



① REFRIGERATORE DI LIQUIDO

② LIQUID CHILLER

③ RÜCKKÜHLANLAGE

④ REFROIDISSEUR DE LIQUIDE

WRA3541N07ZK01

MANUALE D'USO e MANUTENZIONE PARTE II
USE and MAINTENANCE MANUAL PART II
BETRIEBS und WARTUNGSANLEITUNG TEIL II
MANUEL D'EMPLOI et D'ENTRETIEN PARTIE II

INDICE / INDEX / INHALTSVERZEICHNIS / TABLE DES MATIERES

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- *SCHEMA ELETTRICO / ELECTRICAL LAY-OUT / SCHALTPLAN / SCHEMA ELECTRIQUE*

- *DICHIARAZIONE DI CONFORMITA' CE / CONFORMITY DECLARATION CE / CE KONFORMITÄTSEKLRUNG /
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- *LEGENDA / LEGEND / LEGENDE / LEGENDE*

Scheda tecnica - Technical data – Technische Eigenschaften – Caracteristiques techniques

Cod. : WRA3541N07ZK01	12/07/12 rev. 01	PP
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Capacità di raffreddamento W15L32 - Cooling capacity W15L32 Kühlleistung W15L32 - Capacité refroidissement W15L32	kW	3,6
Limiti funzionamento temperatura ambiente Working limits ambient temperature Betriebsgrenzwerte Umgebungstemperatur Limites de fonctionnement, température ambiante	°C	min +15 max+45
Limiti funzionamento temperatura acqua uscita Working limits out water temperature Betriebsgrenzwerte aus Wassertemperatur Limites de fonctionnement, température de l'eau exit	°C	min +8 max+35
Gas Refrigerante – Refrigerant gas - Kühlmittel – Gaz Réfrigérant	R134a	

Alimentazione secondari - Secondaries feed - Betriebsspannung der Hilfsschaltkreise – Tension des circuits auxiliaires	Vac	24
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Tensione/Fase/Frequenza - Voltage /Phase/Frequency Zulässige Variation Spannung/Frequenz - Volts/phase/fréquence	V/ph/Hz	400/3/50
Potenza elettrica assorbita max - Absorbed Electrical power max Leistungsaufnahme max - Puissance absorbé max	kW	3,14
Corrente assorbita max – Current absorbed max –Nennstrom max –Courant absorbé max	A	6,6
Corrente di spunto – Locked rotor current - Blockierter rotorstorm – Courant rotor bloqué	A	20

MT1	Tipo di compressore – Compressor type - Verdichter - Compresseur	Alternative	
	Potenza elettrica assorbita max - Absorbed Electrical power max Leistungsaufnahme max - Puissance absorbé max	kW	1,9
	Corrente assorbita max – Current absorbed max –Nennstrom max – Courant absorbé max	A	4
	Potenza elettrica assorbita W15L32 - Absorbed Electrical power W15L32 Leistungsaufnahme W15L32 - Puissance absorbé W15L32	kW	1,33
	Corrente assorbita W15L32 – Current absorbed W15L32 –Nennstrom W15L32 – Courant absorbé W15L32	A	2,87

MT2	Ventilatore - Fan - Lüfter - Ventilateur	Axial nr.1 x Ø300	
	Portata aria a bocca libera - Condenser fan air flow (free) - Luftdurchsatz Kondensatorenlüfter freie Öffnung - Débit d'air ventilateur condenseur bouche libre	m ³ /h	2000
	Potenza elettrica assorbita max - Absorbed Electrical power max Leistungsaufnahme max - Puissance absorbé max	kW	0,088
	Corrente assorbita max – Current absorbed max –Nennstrom max – Courant absorbé max	A	0,39

Capacità della vasca – Tank capacity – Tankinhalt - capacité de bac	Lt.	40
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Liquido refrigerante – Coolant liquid – Kühlmittel - Liquide refroidisseur	Vedi manuale uso e manutenzione – See use and maintenance manual – Lesen Bedienungs und Wartungsanleitung – Regarder le notice d'emploi et d'entretien	
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MT3	Portata acqua - Water flow - Durchfluss – Débit d'Eau	l/1'	10
	Prevalenza disponibile - Available head - Erhältliche Förderhöhe – Hauteur d'elevation disponible	bar	3,5
	Potenza elettrica assorbita max - Absorbed Electrical power max Leistungsaufnahme max - Puissance absorbé max	kW	1,15
	Corrente assorbita max – Current absorbed max –Nennstrom max – Courant absorbé max	A	2,2

Altezza x Larghezza x Profondita' - Height x Width x Depth Höhe / Breite / Tiefe - Hauteur / Largeur / Profondeur	mm	1146 x 740 x 570
Peso a vuoto - Weight empty - Leergewicht – Poid à vide	Kg	90

Attacchi idraulici - Hydraulic connections - Hydraulische Anschlüsse - Raccords hydrauliques	UNI ISO228 2 x 3/4"gas
Rumorosità max - Noise level max - Geräuschpegel max - Bruit max (*)	dB (A) 45

(*) Valore di pressione sonora misurata in campo libero a una distanza di 10m - Sound pressure level referred to free field conditions at distance of 10m - Schalldruckpegel in 10m Entfernung Freifeldmessung - Valeur de pression sonore mesuré en champ libre a 10m

