

# metos

**COLD DISPLAY**

**CD**

4312400, 4312402, 4312410, 4312412

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## **Installation and Operation Manual**

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## 1. General

Carefully read the instructions in this manual as they contain important information regarding proper, efficient and safe installation, use and maintenance of the appliance.

Keep this manual in a safe place for eventual use by other operators of the appliance.

The installation of this appliance must be carried out in accordance with the manufacturer's instructions and following local regulations.

Persons using this appliance should be specifically trained in its operation.

Switch off the appliance in case of failure or malfunction. The periodical function checks requested in the manual must be carried out according to the instructions. Have the appliance serviced by a technically qualified person authorized by the manufacturer and using original spare parts.

Not complying with the above may put the safety of the appliance in danger.

### 1.1. Symbols used in the manual



This symbol informs about a situation where a safety risk might be at hand. Given instructions are mandatory in order to prevent injury.



This symbol informs about the right way to perform in order to prevent bad results, appliance damages or hazardous situations.



This symbol informs about recommendations and hints that help to get the best performance out of the appliance.

### 1.2. Symbols used on the appliance



This symbol on a part informs about electrical terminals behind the part. The removal of the part must be carried out by qualified persons only.

### 1.3. Checking the relation of the appliance and the manual

The rating plate of the appliance indicates the serial number of the appliance. If the manuals are missing, it is possible to order new ones from the manufacturer or the local representative. When ordering new manuals it is essential to quote the serial number shown on the rating plate. The appliance has two rating plates, one in side panel's bottom edge and the other in electrical box.

## 2. Safety

### 2.1. Safe use of the appliance



For safe use of the appliance, observe the following safety instructions:

- When moving or servicing the appliance, always unplug it from the power supply.
- While cleaning the appliance, be cautious not to allow the electrical devices to come into contact with water. Spraying water in the immediate vicinity of the appliance is forbidden.
- Exposing the appliance to the rain is forbidden.
- Only connect the appliance to an earthed socket.
- If the appliance is not used for a long time, it should be unplugged from the power supply, cleaned and wiped dry on the inside.

### 2.2. Disposal of the appliance

- The appliance contains parts and components, the disposal of which requires special treatment.
- Contact local authorities to obtain instructions on how to dispose of the appliance.

### 3. Functional description

#### 3.1. Intended use of the appliance

The appliance is designed for use in serving lines, restaurants, cafés and kitchens.

The upper section and basin of the cold display are designed for short-time storage of precooled foodstuffs before distribution. The appliance is not intended for refrigerating products from higher temperatures, this also applies the models with a refrigerated cupboard.

The front of the Halo air curtain display is open. Keeping the products cold is ensured with effective cold air circulation.

##### 3.1.1. Use for other purposes



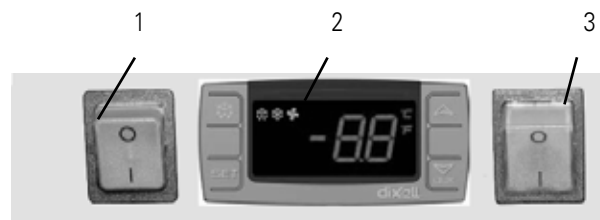
Use of the appliance for any other purposes is prohibited.

Consult the manufacturer in case you intend to use the appliance for other purposes than stated above.

#### 3.2. Operating principle

The appliance is equipped with its own refrigeration unit or it can be connected to a central unit.

##### 3.2.1. Operating switches



Operating panel

1. Main switch (green)
2. Light switch (orange)
3. Thermostat

## 4. Operating instructions

### 4.1. Operation

Before putting products in the unit, wait until it has reached the temperature set with the thermostat.

Correct cold storage of foodstuffs facilitates kitchen activities and affects energy consumption. Please observe the following points when using the appliance:

- Do not put products in the appliance until it has reached the correct operating temperature.
- Always keep the products in good order.
- Do not unnecessarily keep the cupboard door open.
- Always keep the sliding doors of the showcase properly closed.
- Do not store spoilt food in the unit.
- Dry moisture off the shelves and interior walls as needed.
- Monitor the internal temperature of the unit daily.
- Preserve the products in dishes fitted with lids or cover them with a plastic foil. This helps to keep the evaporator free from ice.



