



哈伯精密股份有限公司

HABOR PRECISION INC.

WATER COOLER SPECIFICATION

MODEL : HWK-V3RPTSA5

SPEC. NO. : P-HWK-V3RPTSA5-216

DATE : 03-02-2021

VERSION : Checking



哈伯精密股份有限公司

HABOR PRECISION INC.

TITLE	REVISE RECORD	Model	HWK-V3RPTSA5	Date	12-15-2016
		Spec. no.	P-HWK-V3RPTSA5-216	Version	Checking

Revise date	Revise page	Revise content	Checked	Approved	Customer approved
12/15/2016	Total pages	First version(#F16-229)	製圖課 105.12.15 楊傑勝	設計部 105.12.16 李文隆	
04/19/2017	3/5	Reconfirm(#F17-063)	製圖課 106.4.20 楊傑勝	研發部 106.4.20 李文隆	
08/16/2018	3/5	Reconfirm(#F18-079)	製圖課 107.8.16 楊傑勝	研發部 107.8.16 李文隆	
12/09/2020	Total pages	Change blower from AC to EC type.(#F20-253)	研發部 109.12.11 李文隆	研發部 109.12.11 邱雋澤	
03/02/2021	4/10 ,7/10 10/10	Reconfirm (#F21-040)	研發部 110.3.3 李文隆	研發部 110.3.3 邱雋澤	



哈伯精密股份有限公司

HABOR PRECISION INC.

TITLE	SPECIFICATION	Model	HWK-V3RPTSA5	Date	12-09-2020
		Spec. no.	P-HWK-V3RPTSA5-216	Version	Checking-2

NO	ITEM	CONTENTS			
1	Capacity	8270/10470 W 50/60Hz			
	Kapazität / Leistung	Room temp. 32°C Liquid temp. 22°C			
2	Rated power	3Ø 400V 50/60Hz 5520W 9.5A			
	Nennleistung				
3	Compressor	3Ø 400V 50/60Hz 3225W 5.3A			
	Kompressor				
4	Motor of pump	3Ø 400V 50/60Hz 1850W 3.1A 7.9bar 60L/min(60Hz) (Theorem)			
	Pumpenmotor				
5	Motor of fan	1Ø 220V 50/60Hz 431W 1.88A			
	Lüftermotor				
6	Condenser	Forced ventilation fin & tube type			
	Kondensator				
7	Evaporator	Compact brazed heat exchangers (CBE)			
	Verdampfer				
8	Control Circuit	1Ø 220V 50/60Hz			
	Steuerkreis				
9	Temp. controller	Fixed temp. control (20~27°C)digital display Accuracy ±0.2°C (theorem)			
	Temperatursteuerung	The exact temp. controlling accuracy is based on the ambient environment and installing condition Factory Setting 24.5°C			
10	Outside dimension	W500 x D815 x H1380 mm			
	Außenmaße				
11	Refrigerant	R410A (1400g) / 2.923t CO2 equivalent			
	Kältemittel				
12	Cover	Painting (NCS1000)			
	Gehäuse				
13	Tank capacity	43L			
	Tankvolumen				
14	Pipe diameter	INLET G 1-1/4" MALE			
		OUTLET G 1" MALE			
		COOLANT SUPPLY Ø24			
		DRAIN Ø9.5			
15	Usable temp. range	Liquid temp. 10~30°C			
	Einsetzbarer Temperaturbereich	Room temp. 10~40°C			
16	Weight	183Kg			
	Gewicht				

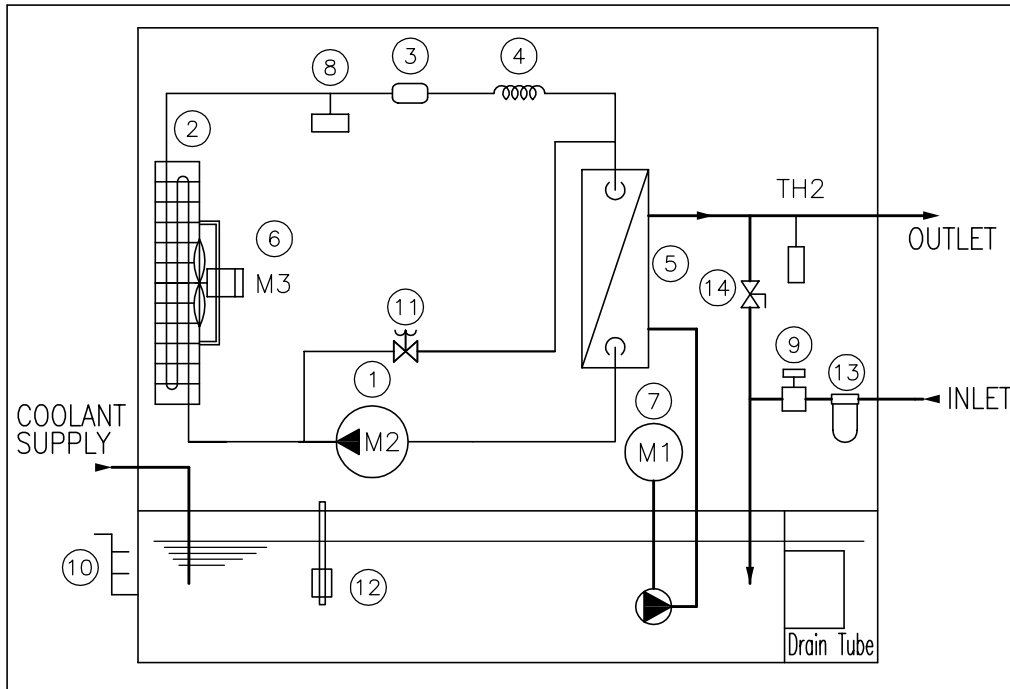
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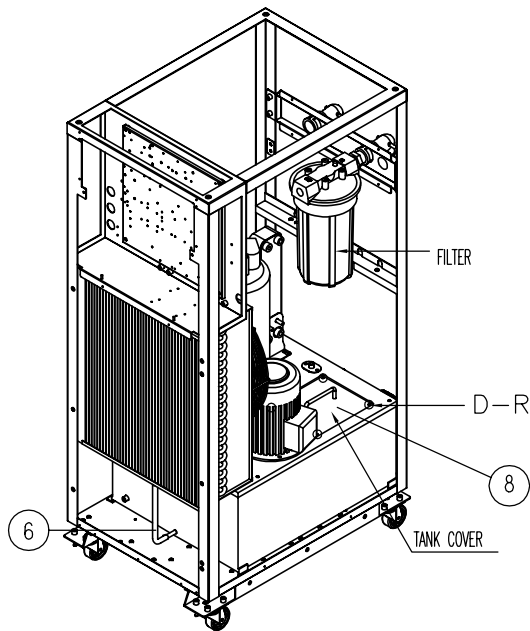
哈伯精密股份有限公司

