

# metos

INDUCTION RANGE

ARDOX I TYPE: I2, I4, I6

## Installation and Operation Manual



14.10.2013 Rev 2.1

4210010, 4210011, 4210012

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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. The connection of the appliance to the electric and water supply must be carried out by qualified persons only.

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.

The manufacturer does not take responsibility for any damages in case the operation instructions and warnings contained in this manual are neglected.

### 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 damage 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 relationship 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.

## 2. Safety

### 2.1. Safe use of the appliance

Because the range is a heated appliance that has hot surfaces during normal use, the following warnings and instructions must be followed in order to avoid burns.

The cooking zones are warmed up from the heat been transferred from cookware.

For safe handling of cookware on the cooking top, always use heat protective gloves.

To avoid overheating of cookware by means of evaporating of its content, do not leave cookware without supervision.

Turn the control knob down to "0" position if cookware is taken away from cooking zone for a while.

Do not place aluminium foil and plastic vessels on the hot hob surface.

Metallic objects such as kitchen utensils, cutlery etc. shall not be placed on hob surface within induction heating zones since they could get hot.

Take care when operating induction heating source, as rings, watches and similar objects worn by user could get hot when in close proximity to the hob surface.

Users with heart pacemakers should consult their doctor whether they are safe near induction range or not.

### 2.2. Safety instructions in case of malfunction



If the surface of ceramic hob is cracked, immediately disconnect the appliance from the mains.

### 2.3. Disposal of the appliance

The destroying of the appliance when its economical lifetime has been reached may be harmful to environment if not properly handled. Utilization of materials that are reusable is best done by professional personnel specialized in recycling.

## 3. Functional description

### 3.1. General

The Ardox I range is an appliance used for heating cooking utensils by induction.

### 3.2. Application of the appliance

The appliance is intended for preparing various kinds of foodstuffs using cookware. The range can be used for cooking, keeping warm, flambéing, roasting etc. of food.

#### 3.2.1. Prohibited use



Use of the appliance for any other purposes than that of mentioned above is prohibited.

### 3.3. Construction and operating principle

Depending on the model, ceramic hob surface of Ardox I consists of two, four or six induction heating zones. Cooking zones are marked on glass ceramic surface by a square shape.

Cookware placed on ceramic hob surface within induction heating zones are heated up by means of electromagnetic field generated by an induction coil. Electromagnetic field influences only the bottom of cookware. Energy transfer stops immediately if cookware is taken away from hob surface and starts again when cookware has returned back to hob surface.

#### 3.3.1. Operating switches and indicator lights

Each cooking zone is operated by means of stepless power regulator.

Above each power regulator there is a green LED indicator. Steady light of indicator means that power regulator is on and power is transferred to corresponding heating zone.

To generate power for induction cooking zone, put first cookware within cooking zone and turn corresponding regulator from "0" position to any position between "1" and "12". The maximum power is when the regulator is in "12" position and the minimum power when the regulator is in "1" position.

## 4. Operation instructions

### 4.1. Before using the appliance

#### 4.1.1. Selecting cookware for ceramic hobs with induction heating

Cookware made from stainless steel with compound multi layer base. The magnetic induction base functions as a part of the hob's magnetic field. Enamelled steel, cast iron and enamelled cast iron cookware is also suitable for induction hobs.

As a rule, all the cookware suitable for induction hobs can be recognised by the mark "induction" on the base of cookware. If there is no mark on a base, it is recommended to use a permanent magnet. The magnet must stick to the bottom of cookware.



The cooking zone with pots diameter of over 120mm will be activated, but will not give the maximum power (3,5kW). Maximum power will be reached with pot diameter 200mm



Cookware made of copper, aluminium, ceramic and glass is not suitable for use on ceramic hobs with induction heating.



Cookware made of stainless steel with base which does not attract a permanent magnet is not suitable for use on ceramic hobs with induction heating.

To get the best benefit from the range as well as from cookware please observe the following rules:

- Always lift cookware, do not drag
- Use good quality flat-based cookware
- Wait for pans to cool before put it in cold water
- Always ensure cookware has clean, dry base before use
- Ensure cookware handles are positioned safely and away from heat sources
- Always use lids except when frying
- Ensure cookware matches the size of cooking zone where possible
- Remember good quality cookware retain heat well, so generally, only low or medium heat is necessary

## 4.2. Operation procedures

### 4.2.1. Using the range



Ardox I range with ceramic hobs heats up very fast, so no preheating is necessary.