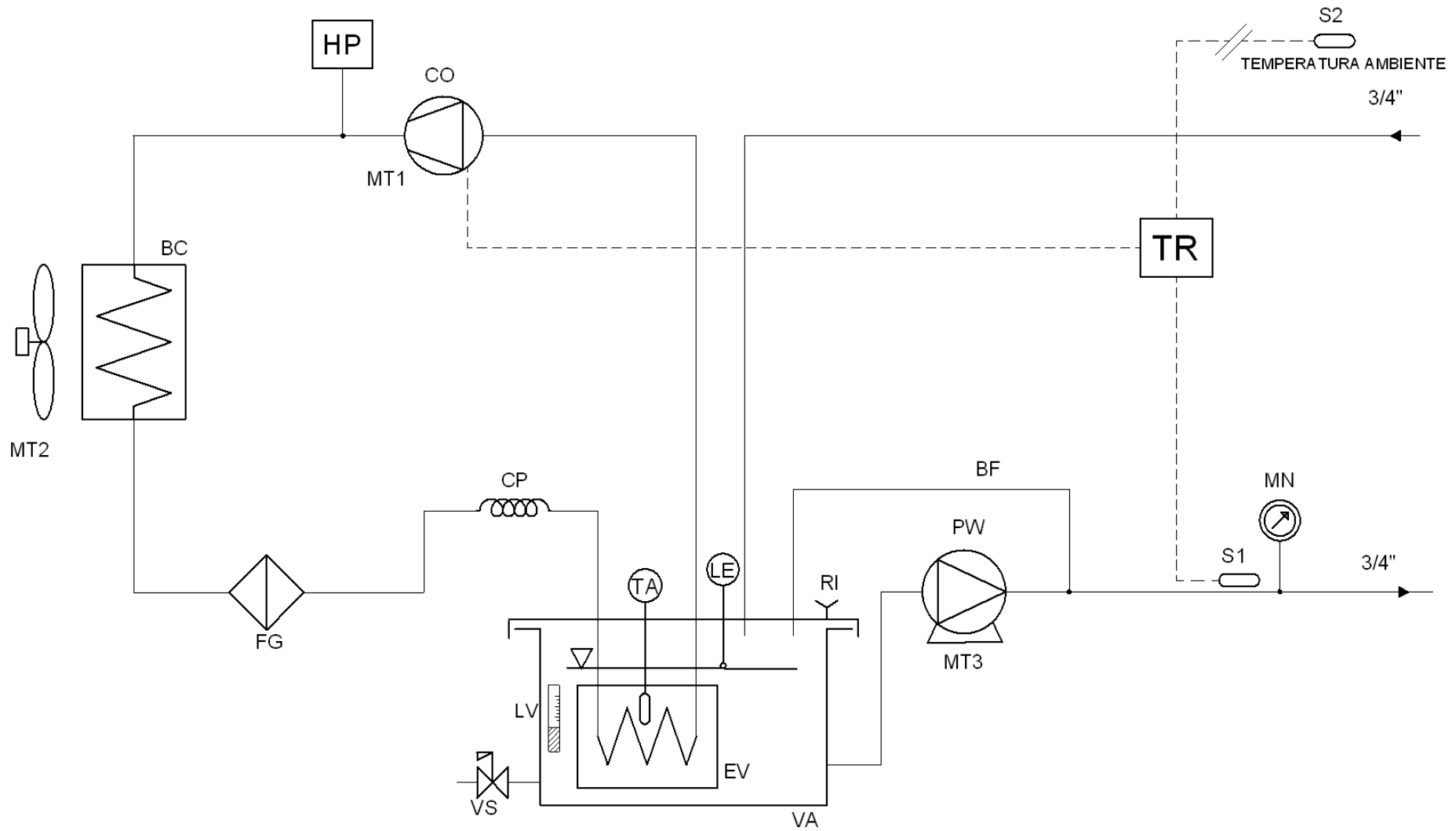
LEGENDA – LEGEND – LEGENDE – LEGENDE

	ITALIANO	ENGLISH	DEUTSCH	FRANCAIS
B/S	sonda	probe	fühler	sonde
BC	condensatore	condenser	verflüssiger	condenseur
BF	by-pass fisso	fixed by-pass	festnetz by-pass	by-pass fixe
BPA	by-pass automatico	automatic by-pass valve	automatisches by-pass ventil	venne de by-pass automatique
CO	compressore	compressor	verdichter	compresseur
CP	capillare	capillary	kapillare	capillaire
DE	demineralizzatore	demineralizers	demineralisierung	demineralisateur
DP	trasduttore di pressione	pressure transducer	druckgeber	trasmetteur de pression
EV	evaporatore	evaporator	verdampfer	evaporateur
FA	filtro aria condensatore	condenser air filter	luftfilter verflüssiger	filtre a air condenseur
FI	filtro liquido	liquid filter	filtertrockner	filtre desnydrateur
FG	filtro gas	gas filter	gas . Filter	filtre a gaz
FL	flussostato	flow switch	durchflusswächter	controleur du flux
FW	pressostato	pressure switch	druckschalter	pressostat
HP	pressostato di alta	high pressure switch	hochdruckwhalter	pressostat haute pression
JO	jolly sfiato	automatic breather valve	automatisches auslassventil	soupape automatique d'echappe
KVC	regolatore di capacità frigorifera	cooling power controller	regelventil heißgas by-pass	reg. de priessance frigorifique
LD	inniettore di gas	liquid gas mixer	flüssiggas mixer	melangeur de gaz liquide
LE	livello elettrico	electric level	elektrische niveauanzeige	niveau electrique
LP	pressostato di bassa	low pressure switch	unterdruckwalther	pressostat de basse pression

	ITALIANO	ENGLISH	DEUTSCH	FRANCAIS
LPO	limitatore di flusso	flow-through restrictor	durchflussbegrenzer	limiteur de debit
LV	livello visivo	level viewer	wasserniveauanzeige	visualiser de niveau
MN	manometro	gauge	manometer	manometre
MT	motore	motor	motor	moteur
PD	pressostato differenziale	differential pressure switch	differentialdruckschalter	pressostat differentiel
PO	pompa olio	oil pump	ölpumpe	pompe a huile
PP	pressostato di parzializzazione	partialization pressure switch	luftdruckschalter	pressostat de reglage
PV	parzializzazione ventilatore	fan partialization	drehzahiregler	reglage de ventilation
PW	pompa acqua	water pump	wasserpumpe	pompe a eau
RA	riempimento automatico	automatic filling	automatische füllung	rieplissage automatique
RC	resistenza al carter	crankcase heater	lumpfheizung	resistance du carter
RE	resistenza	heater	hitzer	resistance
RFS	pressostato filtro sporco	dirty filter pressure switch	druckschalter filter verschmutzt	pressostat filtre eucrasse
RG	rubinetto gas	gas valve	gasabsperrentile	venne de reglage gaz
RI	tappo di riempimento	fill-in cap	verschlussdeckel tankbefuellung	bouchou de replissage
RIF	tappo con sfiato e filtro	fill-in cap with filter	Einfülldeckel mit Filter	bouchon de replissage avec filtre
RL	ricevitore di liquido	liquid receiver	flüssigkeitssammler	bouteille liquide
RDP	riduttore di pressione	pressure reducer	Druckminderer	réducteur de pression
RM	riempimento meccanico	filling mechanical	füll mechensiche	remplissage mecanique
RR	raccordo rapido	quick connector	Quick-Anschluss	raccord rapide
RS	resistenza carter-evaporatore	crank case heater	oflsurnpfherzung	carter resistance evaporateur
RU	rubinetto manuale	manual valve	manuelles ventil	soupape manuelle
SC/SP	Scambiatore/scambiatore a piastre	Heat exchanger/heat plate brazed exchanger	Wärmetauscher /plattenwärmeaustauscher	Echangeur de chaleur /échangeur a platines