When placing products in the cupboard, sufficient air circulation should be ensured. Do not place products in touch with walls.



The appliance is equipped with automatic defrost, which means that the user does not need to bother with defrosting. In normal conditions, the thermostat need not be adjusted. In case adjustment, however, is required, see instructions in "Installation/Temperature adjustment".



Do not adjust temperature below + 4°C.



Warm, humid summer time may cause condensation on the exterior surfaces of the refrigerated display. Humidity is not present inside the display, so it does not damage products. The problem can be managed by slightly raising the temperature of the appliance. In general, a rise as small as 2°C will considerably decrease condensation.

## 4.2. After use

### 4.2.1. Cleaning

In normal use, the appliance does not require any other daily care than sufficient cleaning.

The interior and exterior of the appliance is mainly of stainless steel. For cleaning the interior and exterior, use neutral or slightly alkaline cleaning agents or wipe the surfaces with a damp cloth. Abrasive materials should not be used, especially not on acrylic surfaces.



Cleaning the appliance with a hose is forbidden. Do not either spray water in the immediate vicinity of the appliance, because water sprayed can get into the vent holes of the compressor cassette or into the display's electrical connections, thus causing a hazardous situation.

The inner part of the basin can be detached without tools for cleaning.

Clean the condenser by using a soft brush nozzle to avoid damaging the condenser (units equipped with own machinery) once a week.

The machinery does not normally require any other cleaning.



Before cleaning or maintenance work, switch off the appliance at the power supply by unplugging the electric cable from the socket.



Other cleaning measures than the condenser cleaning should be carried out by an authorised service company.

## 5. Installation

### 5.1. Operating conditions



The appliance should not be placed in a location exposed to heavy thermal load, e.g. direct sunlight or thermal radiators. Positioning cold equipment close to bains marie and ovens should be avoided.



The appliance is designed for operation in normal ambient conditions (i.e. temperature +10°C to + 25°C, relative humidity max. 60 %).

### 5.2. Transport and storage

The appliance should be transported to the installation site in its transport package. Do not remove package until in the immediate vicinity of the installation place.

The appliance should be transported in an upright position.

The appliance is made of polished stainless steel and of plastic/glass, so it can become scratched very easily in site conditions. Therefore, the appliance should be delivered to the installation site at a later stage of construction work.

It is forbidden to use the appliance as an installation base.



The appliance should not be stored outdoors, not even in its transport package.

In case the appliance has been stored in a non-heated location so that its temperature and particularly the temperature of the machinery has fallen below 0°C, the appliance should be kept in room temperature until the machinery temperature is at least 10°C.

Starting the cold machinery may damage the compressor.

In case the appliance has been heavily tilted just before the intended start-up, you should wait about 30 minutes before switching the appliance on. Otherwise the oil accumulated in the suction inlets of the compressor may damage the compressor with a hydraulic shock.

### 5.3. Unpacking the appliance

Remove foils protecting the stainless steel and plastic surfaces cautiously to prevent the surfaces from getting scratched.



## 5.4. Installation

The appliance is supplied with adjustable legs. Mount the appliance with the help of the adjustable legs in a horizontal position as accurately as possible, ensuring that the appliance rests evenly on all legs. If adjustment is not performed with great care, the door and locks may not work properly.

It is not possible to adjust an appliance fitted with wheels.



Units intended for marine use are welded in place or bolted from the mounting holes of the adjustable legs to the deck.