HABOR PRECISION INC.

TITLE	COOLING SYSTEM	Model	HWK-V3RPTSA5	Date	12-09-2020
		Spec. no.	P-HWK-V3RPTSA5-216	Version	Checking-2

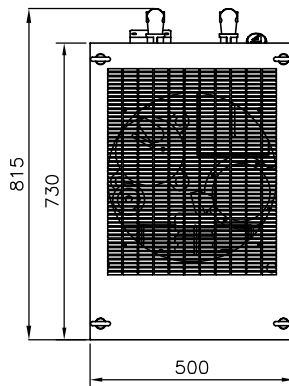


MARK	NAME	MODEL	NOTES
1	Compressor Kompressor	3ø 400V 50/60Hz 3225W 5.3A	
2	Condenser Kondensator	Forced ventilation fin & tube type	
3	Dryer Trockner	3/8"	
4	Refrigerant controller Steuerung Kältemittel	Capillary tube	
5	Evaporator Verdampfer	Compact brazed heat exchangers (CBE) (K070-24CF-S7P6)	
6	Motor of fan Lüftermotor	1ø 220V 50/60Hz 431W 1.88A	
7	Motor of pump Pumpenmotor	3ø 400V 50/60Hz 1850W 3.1A 7.9bar 60L/min(60Hz) (Theorem) (MTR3-11/11)	
8	High-press. switch Hochdruckschalter	AUTO RESET 39baar SET	
9	Flow rate switch Durchflussschwächer	3/4", the contacts are ON when flow rate is normal ($\geq 5\text{L/min}$)	
10	Fluid level gauge Schauglas	3"	
11	Control valve Schaltventil / Steuerventil	DC12V 2W x 2	
12	Level switch Niveauschalter	25ø X 25mm, Connection ON when liquid level is normal.	
13	Filter Filter	3/4"	
14	By-pass Bypass	1/2" (Factory setting: fully closed)	

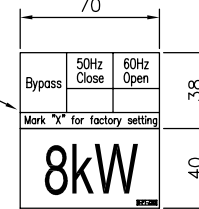


GF Part No.:3042112

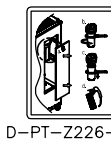
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D-PT-Z241
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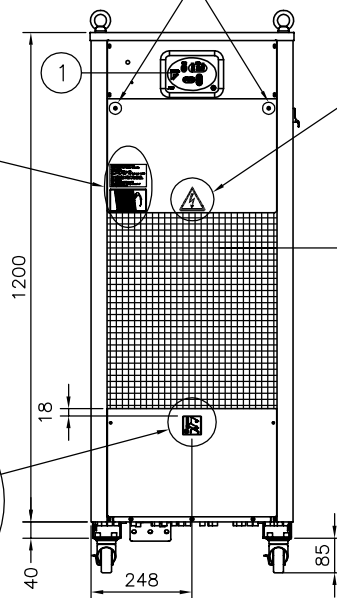


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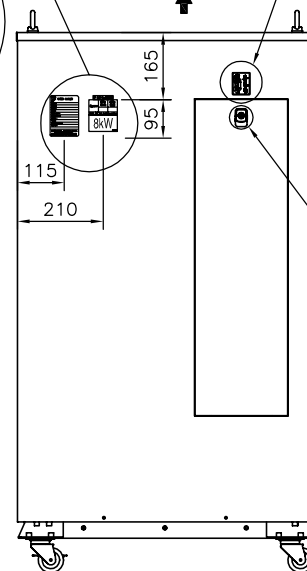
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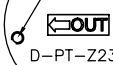


D-PT-E003

EXHAUST

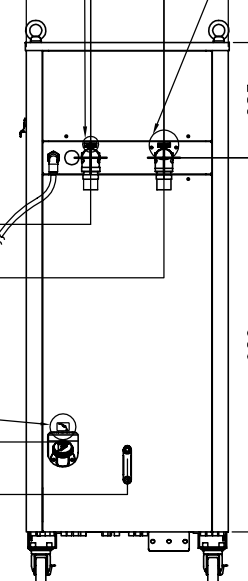


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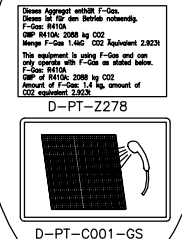
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D-PT-Z233