	ITALIANO	ENGLISH	DEUTSCH	FRANCAIS
SC1	Scheda C2020	C2020 board	C2020 leiterplatte	carte electronique C2020
SC2	Key-Pad C2020	C2020 Key-Pad	C2020 key-Pad	key-Pad C2020
(V)SG/HGB	solenoido gas	gas solenoid	magnetventil	solenoido gaz
SL	spia liquido	liquid detector	schauglas	voyant liquide
SLG	separatore di liquido	liquid separator	flüssigkeitsabscheider	separateur de liquide
SAP	Stabilizzatore automatico di portata	Automatic flow rate regulator	Automatischer Volumenstrombegrenzer	Stabilisateurs automatiques de débit
TA	termostato antigelo	antifreeze thermostat	antifrost thermostat	thermostat antigel
SP	Stabilizzatore automatico di portata	Automatic flow rate regulator	Automatischer Volumenstrombegrenzer	Stabilisateurs automatiques de débit
TD	termostato differenziale	differential thermostat	differential thermostat	thermostat differentiel
TM	termostato di minima	min.thermostat	min.thermostat	thermostat de minimum
TR	termostato di servizio	themperature regulator	reglerthermostat	thermostat de regulation
TS	termostato di massima	max. thermostat	max. thermostat	thermostat de maximum
VA	vasca	tank	tank	bac
VAP	vasca accumolo pressurizzata	pressured tank	pressorierter tank	bac d'accumulation pressurise
VC	ventilatore condensatore	condenser fan	lüfter verflüssiger	ventilateur condenseur
VNG	valvola d'arresto gas	shut-off valve for gas	absperrventil für gas	soupape d'arret de gaz
VNR	valvola d'arresto acqua	shut-off valve for water	absperrventil für wasser	soupape d'arret d'eau
VPO	valvola tre vie	3-way valve	3-wege ventil	venne de regulation a 3 voies
VPW	valvola pressostatica	pressostatic valve	kalleventil	soupape
VS	scarico vasca	tank discharge	tankentleerung	eccoulement d'eau
VSC	valvola di sicurezza	safety valve	sicherheitsventil	vanne securite
VSW	elettrovalvola	electro valve	elektroventil	soupape electrique
VT	valvola termostatica	thermostatic valve	expansionsventil	detendeur
VX	vaso d'espansine	expansion vassel	expansionsgefäß	conteneur d'expansion

SCHEMA IDRAULICO / HYDRAULIC CIRCUIT / WASSERKREISLAUF / SCHEMA HYDRAULIQUE



STULZ

00
REV

DESCRIPTION

13/05/2008

DATE

BASSETTO

DRAWN

BASSETTO

CHECKED

WRA3541N07ZK01

DRAWING CODE
AA012135808
TECHNICAL DETAILS




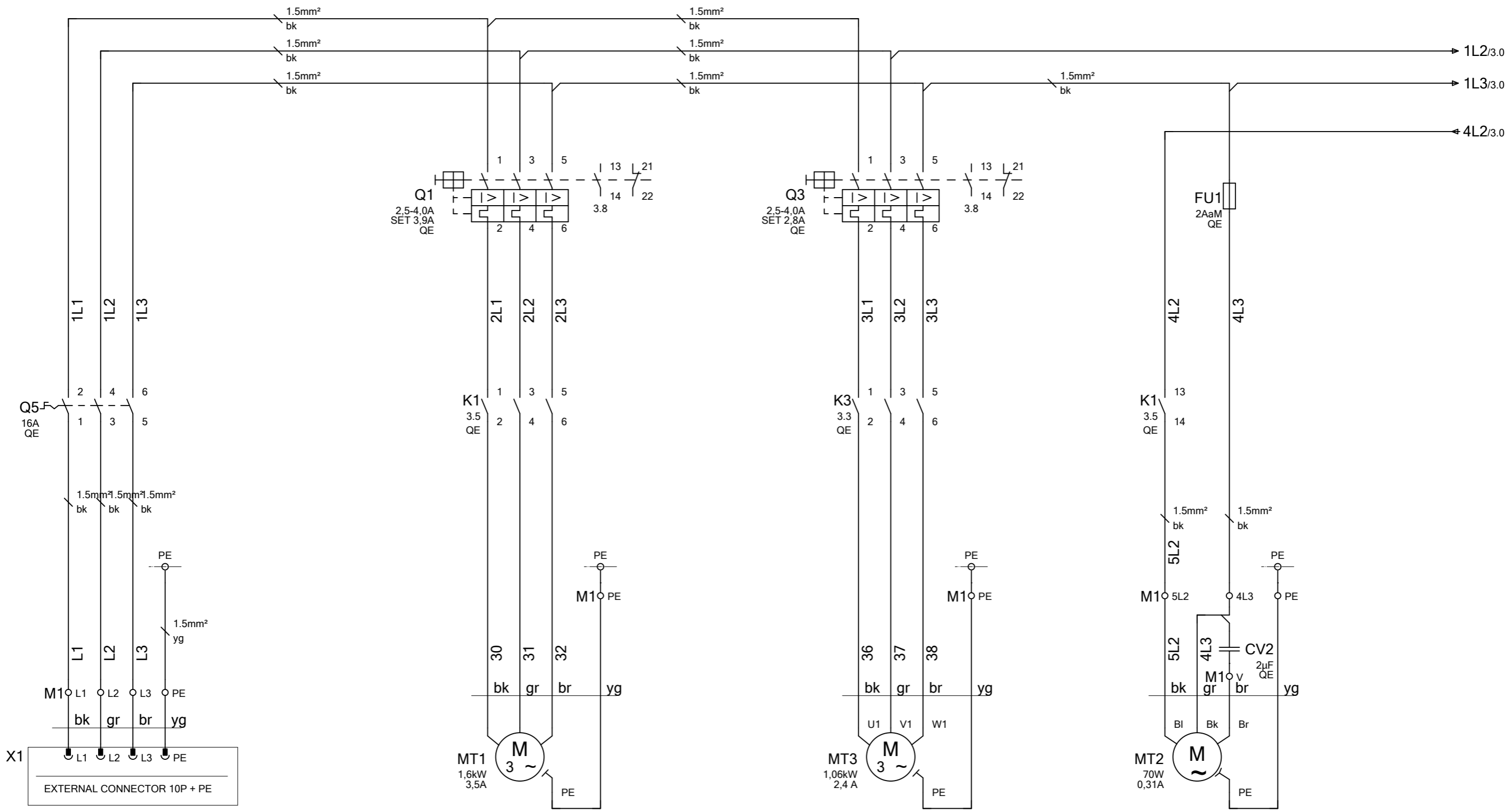
Electrical Drawings / Schema Elettrico / Schaltplan / Schema Electrique / Dibujos Eléctricos