Select cooking zone and place cookware within the cooking zone. Start cooking from position "12" and when boiling begins, decrease the power as needed. Cookware should be placed on the centre of heating zone, otherwise the bottom is heated unevenly.



Each induction heating zone is controlled by a temperature sensor. Overheated pans (hot oil, empty pans) can be detected and energy transfer will be stopped. The induction zones must be restarted after they have cooled down.



If there is a long interruption in the electricity supply, all power switches of the range should be set to "0" position. This should be done in order to prevent unexpected startup of the range when supply of electricity is restored.

## 4.3. After use

### 4.3.1. Cleaning



Use of water hose or pressure cleaning jet is strictly forbidden.



When cleaning the ceramic hob surface, remember that it is hot for a long time after use.

The cleaning of ceramic hob surface is identical to cleaning of other similar surfaces like glass. Do not use corrosive or abrasive agents such as grill- and oven-sprays, stain- and rustremovers, scouring powder and rough sponges. Cleaning is much easier if possible spill-overs are removed immediately with damp cloth.

Sugar and mixes containing much sugar must be removed immediately, because later removing is labourious and may leave permanent marks.

Burned spillovers are easy to remove with a scraper especially intended for cleaning ceramic hob surfaces.

If plastic or aluminium foils melt on the ceramic hob surface, they can be also removed with a scraper. For cleaning always prefer chemical cleaning methods rather than mechanical rubbing. Use a slightly alkaline detergent (pH 8-10) diluted in water according to instructions when cleaning the surfaces of the range.

The grease filter protecting air intake in the bottom of the unit must be cleaned regularly. A clogged grease filter can cause overheating, power reduction or even malfunction.

### 4.3.2. Other service measures



The appliance does not include any user service able parts inside. Service must be done by authorised service personnel only.



## 5. Installation

### 5.1. General

The installation of this appliance must be carried out in accordance with the manufacturer's instructions and in compliance with local rules and regulations. These instructions must be used together with the installation drawing of the appliance.



The connection of the appliance to the electrical and water supply must be carried out by qualified persons only.

### 5.2. Ambient conditions

This appliance is intended to be used in the following ambient conditions:

Max.ambient temperature:  
Storage >-20° C...+70° C  
Function >+5° C...+40° C

Max. relative humidity of air:  
Storage >10%...90%  
Function >30%...90%

### 5.3. Storage, transporting and unpacking the range



It is recommended to keep appliance in its own package before the actual installation begins. It protects appliance from outer damages. If it is necessary to unpack appliance, possible lifting must be done from the bottom frame using suitable spacers of wood.

In order to avoid damages it is not allowed to use ceramic hob surface as a workbench during installation.

### 5.4. Positioning the range



This appliance is equipped with its own internal cooling system. Air inlet is located on the bottom of stainless steel enclosure (see installation drawing). Air outlet openings are on the rear side of enclosure. Temperature of intake air should be below 40° C.

This appliance can not be placed direct near ovens or other heating appliances where ambient temperature may reach over 40°C.

An optimum air intake must not be reduced by the installation. Pay attention that air ventilation is available. The grease filter must always be in place when the range is used

When the range is in the right place, it must be levelled in horizontal position by turning adjustable legs. After that, the rear legs must be fixed to the floor by means of flanges and anchor bolts (see installation drawing).

## 5.5. Electrical connections

Check and ensure that supply voltage is the same as the voltage given on the rating plate of the appliance. The electrical connections must satisfy local house installation regulations. The valid national and local regulations of the electricity-supply inspection must be observed.

To make eventual future service easier and increase safety, a mains switch must be installed near the appliance. This switch must disconnect the appliance completely from an electrical supply network.

The feed-through for the supply cable is located at the bottom of the range in the right front corner. To connect the supply cable to the terminal, do the following:

- Remove plastic knobs from control panel
- Remove two screws which fix control panel and stainless steel enclosure
- Open ceramic hob and fix it by the fixing rod. The fixing rod is on the left side inside the enclosure
- Pull control panel out approx. 200...250 mm
- Connect supply cable to the terminal. The terminal is on the right side inside the enclosure
- To assemble appliance, carry out operations described above in opposite order

Before close the ceramic hob, check that no wires inside the range get jammed.

## 5.6. Test-run

Please read the user manual before testing the appliance. After connecting the supply cable, check the function of the range.

Use cookware suitable for induction cooking. Diameter of the bottom of cookware should be at least 120 mm.