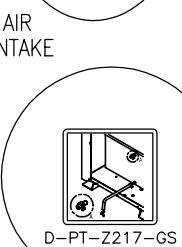


D-A-B011-1

D-PT-Z005-GS

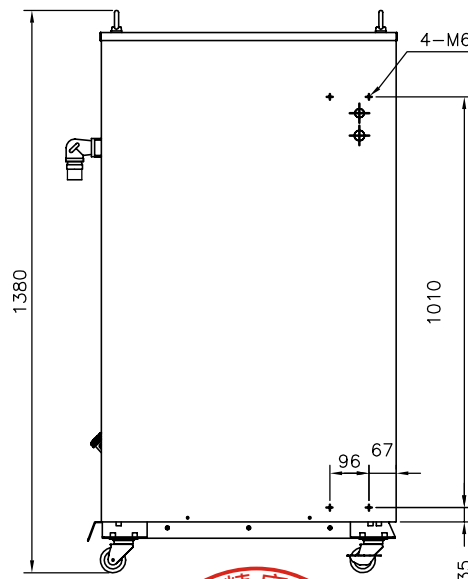


D-PT-C001-GS



D-PT-Z217-GS

AIR INTAKE



NO	P-HWK-V3RPTSA5-216	VERSION	Checking-3	DRAWING NAME	OUSIDE DIMENSION	PC	1
DRAWER	陳秋輝	08.16.2018	MATERIAL	DRAW. NO.	WKGKFW	SCALE	1:19
CHECK	製圖課			MODEL	HWK-V3RPTSA5		
QUALITY CONTROL	107.8.16			哈伯精密股份有限公司			
APPROVE	楊傑勝	UNIT	MM	HABOR PRECISION INC.			
VERSION	DATE	MAKER	CONTENT				

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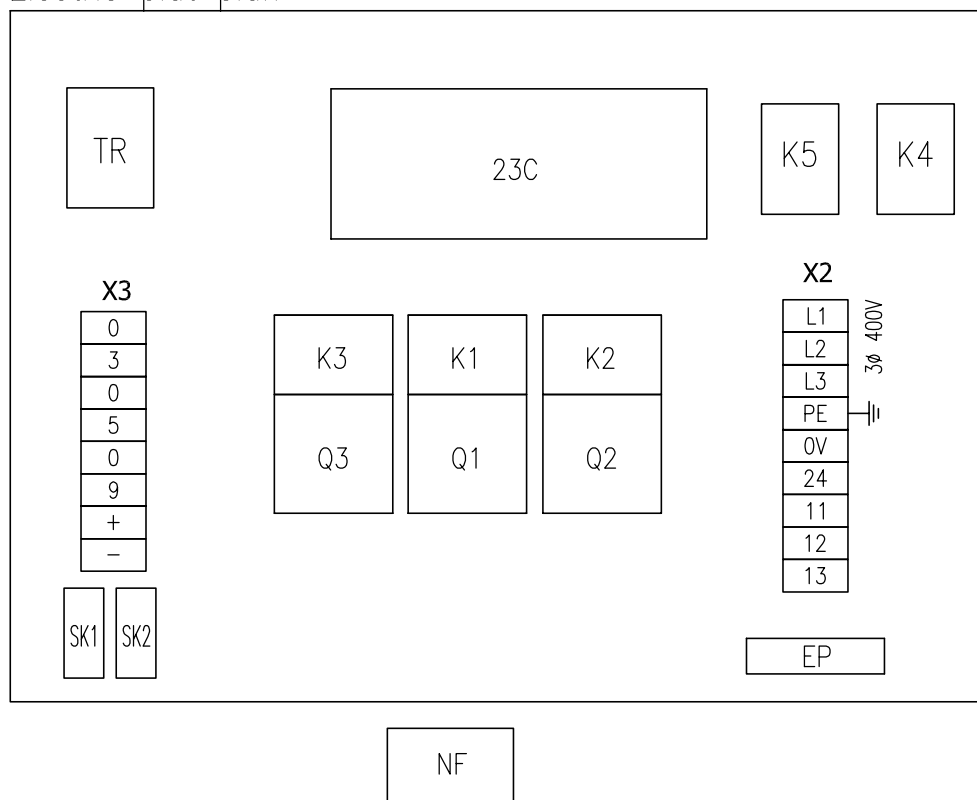
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Electric plat plan



Explanation of sign

M3	Motor of fan Lüftermotor	23C	Temp. controller Temperatursteuerung
K3	Magnetic switch fan Magnetschalter Lüftermotor	TH2	Liquid temp. sensor Temperatursensor Kuhlflüssigkeit
Q3	Circuit breaker of fan Schalter für Lüftermotor	EP	Earth plate Erdungsplate
M2	Motor of comp. Kompressormotor	FL	Flow rate switch Durchflusswächter
K2	Magnetic switch of comp. Magnetschalter Kompressormotor	63H	High-Pressure Switch Hochdruckschalter
Q2	Circuit breaker of comp. Schalter für Kompressormoto	CV	Control valve Schaltventil / Steuerventil
M1	Motor of pump Pumpenmotor	33F	Level switch Niveauschalter
K1	Magnetic switch of pump Magnetschalter Pumpenmotor	TR	Transformer Transformator
Q1	Circuit breaker of pump Schalter für Pumpenmotor	SK1-2	EMI Filter EMI Filter
K4-5	Operating Relay Betriebsrelais	NF	Power filter Leistungsfiler



				COOLER MODEL	P-HWK-V3RPTSA5-216	VERSION	Checking-2	TITLE	ELECTRIC PLAT LAYOUT		
				DESIGNED	陳秋輝	DATE	03.02.2021	DRG NO.	WKGKF1	SCALE	1:1
				CHECKED	研發部			MODEL	HWK-V3RPTSA5		
				APPROVED	110.3.3				HABOR PRECISION INC.		
SYMBOL	DATE	NAME	REVISED								