### 5.4.1. Condenser air circulation



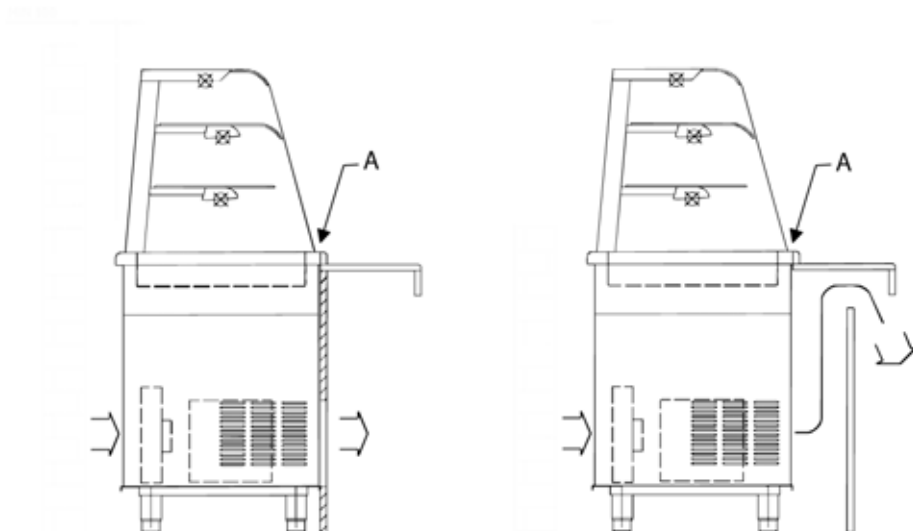
Ensure sufficient air inlet/air circulation for the condenser.

The display should not be installed in a place where external air flow disturbs the display's air circulation. Disturbance can be caused, for example, by

- positioning of ventilation equipment heat sources that radiate or blow warm air towards the display's front section (not either should these be located near the display ends)

If a refrigerated display is installed in a serving line, care should be taken that there is no air gap between the unit and the tray slide, through which warm air could get into the unit's cooling air circulation (item A).

Make sure that the condenser air inlet is not blocked and that warm air can freely exit through the front section (and cannot get back into the unit).



Condenser air circulation

## 5.5. Electrical connections



Connect the appliance to the power supply with an earthed socket. For making the connection, a socket protected with a fuse of 16 A has to be provided for each unit.

## 5.6. Start-up

After connecting the appliance to the power supply, turn on the main switch (green) and make sure that the indicator light of the switch lights up. Lighting is switched on using the orange switch.

The refrigerated cupboard (cupboard models) has a separate green switch for cooking.

When main switch is turned on, control unit's display will show appliance's current inner temperature.

The compressor starts operating after a short time delay.

In case you have problems with taking the appliance into use, contact an authorized service workshop.

## 5.7. Temperature adjustment

The temperature of the appliance is factory set to the value appropriate for each unit. This value should be altered on careful consideration only. Adjusting the temperature too low (below +4°C) may lead to rapid freezing up of the evaporator and to continuous operation of the compressor.

The appliance is fitted with an electronic control unit for temperature and defrosting. The temperature display panel and the operating switches are located on the upper section of the refrigeration unit.

## 6. Thermostat operation

### 6.1. Display thermostat



**SET**

1. a) To display target set point.  
b) In programming mode it selects a parameter or confirm an operation



2. To start a manual defrost

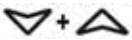




3. In programming mode it browses the parameter codes or increases the displayed value







4. In programming mode it browses the parameter codes or decreases the displayed value

### Key Combinations

-  To lock or unlock the keyboard
- SET** +  To enter in programming mode
- SET** +  To return to room temperature display

### Symbols and significations

	On	Compressore enabled
	Flashing	Anti short cycle delay enabled (AC parameter)
	On	Defrost in progress
	Flashing	Dripping in progress
	On	Measurement unit
	Flashing	Programming mode
	On	Measurement unit
	Flashing	Programming mode

#### 6.1.1. Locking and unlocking the keyboard

To lock the Keyboard

1. Keep UP and DOWN keys pressed for more than 3s.
2. The "oFF" message will be displayed and the keyboard will be locked. If any key is pressed more than 3s the "OF" message will be displayed.

To unlock the Keyboard

Keep UP and DOWN keys pressed together for more than 3s the and keys till the "ON" message will be displayed.

#### 6.1.2. To see the set temperature

- Push and immediately release the SET key, the set point will be showed;
- Push and immediately release the SET key or wait about 5s to return to normal visualisation.

#### 6.1.3. To change the temperature setting

- Push the SET key for more than 2 seconds, release and push again to change the Set point value;
- The value of the set point will be displayed and the "°C" or "F" LED starts blinking;
- To change the Set value push the UP or DOWN arrows within 10s.
- To memorise the new set point value push the SET key again or wait 10s.

#### 6.1.4. To start the Manual Defrosting

- Push the DEF key for more than 2 seconds and a manual defrost will start

## 7. Troubleshooting

In case the appliance does not function as expected, review the following list of problems to find out if the appliance can be put in order without a service call. In all enquiries, please contact an authorized service company. Most problems can be managed on the phone.