Plant designation : WRA3541N07ZK01
 Drawing number : W3541S23
 Commission :

Manufacturer : Stulz spa
 Norm : DIN
 Power supply : 400/3/50Hz
 Auxiliary supply :
 Revision : Rev.05
 Panel code : 0380W3541N07Z0

Created the : 17.Mar.2008 Highest page nbr. : 14
 Modified the : 12.Giu.2012 from (abr.) FED Number of pages : 14

EDITOR	FED	SUPPLY	400/3/50Hz		WRA3541N07ZK01		W3541S23		
DATA	12.Giu.2012	AUX.SUP.				First page	DIN		Fg. 1
REVISION	Rev.05								14 Fg.



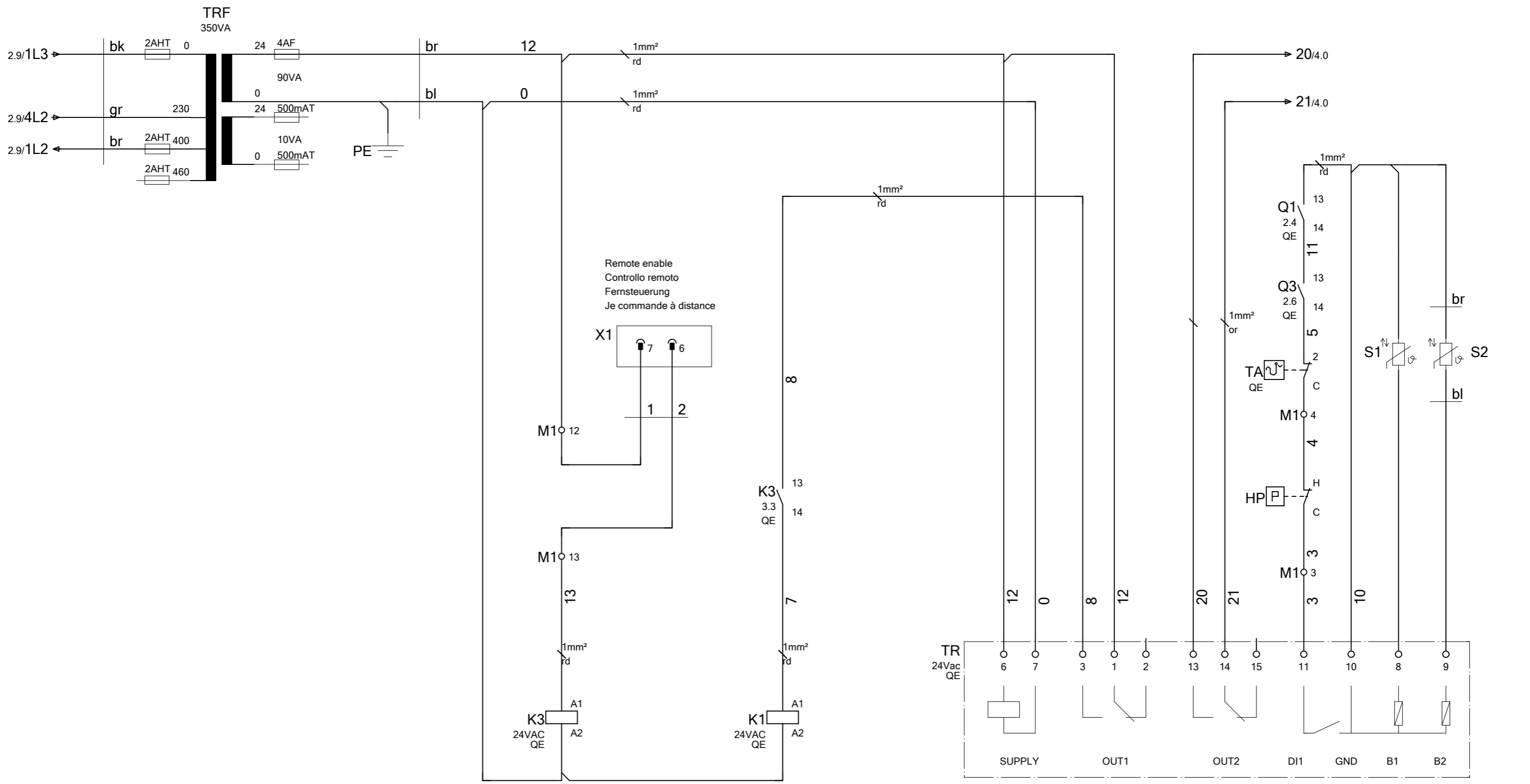
Main power 3ph/pe
Alimen.prin. 3ph/pe
Netz 3~/pe
Alimentation 3ph/pe

Compressor
Compressore
Kompressor
Compresseur

Pump
Pompa
Pumpe
Pompe

Condenser fan
Vent.condensatore
Kondensatorlüfter
Vent.du condens.