- Put some water inside cookware and place the latter in the centre of selected cooking zone
- Turn corresponding knob from "0" position to any position between "1" and "12." Green indicator LED above the knob will be active and water will be heated
- Take cookware away from cooking zone, indicator light will be flashing
- Place cookware back on the heating area, indicator light will be active again and heating process will be continued
- Turn the knob to "0" position. Heating will be stopped and indicator light will be off

## 6. Troubleshooting

If the appliance fails to work, check to ensure that

- it has been used according to instructions
- all removable parts are in place
- the main switch (usually on a wall or in the immediate vicinity of the appliance) is in ON position
- the circuit breakers (fuses) have not blown on the fuse board. Ask a qualified person to check the circuit breakers.

Abnormal function of induction heating unit can be recognised by means of flashing signals of green LED indicator. The indicator lamp flashes with an interval of 0,6 sec. The number of short flashes has to be counted. Information on possible errors you may find in the table below.

Number of Flashes	Possible Error	Remarks
Steady light	No fault, normal operation	
01	No coil current, hardware overcurrent	3)
02	High coil current, software overcurrent	3)
03	Cooling plate temperature	1)
04	Cooking plate temperature, overheating	1)
05	Power switch line break	1)
06	Excessive inside temperature	2)
07	Sensing element of cooking platform, short circuit	1)
08		
09		
10		
11		
12	Power reduction, cooling plate temperature	2)
13	Power reduction, cooking platform temperature	2)
14	Power reduction caused by bad pan material	2)

1) The induction unit stops working immediately.

2) The induction unit is still working with reduced power cycles.

3) Bad cookware material

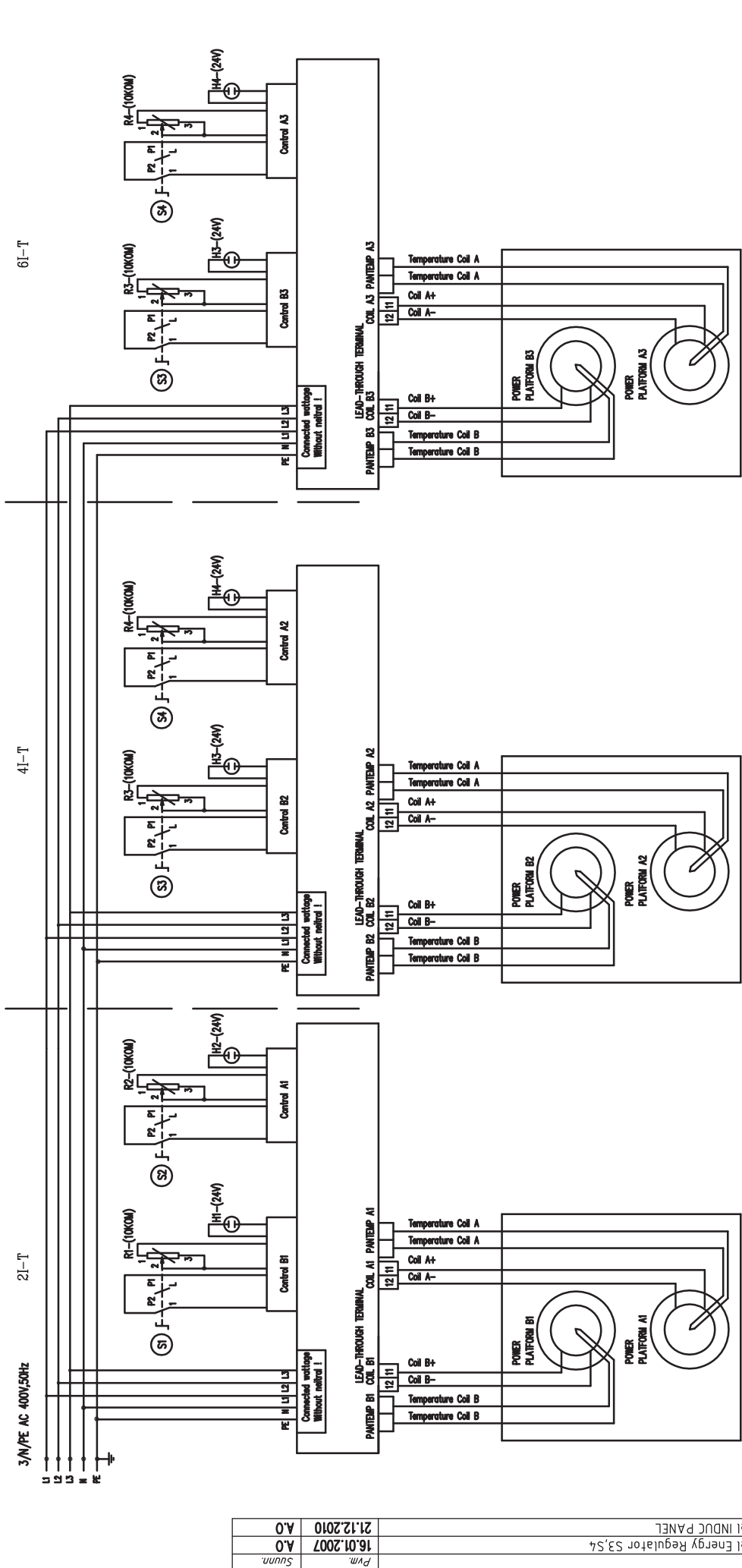
## **7. Wiring and Installation drawings**