PROBLEM	POSSIBLE CAUSE	ACTION
The appliance does not start even if the main switch is turned on.	Electrical cable is not properly plugged in the socket.	Place the cable properly in the socket.
	Defective fuse.	Replace the fuse.
The compressor is running, but the temperature does not fall to the set value. The set value is checked by pressing the SET button.	Condenser is covered by dust.	Contact the services for cleaning the condenser.
	Prevented air circulation beside the condenser.	Remove obstacles to ensure free air circulation.
	Products placed in a way preventing air circulation inside the cupboard.	Arrange the products so that air can circulate freely.
	Ambient temperature exceeds the maximum value (+25°C, relative humidity 60%)	Make sure that the appliance has not been placed close to a heat source. If necessary, provide mechanical ventilation.



The appliance does not contain parts that can be serviced by the user. Service must be carried out by an authorised service company.

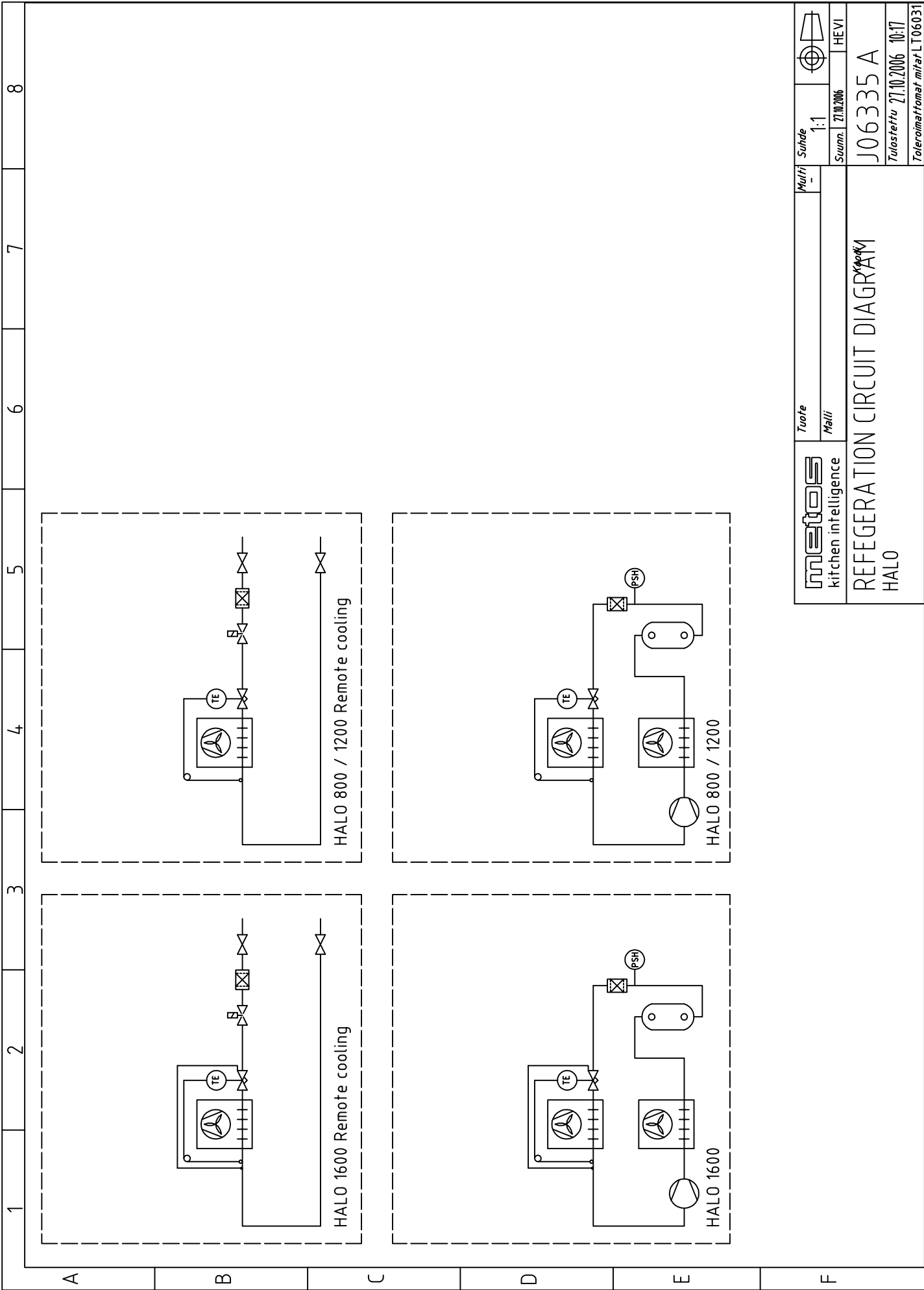
## 8. Tekniset tiedot

Refrigeration circuit diagram J06335 A

Wiring diagram S00331

Installation drawing J11226 A3

Installation drawing J11228 A3



Tuote  
Malli

Multi  
Schde  
1:1

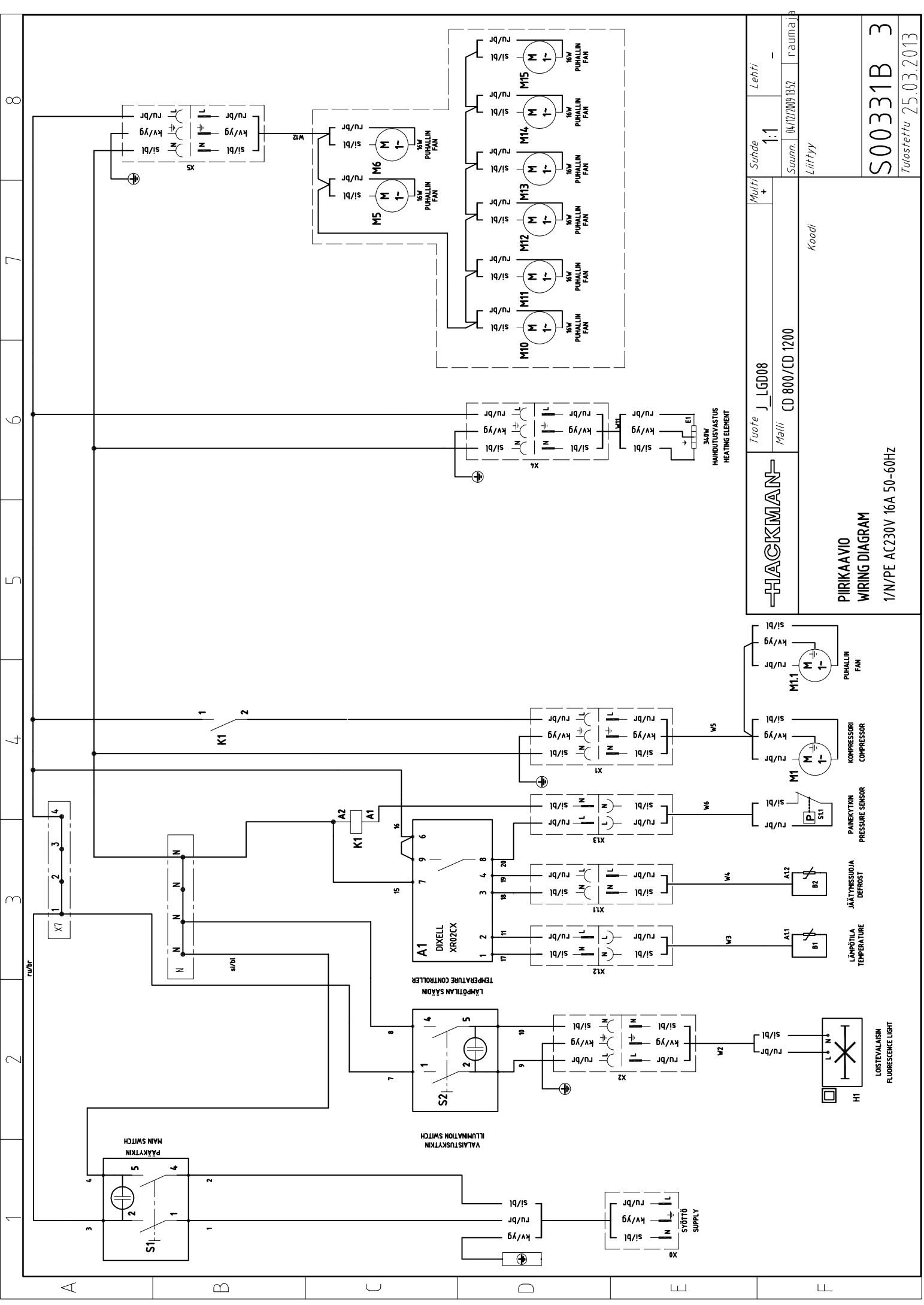


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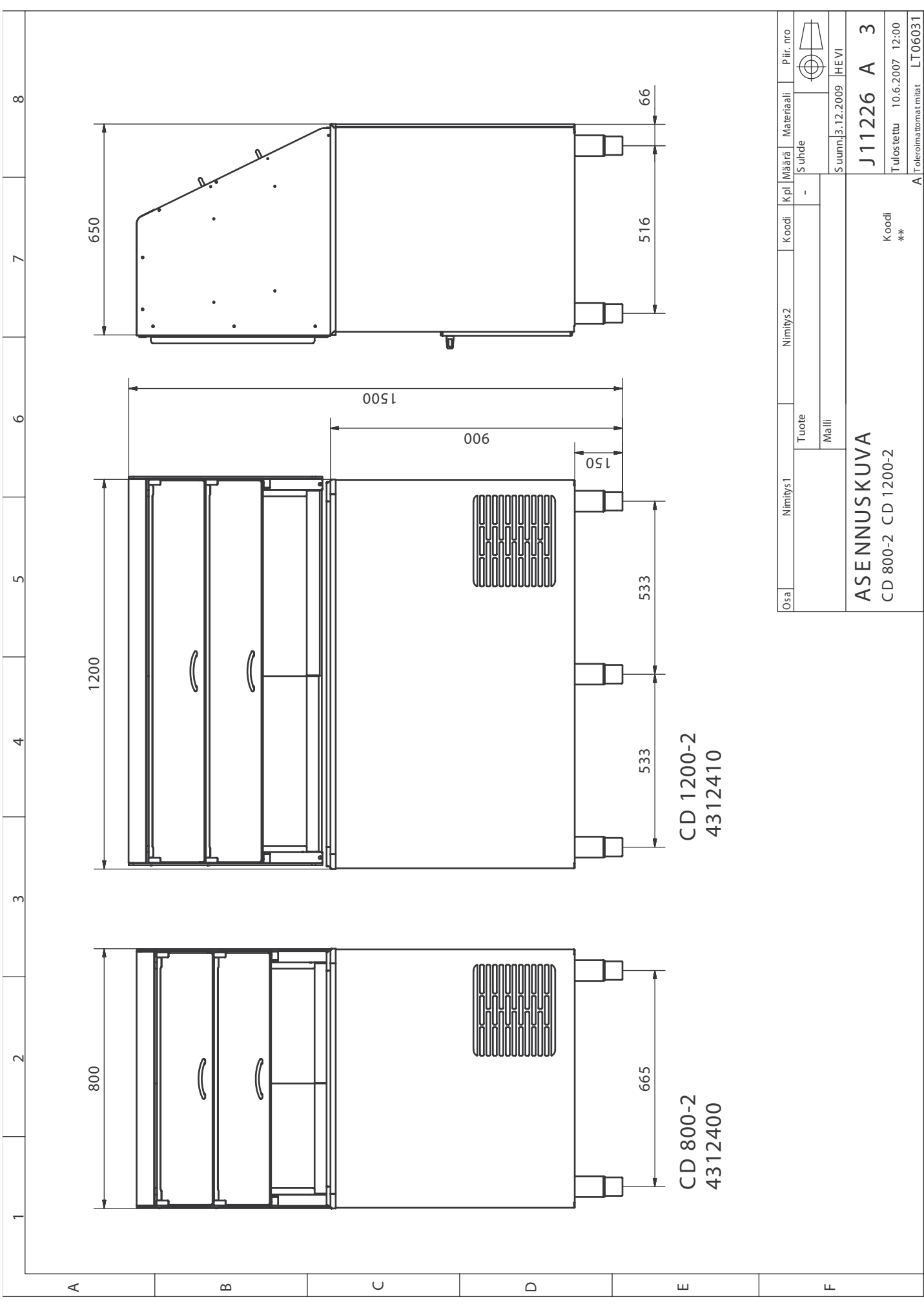
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**HACKMAN**

