 400V	CHECKED	研發部 110.4.29			MODEL	HBO-750PTSBM3		
SYMBOL	DATE	NAME	REVISED	APPROVED	李文隆			HABOR PRECISION INC.			



				COOLER MODEL	A1AC33P50MC20001	VERSION	Checking-1	TITLE	23C / OTC11 Temp. Controller		
				DESIGNED	陳秋輝	DATE	02.18.2021	DRG NO.	OTRFXE2	SCALE	1:1
				CHECKED	研發部			MODEL	HBO-750PTSBM3		
SYMBOL	DATE	NAME	REVISED	APPROVED	110.2.18 李文隆			HABOR PRECISION INC.			

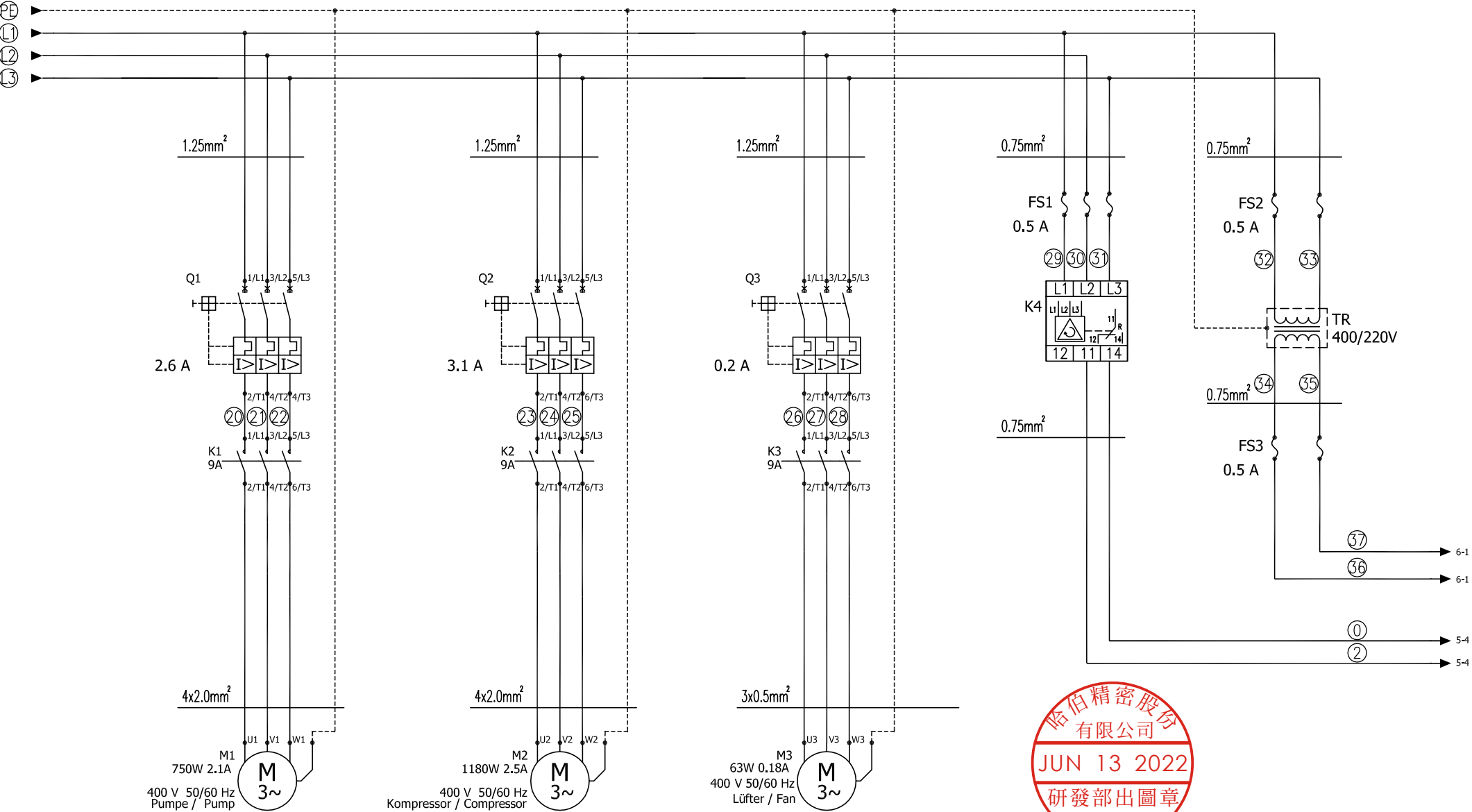
23C / TMC04 Temp. Controller



Temperatursensor am Maschinenkörper / Machine body temp. Sensor
 Temperatursensor Flüssigkeit / Liquid temp. sensor