EDITOR	FED	SUPPLY	400/3/50Hz		WRA3541N07ZK01	W3541S23	DIN	Fg. 2
DATA	12.Giu.2012	AUX.SUP.						
REVISION	Rev.05							
				Main power 3ph/pe				
								14 Fg.



Transformer 0/230/400/460 - 0/24
 Trasformatore 0/230/400/460 - 0/24
 Transformer 0/230/400/460 - 0/24
 Transformator 0/230/400/460 - 0/24

1 - 2.5
 3 - 4.2.5
 5 - 6.2.6
 13 - 14.3.5
 Pump contactor
 Contattore pompa
 Pumpe kontaktgeber
 Pompe compresseur

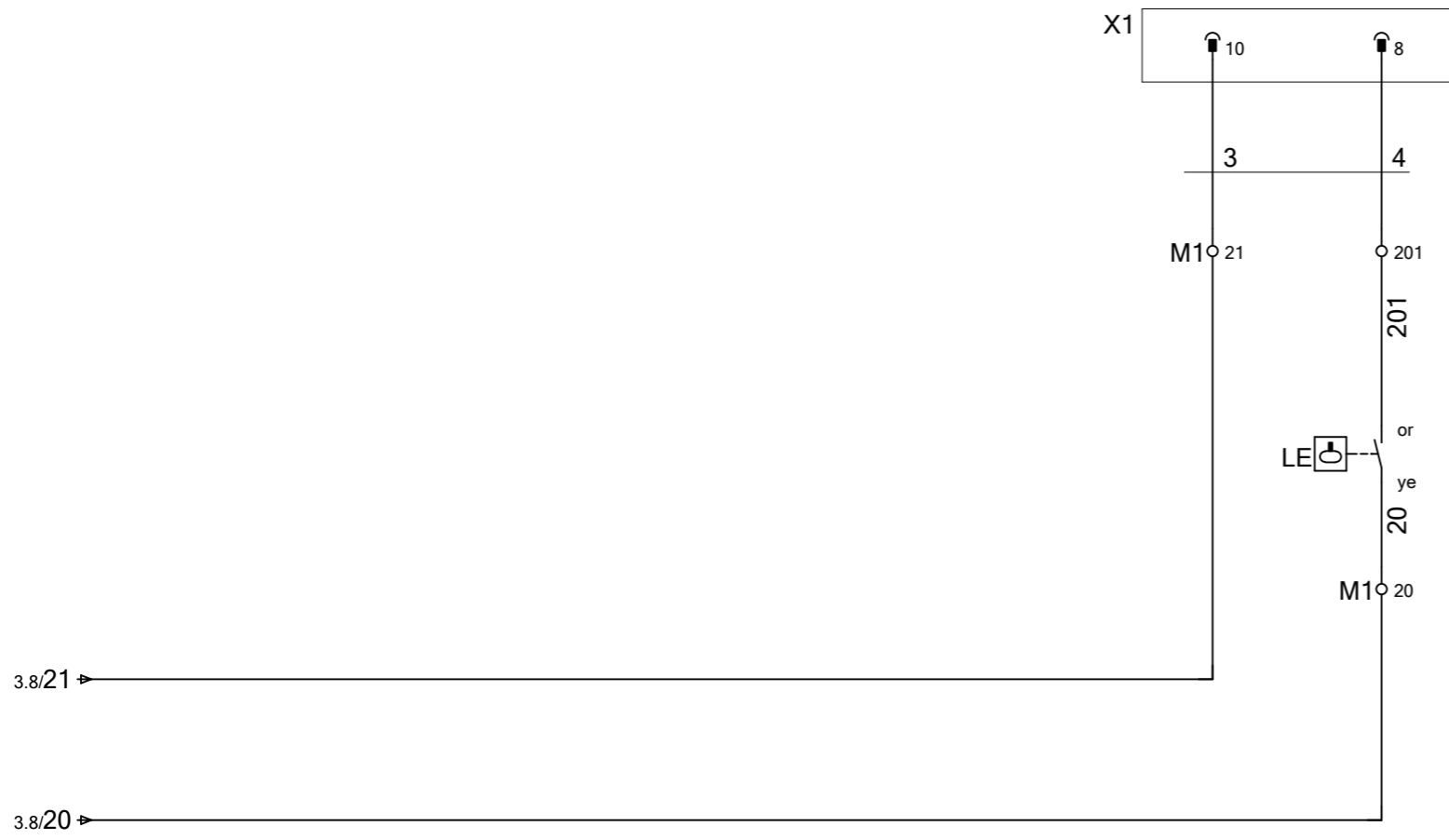
1 - 2.2.3
 3 - 4.2.3
 5 - 6.2.3
 13 - 14.2.7
 Compressor contactor
 Contattore compressore
 Kompressor kontaktgeber
 Contacteur compresseur

Regulating therm.
 Term. regolazione
 Regelthermostat
 Therm. de reglage

Probe Probe
 Sonda Sonda
 Probe Probe
 Sonde Sonde

EDITOR	FED	SUPPLY	400/3/50Hz	cosmotec industrial cooling	WRA3541N07ZK01 Secondary circuit	W3541S23 DIN	Fg. 3 14 Fg.
DATA	12.Giu.2012	AUX.SUP.					
REVISION	Rev.05						

General alarm
 Allarme generale
 Allgemein alarm
 Alarme général



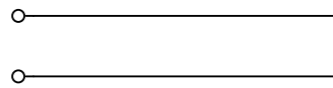
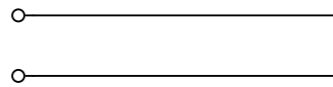
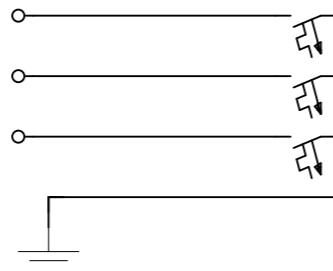
EDITOR	FED	SUPPLY	400/3/50Hz	cosmotec industrial cooling	WRA3541N07ZK01		W3541S23		
DATA	12.Giu.2012	AUX.SUP.				Level indicator	DIN		
REVISION	Rev.05								Fg. 4
									14 Fg.