PIIRIKAAVIO  
WIRING DIAGRAM  
1/N/PE AC230V 16A 50-60Hz

Tuote	J_LGD08	Muhti	+	Suhde	1:1	Lehti	-
Malli	CD 800/CD 1200	Suom. 04/02/2009 DS2 rauma ja					
Liitty							
Koodi							
<b>S00331B 3</b>							
Tuostettu 25.03.2013							



800

1200

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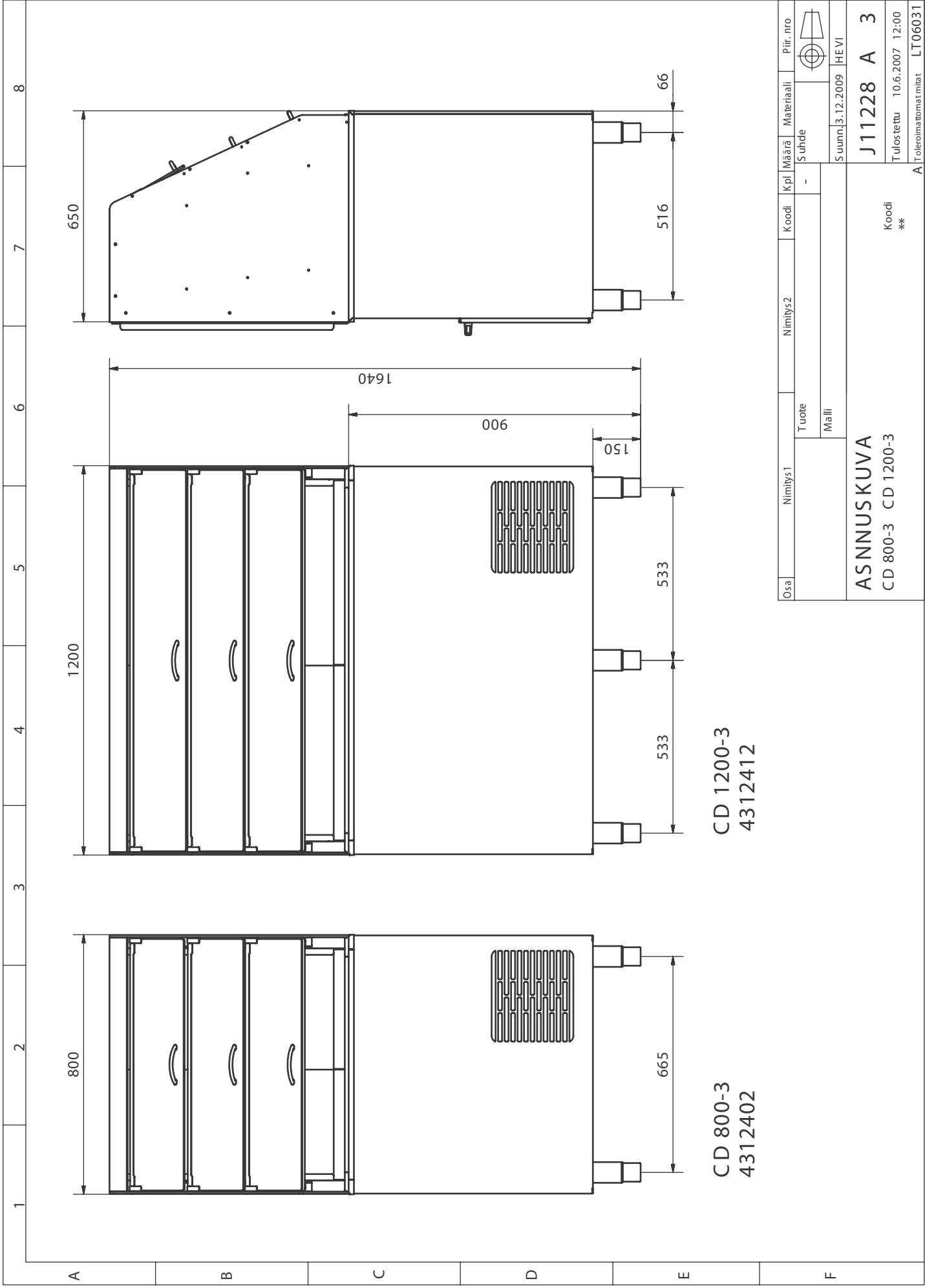
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CD 800-2  
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CD 1200-2  
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	Tuote			-	Suhde		
	Maali						
<b>ASENNUSKUVA</b> CD 800-2 CD 1200-2 Koodi **							Suunn. 3.12.2009   HEVI <b>J11226 A 3</b> Tulostettu 10.6.2007 12:00 A Toleroimatoma mitat LT06031