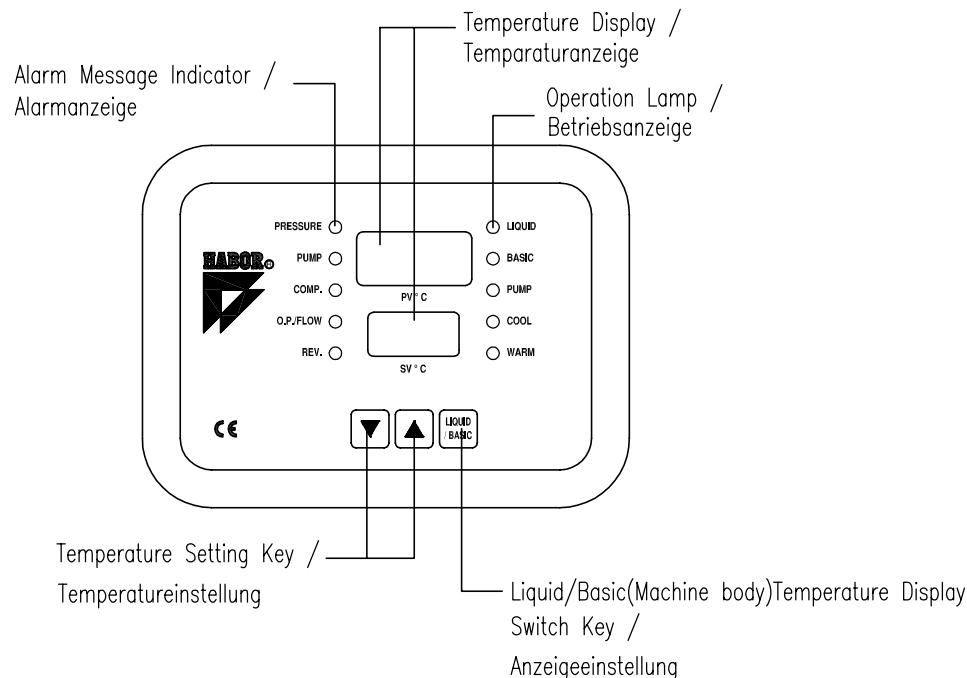
				COOLER MODEL	A1AC33P50MC20001	VERSION	Checking-1	TITLE	23C / OTC11 Temp. Controller		
				DESIGNED	陳秋輝	DATE	02.18.2021	DRG NO.	OTRFXE3	SCALE	1:1
				CHECKED	研發部			MODEL	HBO-750PTSBM3		
					110.2.18			HABOR PRECISION INC.			
SYMBOL	DATE	NAME	REVISED	APPROVED	李文隆						

3ø 400V 50/60Hz



				COOLER MODEL	A1AC33P50MC20001	VERSION	Checking-1	TITLE	CONTROL CIRCUIT		
				DESIGNED	陳秋輝 研發部 110.2.18 李文隆	DATE	02.18.2021	DRG NO.	OTRFXE4	SCALE	1:1
				CHECKED				MODEL	HBO-750PTSBM3		
SYMBOL	DATE	NAME	REVISED	APPROVED				HABOR PRECISION INC.			

23C control panel/Steuerereinheit des Kühlers



Working mode of 23C controller/Arbeitsmodi der 23C Temperatursteuerung

1. Temp. setting range/ Temperaturbereich: $\pm 10K$
2. Alarm output mode/Alarmmodus: normal open A or normal close B

Explanation of alarm message/Erklärung der Alarme

S_{OL}

Sensor body fault or wire connection fault of coolant temp. sensor. /
Sensor fehlerhaft oder Verbindungsfehler zu Flüssigkeitstemperatursensor.

S_{RO}

Sensor body fault or wire connection fault of basic temp. sensor /
Sensor oder Kabelverbindung zu Flüssigkeits temperatursensor fehlerhaft.