Main and control circuit wiring diagram T00441B3

Installation drawing T00440A3

Installation drawing T00442A3

Installation drawing T00443A3



LITÄNTÄTIEDOT/CONNECTION INFORMATION  
 Virta- ja tehötiedot  
 Supply current- and power

VERKKO / ELECTRIC SUPPLY	2I-T		4I-T		6I-T	
	P/kW	I/A	P/kW	I/A	P/kW	I/A
3/PE AC400V 50Hz/60Hz	7,0	16	14,0	32	21,0	48

Pää- ja ohjauvirtapiiriin kytkentäkaavio  
 Main- and control circuit diagram  
 3/N/PE AC400V,50Hz

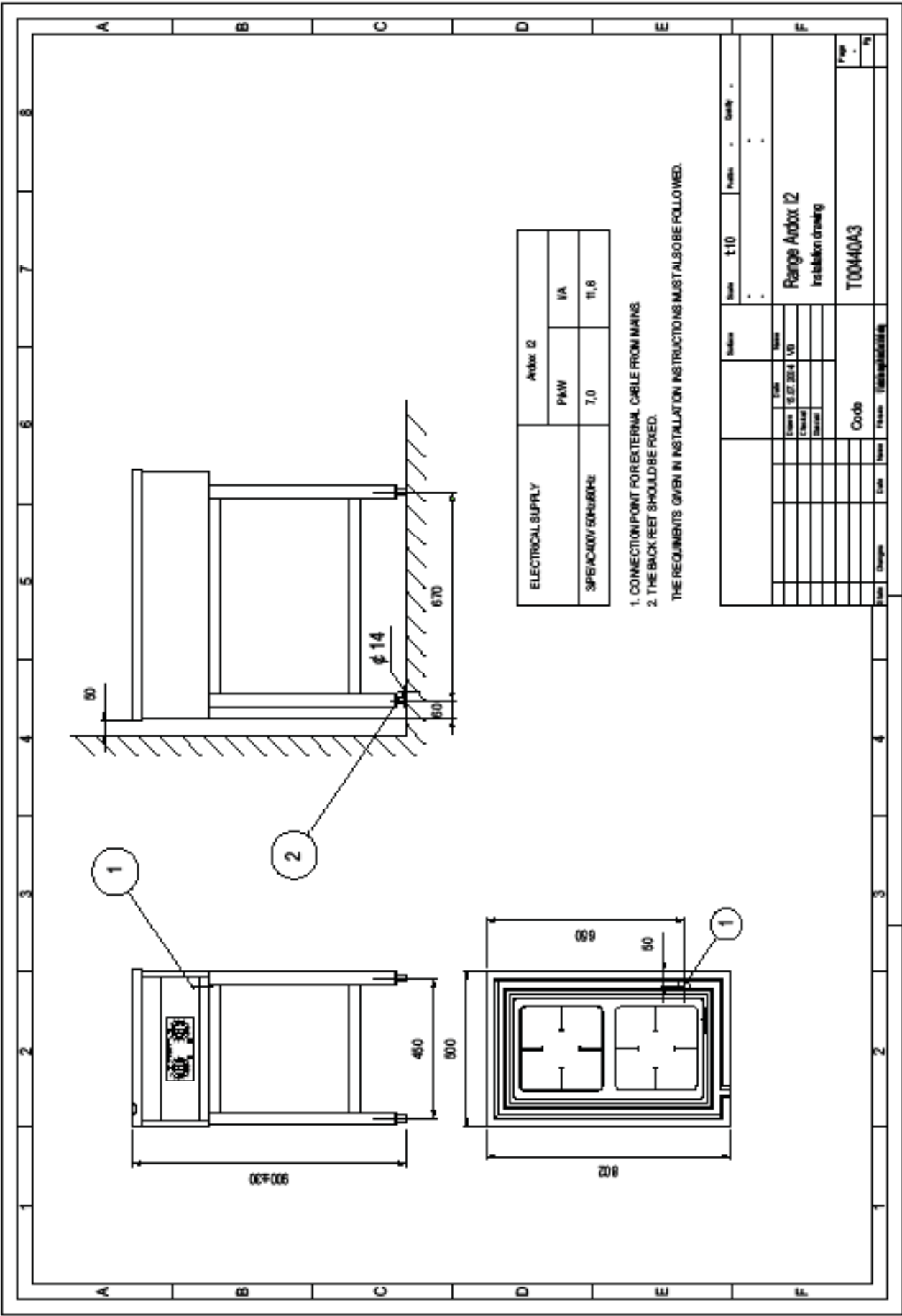
ARDOX 2I-T, 4I-T, 6I-T

Teh. DESING	21.12.2010/A.O
Teh. CHKD	
Hv. APPR	

HACKMAN-METOS

Rev	Mutuos	
B	Change of model Energy Regulator S3,S4	16.01.2007 A.O
C	Change of model INDUC PANEL	21.12.2010 A.O
Summ.		

Typ nro	T00441B3
Tiedosto FILE	T00441B3
Lehti SHEET	1/1
Proj.nro DKG:R	T00441B3
REV	