CD 1200-3  
4312412

CD 800-3  
4312402

<b>Määre</b>	<b>Malli</b>	<b>Tyyppi</b>	<b>Arvo</b>
Sähköliitäntä			230 V 50 Hz
Liitäntäteho	L	800, 1200	1,1 kW
Lämpötilan säätöalue			+4°C...+12°C
Ympäristöolosuhteet			max. +25°C, suht. kosteus 60%
Kylmäaine			R404A
Eristys			Polyuretaani
Ohjauyksikkö			Automaattinen
Sulatus			Automaattisulatus

800=Leveys 800 mm, 1200=Leveys 1200 mm

**METOS OY AB**  
**LOMAKE LT30024**  
Rev. PED 5.1 15.12.2009

**VAATIMUSTENMUKAISUUSVAKUUTUS**  
**FÖRSÄKRAN OM ÖVERENSSTÄMMELSE**  
**DECLARATION OF CONFORMITY**

LT30024 - Lasikot.doc

Valmistajan nimi / Tillverkarens namn / Manufacturer's name

**METOS OY AB**

Osoite / Adress / Address

**04220 KERAVALA**  
**FINLAND**

Vakuuttaa, että seuraava tuote / Försäkrar att följande produkt / Declare that the following product

Nimi, tyyppi tai malli / Namn, typ eller modell / Name, type or model

**Halo lasikot / montrar / displays**  
**CD lasikot / montrar / displays**

on seuraavien direktiivien asiaankuuluvien säännösten mukainen / överensstämmer med tillämpliga bestämmelser i följande direktiv / is in conformity with the relevant provisions of the following directives

**MD 2006/95/EC, LVD 2006/95/EC, EMC 2004/108/EC, RoHS 2002/95/EC, WEEE 2002/96/EC**

ja lisäksi vakuuttaa, että seuraavia yhdenmukaistettuja standardeja (tai niiden osia/kohtia) on sovellettu / och försäkrar dessutom att följande harmoniserade standarder (eller delar/paragrafer) har använts / and furthermore declares that the following harmonised standards (or parts/clauses) have been used

**SFS-EN 61000-6-3: 2002**  
**SFS-EN 61000-6-1: 2002**  
**SFS-EN ISO 12100-1: 2003**  
**SFS-EN ISO 12100-2: 2003**

ja lisäksi vakuuttaa, että seuraavia muita standardeja (tai niiden osia/kohtia) on sovellettu / och försäkrar dessutom att följande andra standarder (eller delar/paragrafer) har använts / and furthermore we declare that the following other standards (or parts/clauses) have been used

**SFS-EN 60335-1: 2002**  
**SFS-EN 60204-1: 2006**

Tuotteen suunnitelmatarkeustodistus ja laatu järjestelmää valvova ilmoitettu laitos (vain painelaitteet)  
Produktens konstruktionskontrollcertifikat och anmält organ, som övervakar kvalitetssystemet (endast tryckkärl)  
Product design examination certificate and the notified body supervising the quality system (only pressure vessels)

Alla mainittu henkilö on valtuutettu kokoamaan teknisen tiedoston / Nedan nämnda person är bemyndigad att sammanställa den tekniska dokumentfilen / The person mentioned below is authorized to compile the technical file

**Antti Mylly** Metos Oy Ab, Ahjonkaarre, 04220 Kerava, Finland

Antopaikka ja päivä / Utfärdad på ort och datum / Place and date of issue

**KERAVALA** 1.11.2010

Valtuutetun henkilön nimi ja asema / Bemyndigad persons namn och befattning / Name and title of authorized person



**Pekka Mönkkönen – Director of Business Unit**



**Jani Paatola - Manager**

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