USER

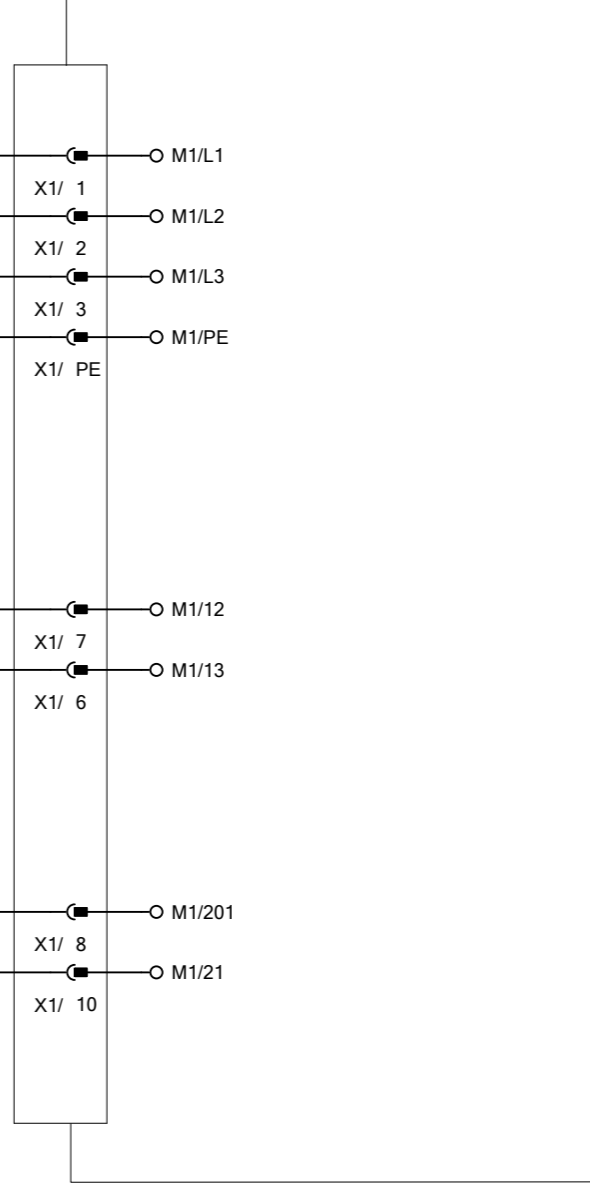
POWER SUPPLY
400/3/50Hz

REMOTE ENABLE

GENERAL
ALARM



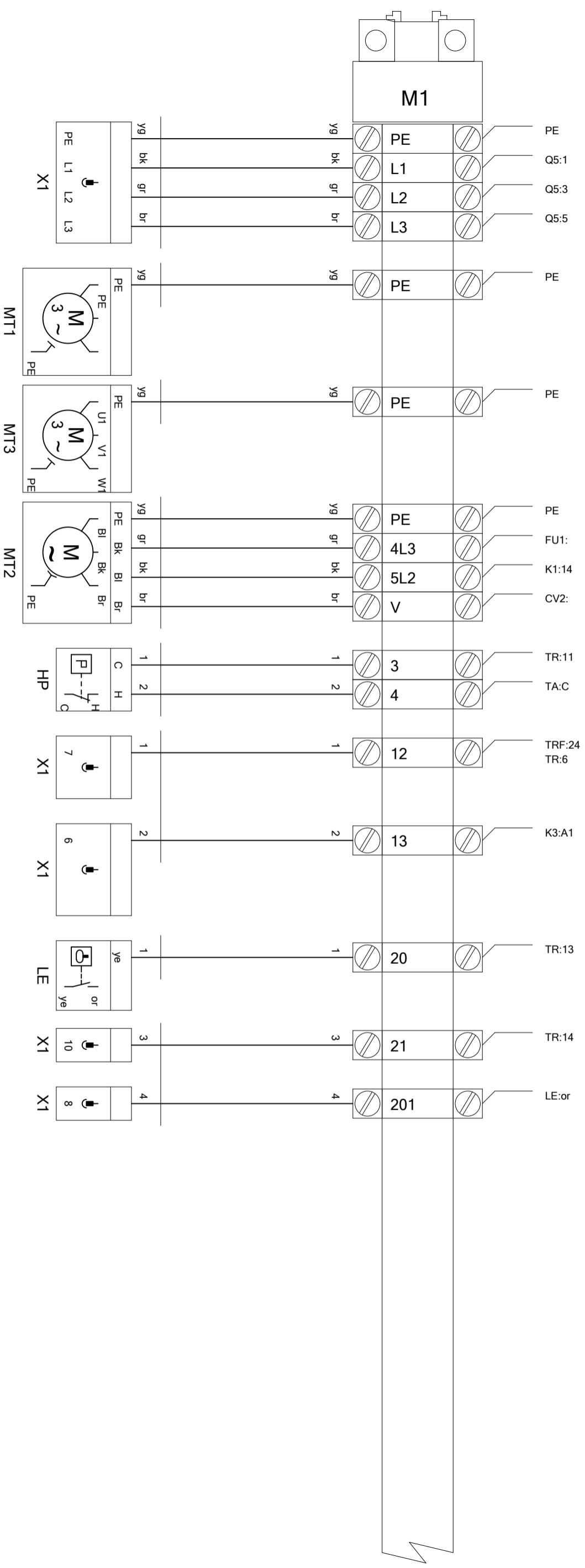
CHILLER



EDITOR	FED	SUPPLY	400/3/50Hz		WRA3541N07ZK01	User interface	W3541S23	DIN	Fg. 5
DATA	12.Giu.2012	AUX.SUP.							
REVISION	Rev.05								