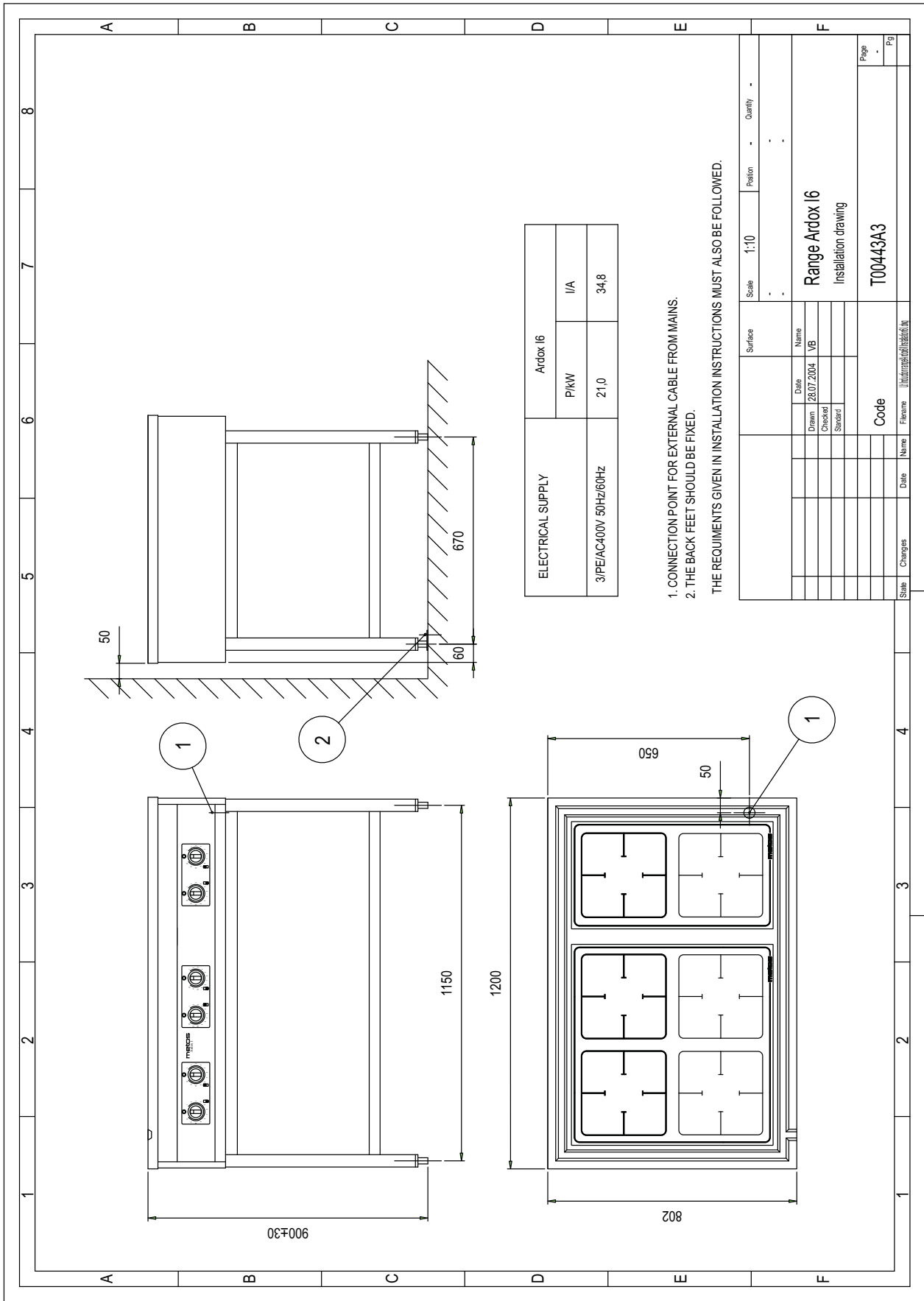


ELECTRICAL SUPPLY	Anbox I2	
	PMW	VA
SPECIACAOV 50Hz/60Hz	7,0	11,6

1. CONNECTION POINT FOR EXTERNAL CABLE FROM MAINS.
  2. THE BACK FEET SHOULD BE FIRED.
- THE REQUIREMENTS GIVEN IN INSTALLATION INSTRUCTIONS MUST ALSO BE FOLLOWED.

Scale	1:10	Index		Notes		Quantity																									
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Page				1																											
Total				1																											







## 8. Technical specifications

Item	Model	Type	Specification
Outer dimensions WxDxH	Ardox I	12	500x802x900 mm
Outer dimensions WxDxH	Ardox I	14	802x802x900 mm
Outer dimensions WxDxH	Ardox I	16	1200x802x900 mm
Ceramic cooking hob dimensions WxD	Ardox I	12	347x650 mm
Ceramic cooking hob dimensions WxD	Ardox I	14	650x650 mm
Ceramic cooking hob dimensions WxD	Ardox I	16	347x650 mm
Cooking zones	Ardox I	12	2x3,5Kw; 2x270x270 mm
Cooking zones	Ardox I	14	4x3,5Kw; 4x270x270 mm
Cooking zones	Ardox I	16	6x3,5Kw; 6x270x270 mm
Power regulation	Ardox I		Stepless energy regulator, indicator lamp for each zone
Material	Ardox I		Ceramic cooking hob. All other surfaces of stainless steel
Weight with package	Ardox I	12	Approx. 80 kg
Weight with package	Ardox I	14	Approx. 95 kg
Weight with package	Ardox I	16	Approx. 140 kg
Weight without package	Ardox I	12	Approx. 50 kg
Weight without package	Ardox I	14	Approx. 60 kg
Weight without package	Ardox I	16	Approx. 85 kg