RH_{OL}

Coolant temp. is too high. $\geq 45^{\circ}C$ /
Kühlmitteltemperatur zu hoch. $\geq 45^{\circ}C$

EE

Motor fault of fan. /
Lüftermotorausfall.

EF

Surface temp. of compressor housing is too high. /
Oberflächentemp. des Kompressorgehauses zu hoch

-I_n

Alarm message for one of the followings/Alarmmeldung für einen der folgenden:

PRESS (Pressure fault of refrigerant system./Druck im Kühlsystem fehlerhaft.)

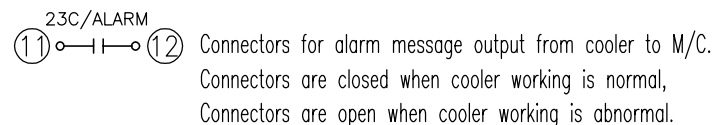
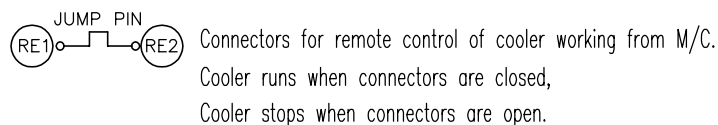
PUMP (Fault of circulating pump motor./Fehler der Umlaufpumpe.)

COMP. (Compressor fault./Kompressor fehlerhaft.)

O.P./FLOW (Pressure or flow rate fault of liquid circulating system./
Druck oder Durchflussrate des Umlaufsystems fehlerhaft.)

REV. (Reversed phase of main power source./Umkehrphase der Hauptstromquelle.)

Explanation of remote control connectors



				COOLER MODEL	A1AC33P50MC20001	VERSION	Checking-1	TITLE	PANEL & EXPLANATION OF ALARM MESSAGE		
				DESIGNED	陳秋輝	DATE	02.18.2021	DRG NO.	0TRFXE5	SCALE	1:1
				CHECKED	研發部 110.2.18			MODEL	HBO-750PTSBM3		
SYMBOL	DATE	NAME	REVISED	APPROVED	李文隆			HABOR PRECISION INC.			

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HABOR PRECISION INC.

TITLE	ELECTRIC PART LIST	Model	HBO-750PTSBM3	Date	02-18-2021
		Spec. no.	A1AC33P50MC20001	Version	Checking-1

MARK	NAME	MODEL	NOTES
M3	Motor of fan Lüftermotor	3ø 400V 50/60Hz 63W 0.18A	
Q3	Circuit breaker of fan Schalter für Lüftermotor	0.16~0.25A SET 0.2A	
K3	Magnetic contactor of fan Magnetschütz des Lüftermotor	220V 50/60Hz	
M2	Motor of comp. Kompressormotor	3ø 400V 50/60Hz 1180W 2.5A	
Q2	Circuit breaker of comp. Schalter für Kompressormotor	2.5~4A SET 3.1A	
K2	Magnetic contactor of comp. Magnetschütz des Kompressormotor	220V 50/60Hz	
M1	Motor of pump Pumpenmotor	3ø 400V 50/60Hz 750W 2.1A	
Q1	Circuit breaker of pump Schalter für Pumpenmotor	2.2~3.4A SET 2.6A	
K1	Magnetic contactor of pump Schalter für Pumpenmotor	220V 50/60Hz	
23C	Temp. controller Temperatursteuerung	Diff. temp. control tracing machine body temp. (±10K)	
TH1	Machine body temp. sensor Temperatursensor am Maschinenkörper	PT 1/8" x 5M	
TH2	Liquid temp. sensor Temperatursensor Kühlflüssigkeit	PT 1/8"	
49C	Thermal protector of comp. Wärmeschutzschalter für Kompressor	1NT01L-6398 115±5°C OFF 88±6°C ON	
63H	High-Pressure Switch Hochdruckschalter	AUTO RESET 39bar SET	
OPS	Oil pressure switch Öldruckschalter	AUTO RESET 0.2bar SET	
TR	Transformer Transformator	1ø 400/220V 50/60Hz 50VA	
K4	Phase reversal relay Phasenwächter	400V 50/60Hz	
FS1-3	Fuse Sicherung	0.5A , 0.5A , 1A 500V	