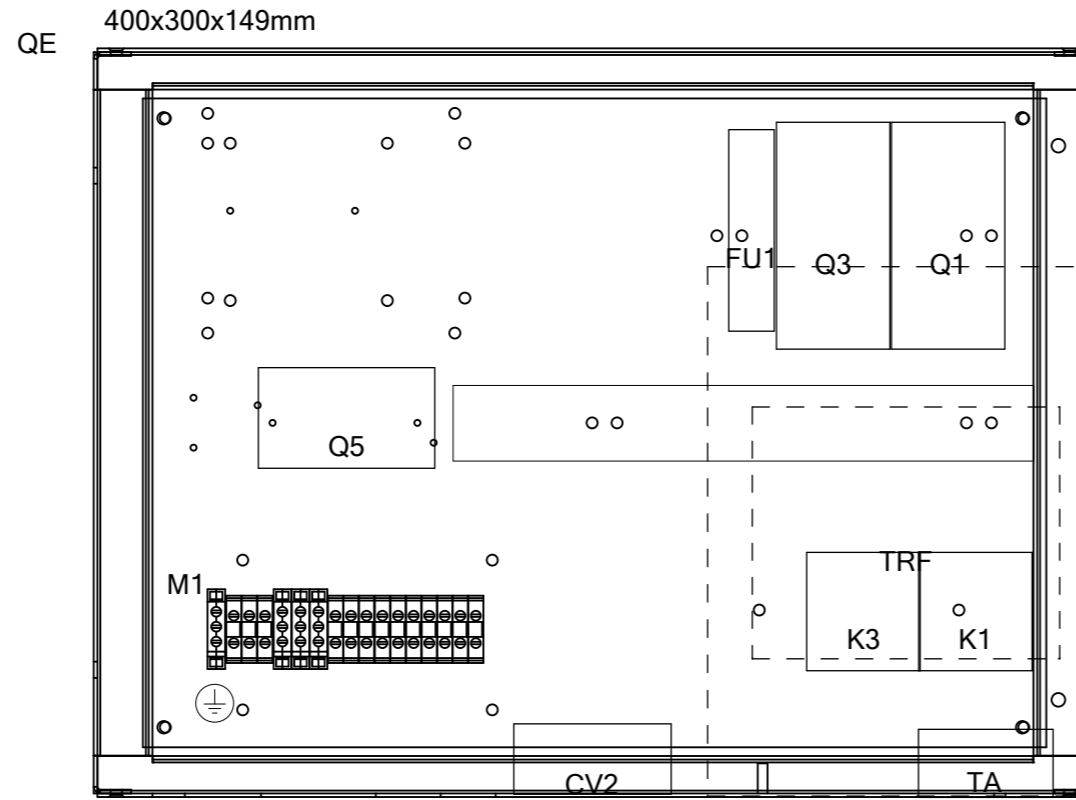
Bill of materials

Item designation	Amount	Designation	Type number	Supplier	Article number
CV2	1	CAPACITOR 2µF- 450VAC	CV	DUCATI	0309000021
FU1	1	UNIPOLAR FUSE BLOCK (32A-690VAC)	2301038	WEBER	0307000100
FU1	1	FUSE 2AaM 500VAC	CH10	WEBER	0308020020
HP	1	HIGH PRESSURE SWITCH off25 on17bar	ACB-2UB10W	SAGINOMYA	0301001015
K1	1	CONTACTOR 4kW/400V/9A - 24VAC 50/60Hz	100-K09KJ10	ROCKWELL	0301070000
K3	1	CONTACTOR 4kW/400V/9A - 24VAC 50/60Hz	100-K09KJ10	ROCKWELL	0301070000
LE	1	LEVEL INDICATOR	LG1S135	FOX	1900100024
MT1	1	THREEPHASE COMPRESSOR 400V 50Hz - 460V 60Hz	NJ9238GS	ASPERA	0050112155
MT2	1	MONOPHASE FAN 230/1/50-60Hz	A4E300-AS72-01	EBM	0100100291
MT3	1	THREEPHASE PUMP 400V - 50Hz	PQA72	PEDROLLO	1809200040
Q1	1	OVERLOAD CUT-OUT 2,5-4,0A / Icu=100kA	140M-C2E-B40	ROCKWELL	0302070106
Q1	1	FRONTAL CONTACT 1NO+1NC FOR 140M-C	140M-C-AFA11	ROCKWELL	0302070300
Q3	1	OVERLOAD CUT-OUT 2,5-4,0A / Icu=100kA	140M-C2E-B40	ROCKWELL	0302070106
Q3	1	FRONTAL CONTACT 1NO+1NC FOR 140M-C	140M-C-AFA11	ROCKWELL	0302070300
Q5	1	ISOLATING SWITCH 3Px16A	LA2-16-1753	BRETER	0302100316
Q5	1	MANEUVER YELLOW-RED	LFS2N6175	BRETER	0302200100
Q5	1	METAL SHAFT EXTENSION 150mm	LA2-G 3393	BRETER	0302300510
S1	1	NTC PROBE (-50/100 IN ARIA) IP67 L=3M	NTC030HP00	CAREL	0300420030
S2	1	NTC PROBE (-50/100 IN ARIA) IP67 L=6M	NTC060HP00	CAREL	0300420060
TA	1	MECHANICAL THERMOSTAT 3°C	540819	IMIT	0300000010
TR	1	ELECTRONIC THERMOSTAT 12/24Vac 12-30Vdc	IR33Z7LR20	CAREL	0300000935
TRF	1	MONOPH.TRANSF 350VA 0/230/400/460V - 0/24V	ATR	TECNOCABLAGGI	0306000373
X1	1	CONNECTOR 10P+PE	HAN10E 09 33 010 2601	HARTING	0308101610
X1	1	CONNECTOR FEMALE 10P+T	HAN10E 09 33 010 2701	HARTING	0308101620
X1	1	CUSTODY 10P+T	HAN10E 09 30 010 1231	HARTING	0308101635
X1	1	CUSTODY 10P+T	HAN10E 09 30 010 1521	HARTING	0308101640



6
 Main power 3ph/pe
 " "
 " "
 Compressor
 Pump
 Condenser fan
 " "
 " "
 Regulating therm.
 " "
 Remote enable
 General alarm
 Remote enable
 " "
 General alarm
 " "

EDITOR	FED	SUPPLY	400/3/50Hz	cosmotec industrial cooling		WRA3541N07ZK01	M1	W3541S23	DIN	Fg.	7
DATA	12.Giu.2012	AUX.SUP.				REVISION	Rev.05				