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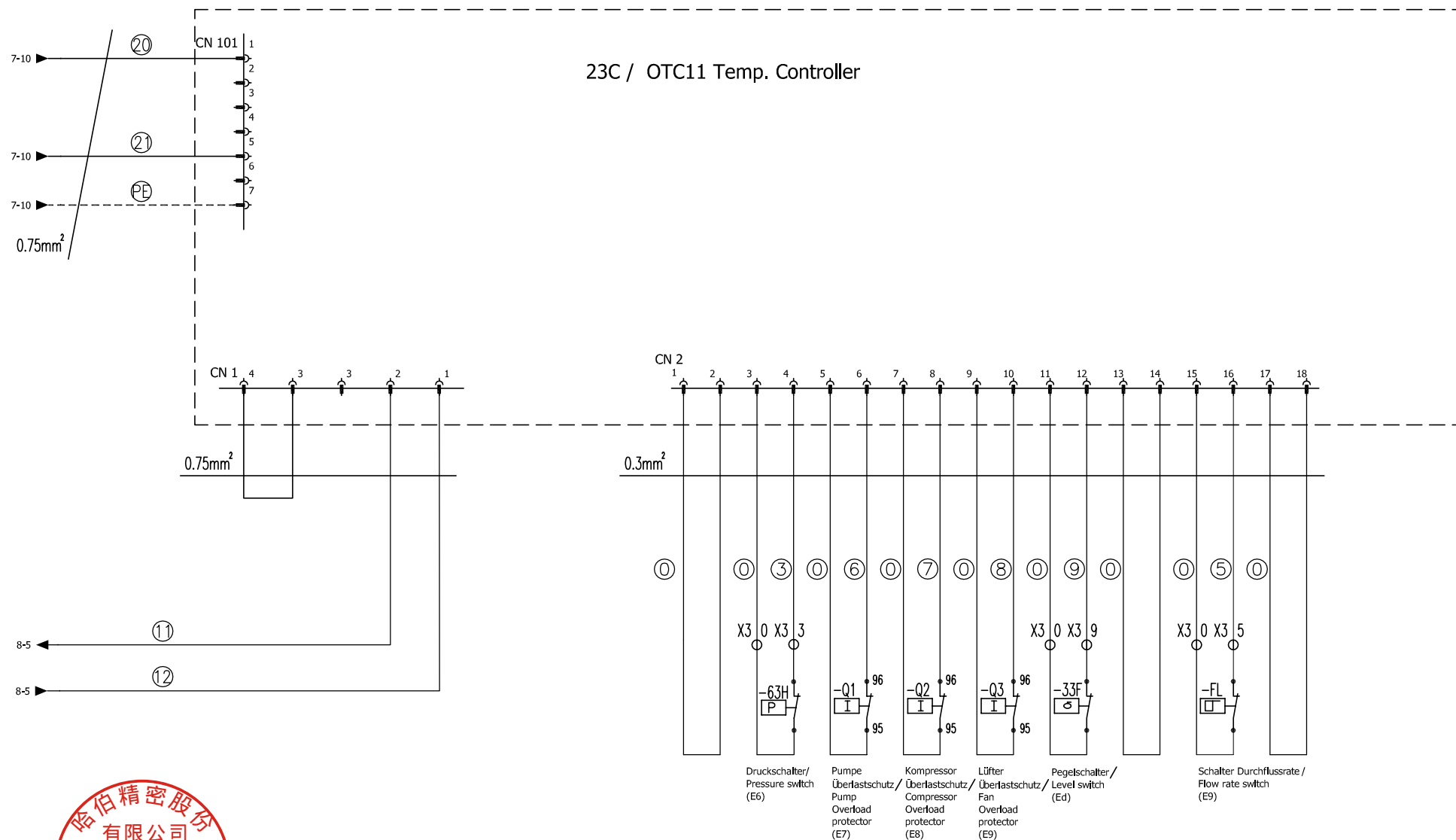
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				COOLER MODEL	P-HWK-V3RPTSA5-216	VERSION	Checking-1	TITLE	23C / OTC11 Temp. Controller		
				DESIGNED	陳秋輝	DATE	12.09.2020	DRG NO.	WKGKFE2	SCALE	1:1
				CHECKED	研發部 109.12.11			MODEL	HWK-V3RPTSA5		
SYMBOL	DATE	NAME	REVISED	APPROVED	李文隆			HABOR PRECISION INC.			