Package dimensions WxDxH	Ardox I	12	560x920x1050 mm
Package dimensions WxDxH	Ardox I	14	860x920x1050 mm
Package dimensions WxDxH	Ardox I	16	1260x920x1050 mm
Electrical connection	Ardox I		See installation drawings
Operating conditions	Ardox I		> +5°C...40°C, Max.relative humidity of air > 30%...90%

I=ARDOX I

I2=I2, I4=I4, I6=I6

**METOS AS**

**VAATIMUSTENMUKAISUUSVAKUUTUS  
FÖRSÄKRAN OM ÖVERENSSTÄMMELSE  
DECLARATION OF CONFORMITY**

Valmistajan nimi / Tillverkarens namn / Manufacturer's name

METOS AS

Osoite / Adress / Address

VALUKOJA 16  
11415 TALLINN  
ESTONIA

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

Liesi / Spis / Range ARDOX I -sarja / serien / series  
Mallit / Modeller / Models :  
I2, I4, I6, IC4

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 2006/42/EC, LVD 2006/95/EC, EMC 2004/108/EC, RoHS 2002/95/EC, WEEE2002/96/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

EN ISO 12100-1, EN ISO 12100-2

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

EN 60204-1, EN 60335-1, EN 60335-2-36, EN 60335-2-42

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

Valeri Bogoslovstev

Metos AS, Valukoja 16, 11415 Tallinn, Estonia

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

Tallinn 01.09.2010

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

  
Andres Kirstein – Managing Director

  
Jaan Muru – Production Manager

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