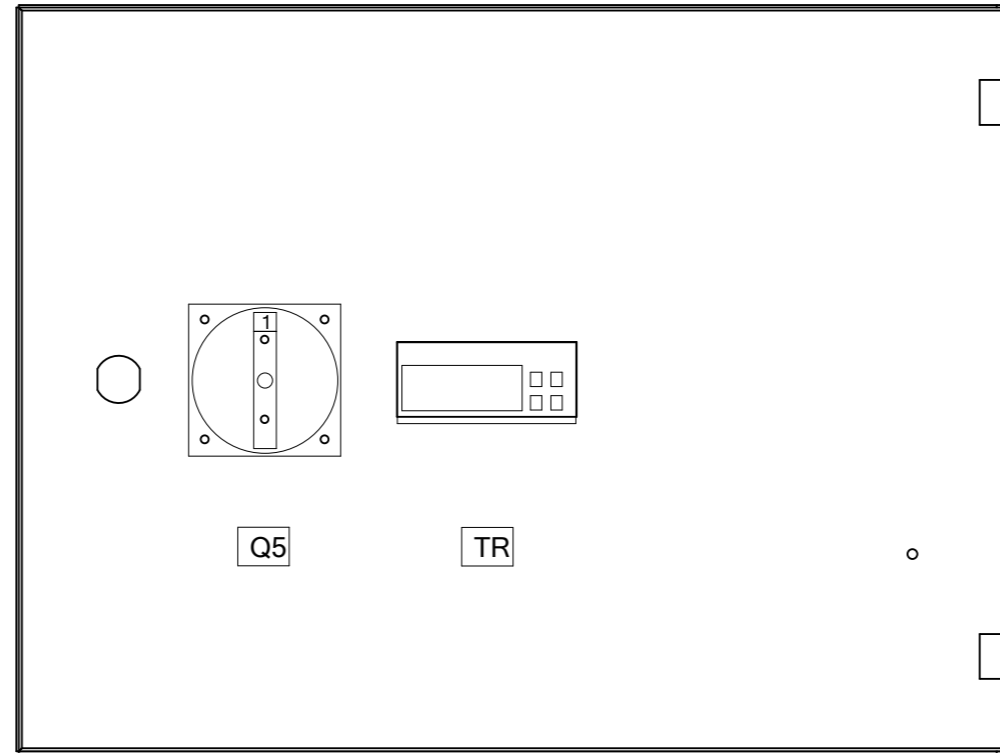


EDITOR	FED	SUPPLY	400/3/50Hz
DATA	12.Giu.2012	AUX.SUP.	
REVISION	Rev.05		

cosmotec
industrial cooling

WRA3541N07ZK01
Lay-out components

W3541S23	DIN	Fg. 8
		14 Fg.



EDITOR	FED	SUPPLY	400/3/50Hz
DATA	12.Giu.2012	AUX.SUP.	
REVISION	Rev.05		

cosmotec
industrial cooling

WRA3541N07ZK01
Electrical panel

W3541S23	DIN		Fg. 9
			14 Fg.

DICHIARAZIONE DI CONFORMITA' / **CONFORMITY DECLARATION** / KONFORMITÄTSEKTLÄRUNG / **DECLARATION DE CONFORMITE**



FABBRICANTE / MANUFACTURER / FABRIKANT / FABRICANT

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Refrigeratore di liquido – Liquid chiller – Rückkühlanlage – Refroidisseur de liquide

WRA – WLA – ORA - WRW – WLW – ORW

Noi firmatari della presente, dichiariamo sotto la nostra esclusiva responsabilità che l'unità in oggetto è conforme a quanto descritto dalle Direttive:

2004/108/CE (Compatibilità elettromagnetica), 2006/42/CE (Direttiva macchine)

We subscribers declare under our own responsibility that this unit is in conformity with Directives :

2004/108/CE (Electromagnetic compatibility), 2006/42/CE (Machinery directives)

Die Unterzeichneten erklären in alleiniger Verantwortung, daß das betreffende Gerät den Bestimmungen aus den EG-Richtlinien:

2004/108/CE (Elektromagnetische Verträglichkeit), 2006/42/CE (Maschinen richtlinie)

Nous, les signataires de la présente, déclarons sous notre responsabilité exclusive que l'unité en question est conforme aux prescriptions des Directives:

2004/108/CE (Compatibilité électromagnétique), 2006/42/CE (Machines directives)

Norme di riferimento - **Unit reference normatives** - Normes de référence - **Bezugsnormen:**

Compatibilità elettromagnetica
Electromagnetic compatibility
Elektromagnetische Verträglichkeit
Compatibilité électromagnétique

EN61000: 6-2:2006; 6-3:2007

Sicurezza del macchinario - Concetti fondamentali, principi generali di progettazione
Safety of machinery - Basic concepts, general principles for design
Maschinensicherheit - Grundbegriffe, allgemeine Gestaltungsleitsätze
Sécurité de la machine - Concepts de base, principes de conception généraux

UNI EN ISO 12100-1:2009

Sicurezza del macchinario - Valutazione del rischio
Safety of machinery - Risk assessment
Sicherheit von Maschinen – Risikobeurteilung
Sécurité des machines - Évaluation des risques

EN ISO 14121-1:2007

Modello / Type / Typ / Type:

Matricola / Serial number / Matrikelnummer / Numéro de série:

Lotto di Prod. / Prod. Lot / Produktionsteil /Sort de prod:

Si attesta che la fabbricazione e le prove fatte per l'insieme a pressione soddisfano i requisiti di sicurezza previsti
It is expected that the manufacturing and pressure tests completed will fulfill the anticipated safety requirements

Es wird bescheinigt, dass die Herstellung und die an der Baugruppe unter Druck durchgeführten Tests die vorgesehenen Sicherheitsanforderungen erfüllen.

Nous attestons que la fabrication et les essais réalisés pour l'ensemble sous pression satisfont à toutes les normes de sécurité en vigueur.

RAPPRESENTANTE LEGALE E COSTITUTORE DEL FASCICOLO TECNICO
LEGAL REPRESENTATIVE AND TECHNICAL FILE CONSTITUTER
LEGALER VERTRETER UND ERSTELLER DER TECHNISCHEN DOKUMENTATION
REPRESENTANT LEGAL ET INSTUTEUR DU FASCICULE TECHNIQUE

VALEGGIO SUL MINCIO, 15/01/2011

PEROTTI P.

A handwritten signature in black ink, consisting of a stylized initial 'P' followed by a horizontal line that tapers to the right.