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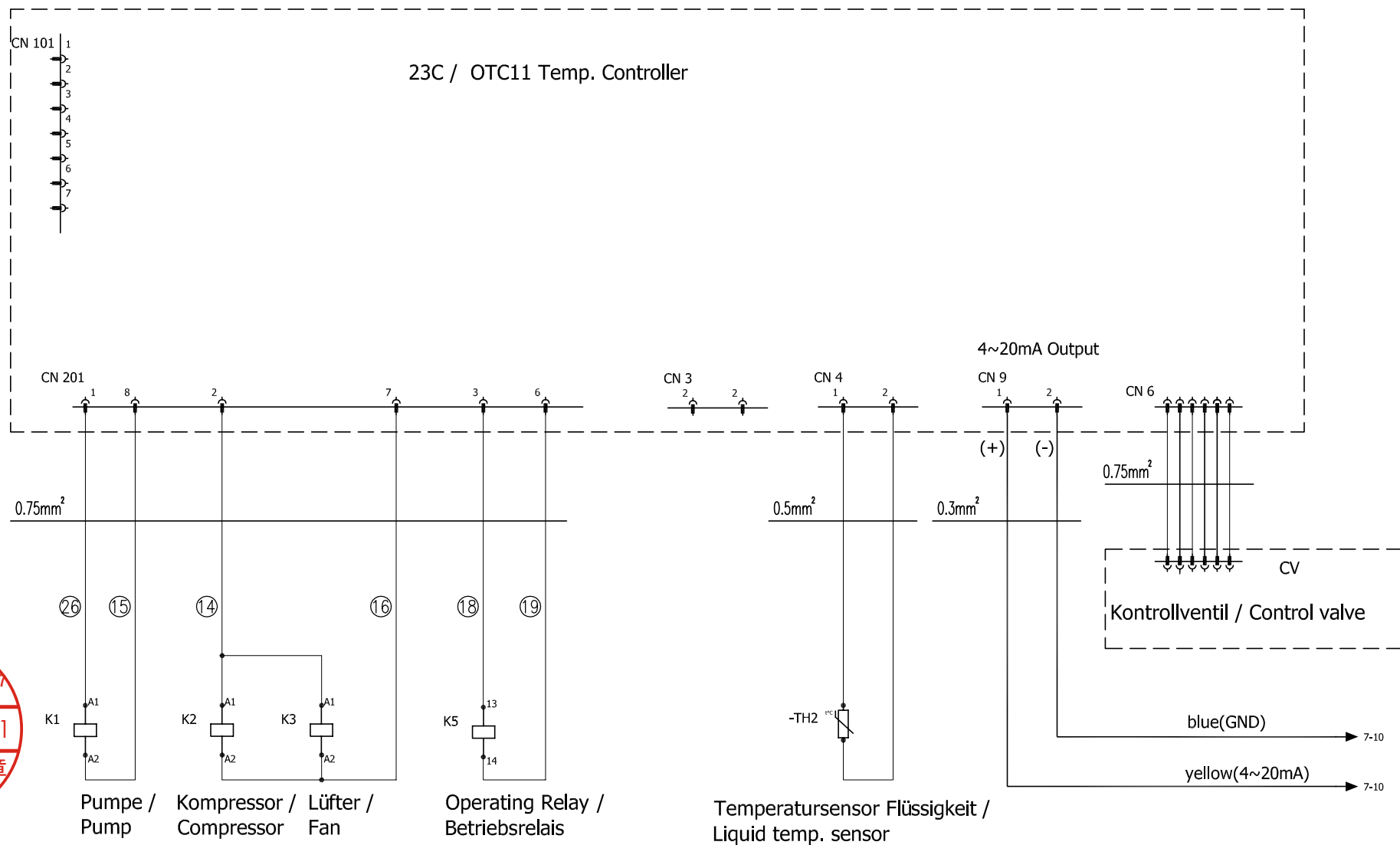
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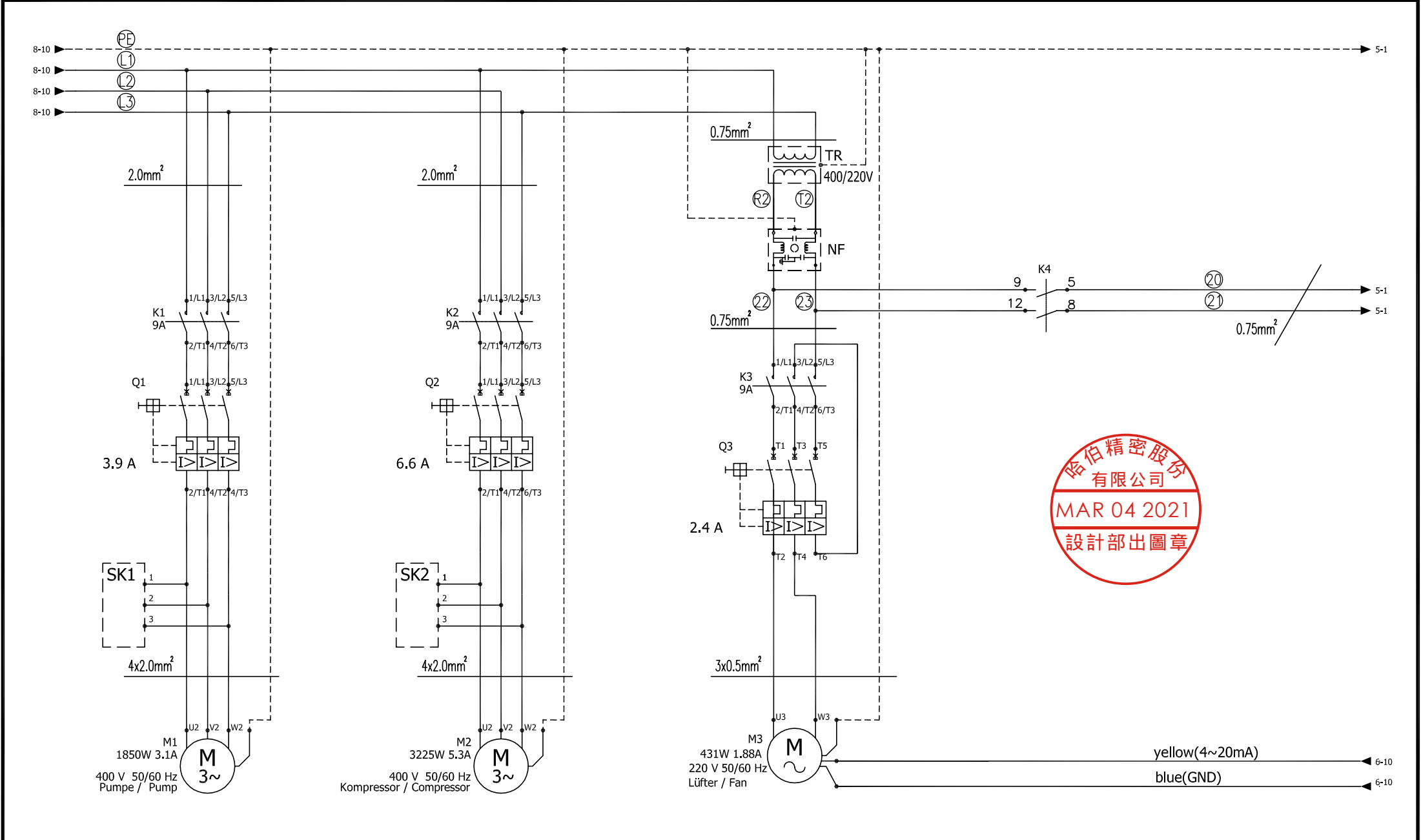
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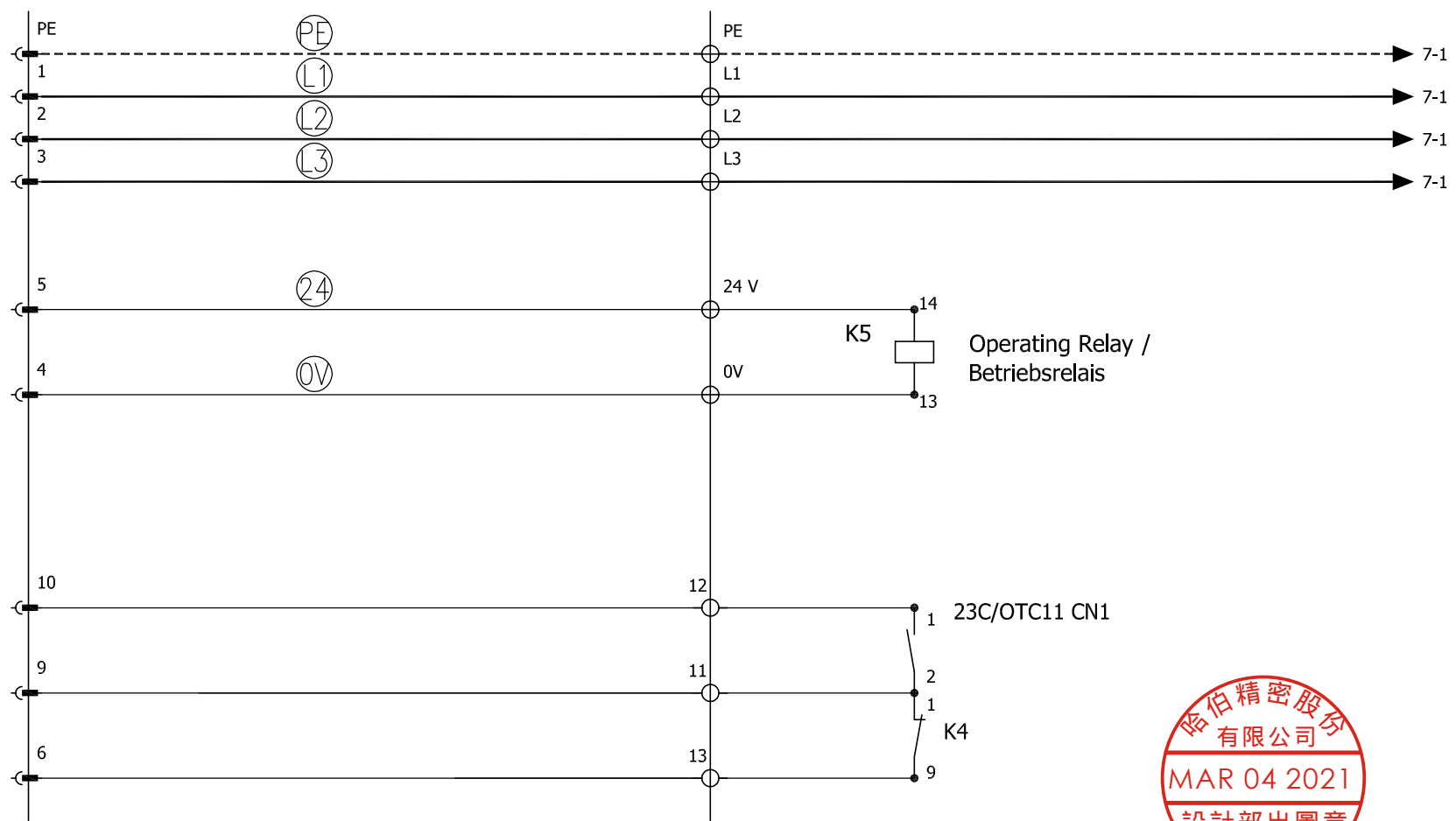
				COOLER MODEL	P-HWK-V3RPTSA5-216	VERSION	Checking-1	TITLE	23C / OTC11 Temp. Controller		
				DESIGNED	陳秋輝	DATE	12.09.2020	DRG NO.	WKGKFE3	SCALE	1:1
				CHECKED	研發部 109.12.11			MODEL	HWK-V3RPTSA5		
SYMBOL	DATE	NAME	REVISED	APPROVED	李文隆			HABOR PRECISION INC.			



7/10					COOLER MODEL	P-HWK-V3RPTSA5-216	VERSION	Checking-2	TITLE	CONTROL CIRCUIT		
					DESIGNED	陳秋輝	DATE	03.02.2021	DRG NO.	WKGKFE4	SCALE	1:1
					CHECKED	研發部			MODEL	HWK-V3RPTSA5		
						110.3.3						
	SYMBOL	DATE	NAME	REVISED	APPROVED	李文隆			HABOR PRECISION INC.			

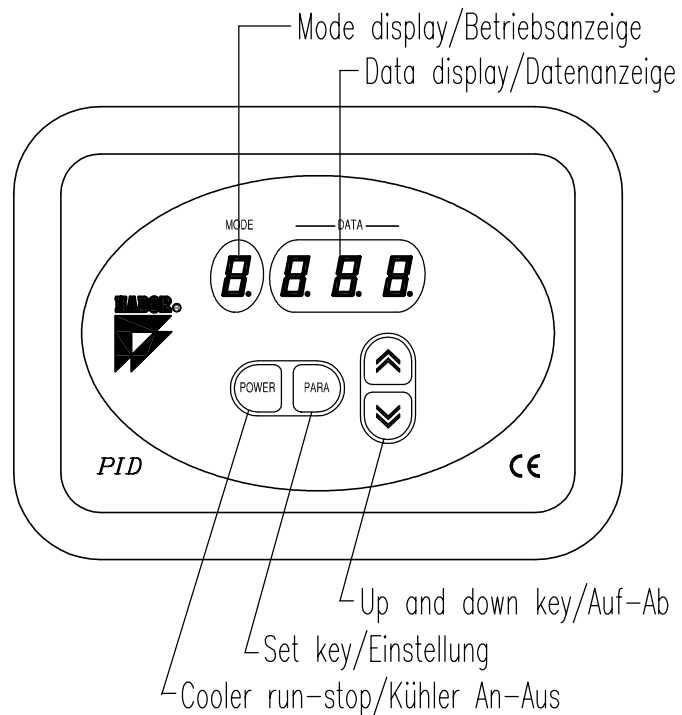
Harting接PIN點 X1

X2



				COOLER MODEL	P-HWK-V3RPTSA5-216	VERSION	Checking-1	TITLE	I/O INPUT CIRCUIT		
				DESIGNED	陳秋輝 研發部 109.12.11 李文隆	DATE	12.09.2020	DRG NO.	WKGKFE5	SCALE	1:1
				CHECKED				MODEL	HWK-V3RPTSA5		
SYMBOL	DATE	NAME	REVISED	APPROVED				HABOR PRECISION INC.			

23C control panel/Steuereinheit des Kühlers



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

1. Temp. setting range/ Temperaturbereich: 20 ~ 27°C
2. Alarm output mode/Alarmmodus: normal open A or normal close B

Explanation of alarm message

- E0** Sensor body fault or wire connection fault of coolant temp. sensor.
Sensor fehlerhaft oder Verbindungsfehler zu Flüssigkeitstemperatursensor.
- E2** Coolant temp. is too high. $\geq 28^{\circ}\text{C}$
Kühlmitteltemperatur zu hoch. $\geq 28^{\circ}\text{C}$
- E3** Coolant temp. is too low. $\leq 19^{\circ}\text{C}$
Kühlmitteltemperatur zu niedrig. $\leq 19^{\circ}\text{C}$
- E6** Fault of refrigerant pressure.
Druck im Kühlmittelsystem fehlerhaft.
- E7** Fault of circulating pump motor.
Fehler des Durchflusspumpenmotors.
- E8** Compressor fault.
Kompressor fehlerhaft.
- E9** Pressure or flow rate fault of coolant circulating system.
Druck oder Durchflussrate des Flüssigkeitssystems fehlerhaft.
- Ed** Water level in tank is too low.
Flüssigkeitsstand in Tank zu niedrig.
- EE** Motor fault of fan.
Lüftermotorausfall.

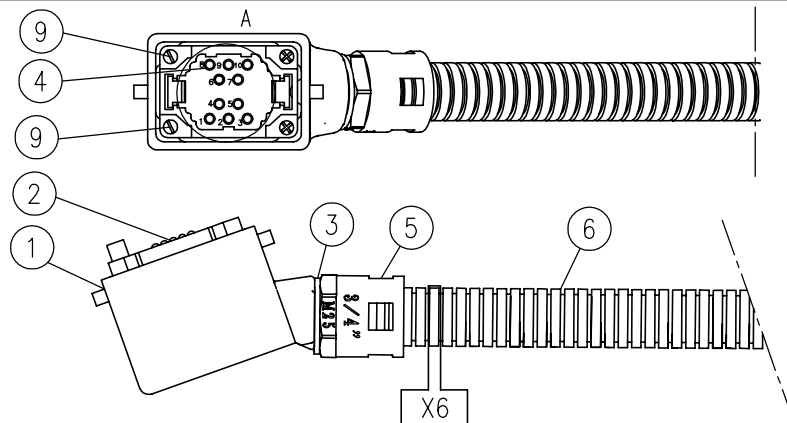
SYMBOL	DATE	NAME	REVISED	COOLER MODEL	P-HWK-V3RPTSA5-216	VERSION	Checking-1	TITLE	PANEL & EXPLANATION OF ALARM MESSAGE			
				DESIGNED	陳秋輝	DATE	12.09.2020	DRG NO.	WKGF6	SCALE	1:1	
				CHECKED	研發部			MODEL	HWK-V3RPTSA5			
				APPROVED	109.12.11				HABOR PRECISION INC.			
					李文隆							

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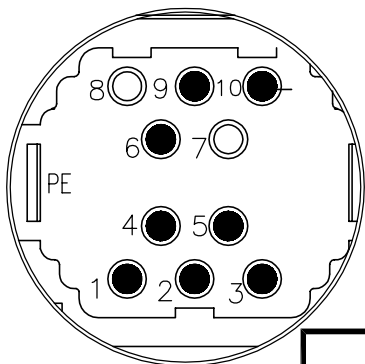
TITLE	ELECTRIC PART LIST	Model	HWK-V3RPTSA5	Date	03-02-2021
		Spec. no.	P-HWK-V3RPTSA5-216	Version	Checking-3
MARK	NAME	MODEL			NOTES
M3	Motor of fan Lüftermotor	1ø 220V 50/60Hz 431W 1.88A			
Q3	Overload protector of 52F Überlastschutz Lüftermotor	1.6~2.5A SET 2.4A			
K3	Magnetic switch of MF Magnetschalter Lüftermotor	220V 50/60Hz			
M2	Motor of comp. Kompressormotor	3ø 400V 50/60Hz 3225W 5.3A			
Q2	Overload protector of 52C Überlastschutz Kompressormoto	5.5~8A SET 6.6A			
K2	Magnetic switch of MC Magnetschalter Kompressormotor	220V 50/60Hz			
M1	Motor of pump Pumpenmotor	3ø 400V 50/60Hz 1850W 3.1A			
Q1	Overload protector of 52P Überlastschutz Pumpenmotor	2.5~4A SET 3.9A			
K1	Magnetic switch of MP Magnetschalter PM	220V 50/60Hz			
23C	Temp. controller Temperatursteuerung	Fixed temp. control (20~27°C)			
TH2	Coolant temp. sensor Temperatursensor Kühlflüssigkeit	PT 1/8"			
FL	Flow rate switch Durchflusswächter	3/4", the contacts are ON when flow rate is normal ($\geq 5\text{L}/\text{min}$)			
63H	High-Pressure Switch Hochdruckschalter	AUTO RESET 39baar SET			
CV	Control valve Schaltventil / Steuerventil	DC12V 2W x 2			
33F	Level switch Niveauschalter	25ø X 25mm· Connection ON when liquid level is normal.			
TR	Transformer Transformator	1ø 400/220V 50/60Hz 440VA			
K4	Operating Relay Betriebsrelais	220VAC 2a2b			
K5	Operating Relay Betriebsrelais	24VDC 2a2b			
SK1-2	EMI Filter EMI Filter	3ø 400~575VAC 50/60Hz			
NF	Power filter LeistungsfILTER	1ø 250VAC 50/60Hz 6A			





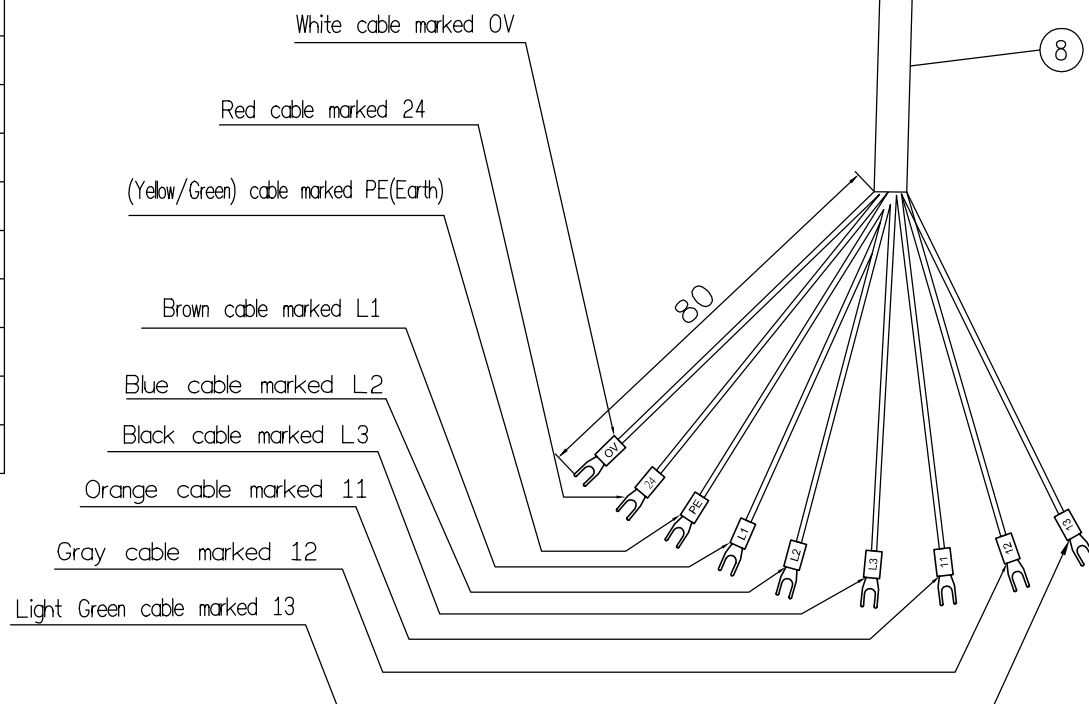
Item	Part NO.	Name	Specification	Quantity
1	B-PG-77	Power connector.male	HAN6B-gs-M25 TB19300061541	1
2	B-PG-65	Power connector.female	HAN10EE-M-C TB09320103001	1
3	D-SPP-M25	Plastic spacer	P-WE-M25	2
4	E-TML-01	Terminal	09330006107 4.0 mm ²	8
5	B-PG-59B	Nylon quick coupling	3/4"xM25 NLB-O6M25	1
6	X-PIPE-006B-685	Nylon hose	3/4"x685cm NL206060	1
7	B-PG-49B	Nylon quick coupling	3/4"xM25 N-MGQ25-E-28B-2	1
8	C-WR-10C1-830	Power cable	1.25mm ² 10C*830cm600V	1
9	E-TML-03	PIN	M3xφ 4.5x26.2mm 093300009908	2
10	C-TIE-MCV-110	X6 Sticker	MCV-110	1

Cooler line number	Harting PIN
L1(Brown)	1
L2(Blue)	2
L3(Black)	3
PE(Yellow/Green)	4
0V(White)	5
24(Red)	6
11(Orange)	9
12(Gray)	10
13(Light Green)	6



Detailed diagramA

All power cables are with Y type terminal in 1.25-3mm



				NO	P-HWK-V3RPTSA5-216	VERSION	Checking-1	DRAWING NAME	OUSIDE DIMENSION	PC	1	
				DRAWER	陳秋輝	12.15.2016	MATERIAL		DRAW. NO.	WKGKFP	SCALE	1:18
				CHECK	設計部				MODEL	HWK-V3RPTSA5		
				QUALITY CONTROL	105.12.16				哈伯精密股份有限公司			
					李文隆				HABOR PRECISION INC.			
VERSION	DATE	MAKER	CONTENT	APPROVE			UNIT	MM				

Out put	Alarm	Explanation of alarm message	Status
11.12	E0	Sensor body fault or wire connection fault of coolant temp. sensor.	Abnormal shutdown
	E6	Fault of refrigerant pressure.	
	E7	Fault of circulating pump motor.	
	E8	Compressor fault.	
	E9	Pressure or flow rate fault of coolant circulating system.	
	EE	Motor fault of fan.	
11.13	E2	Coolant temp. is too high. $\geq 28^{\circ}\text{C}$	Warning check
	E3	Coolant temp. is too low. $\leq 19^{\circ}\text{C}$	
	Ed	Water level in tank is too low.	



				NO	P-HWK-V3RPTSA5-216	VERSION	Checking-1	DRAWING NAME	Explanation of warning message	PC	1
				DRAWER	陳秋輝	03.09.2020	MATERIAL		DRAW. NO.	WKGKFP1	SCALE
				CHECK	研發部 109.3.9			MODEL	HWK-V3RPTSA5		
				QUALITY CONTROL				哈伯精密股份有限公司			
VERSION	DATE	MAKER	CONTENT	APPROVE	李文隆	UNIT	MM	HABOR PRECISION INC.			