

Heating Unit – PRO Series



Powerful 3-phase heating unit for professional, heavy-duty use. The tube is composed of nickel alloy INCOLOY 825 (EN 2.4858) and is mounted on a G 1½” brass threaded cap. This superalloy is particularly resistant to corrosion and is suitable for use in areas with poor water quality. Features a cast-pressed aluminum box with stainless-steel cable gland and waterproof electric connections, providing protection against UV radiation, overheating and breakage making it suitable for outdoor use. The unit includes a 3-phase thermostat and a 3-phase safety cut-out.

PRODUCT CODE	kW – 3x400 V	Length (mm)
21110305	6	L500
21110269	9	L650
21110228	12	L860
21110229	16	L860
21110307	20	L1150
21110230	20	L1330

WARNING: The product must be used in conjunction with a magnesium anode to ensure cathodic protection. Alternatively, product failure is expected shortly after its installation.

This leaflet has been drawn up for information purposes only and is not binding to our company as to the appearance, the technical specifications of the product or in any other way. For specified information please contact our company: info@drill.gr

WARNING – SAFETY INSTRUCTIONS – PLEASE READ CAREFULLY

INSTALLATION MANUAL FOR MODELS 21110305, 21110269, 21110228, 21110230, 21110307.

Installation of this product is only allowed by qualified personnel properly licensed for electrical installations and plumbing and only according to the valid regulations and directives.

Not every immersion heater is suitable for any hot water cylinder. Only the model of immersion heater advised by the manufacturer of the hot water cylinder is possible to use.

The immersion heater must not be modified IN ANY WAY and the control devices incorporated in the immersion heater must not be bypassed for any reason. For any question or clarification please contact your supplier of the immersion heater or contact DRALL ELLINIKI (info@drall.gr).

This product is suitable only for heating tap water up to 80 °C. It is not suitable for any other use.

The thermostat is to be regulated according to the instructions of the hot water cylinder manufacturer. Moreover, it is advised not to exceed 60 °C. In this way prolonged life of the immersion heater and of the hot water cylinder is anticipated.

Do not cover the immersion heater, there is danger of fire.

This immersion heater is suitable only for permanent horizontal installation in hot water cylinders with insulation thickness of maximum 10 cm.

Before the immersion heater is switched on for the first time, the installer must make sure that the immersion heater is fully immersed in water and the hot water cylinder is full of water.

Even if one of the above instructions are not precisely followed, there is danger of fire, electric shock, injure of persons and damage of property.

04100020 07/2022 DRALL ELLINIKI A.E.

PLEASE READ CAREFULLY

ADDITIONAL INSTRUCTIONS FOR THE 20 kW UNITS

The 20 kW is a powerful unit and special attention is needed to absorb its power safely and efficiently. The installer must consider the following:

- The metal enclosure is getting hot during operation. All flammable materials must be kept at a safe distance to avoid ignition. The insulation in most of the water tanks is flammable. Therefore, a minimum distance of at least 50 cm from the heating unit is necessary.
- The presence of water always must be ensured. In the case of dry energizing, the heating unit will increase its temperature sharply at such high levels that can destroy the thermostat and its safety sensor. If for any reason the heating unit is dry energized, it must be replaced even if after filling the tank it looks like it operates normally.
- It is suggested the water tank to be placed in a building as low as possible, so that the water consumption points are at a higher level and the cold-water pressure is permanent and as high as possible.
- The heating unit must be placed horizontally at the bottom only of the water tank. If the unit is left energized for prolonged hours the thermostat setting should read 45 – 50 °C. Otherwise, the calc formation will be excessive and will block the energy transfer of the unit.
- In case the heating unit will be used as a primary energy supply or if the ratio power/volume is above 10 kW/1000 liters, it is strongly suggested to use our STEP series of units for smoother energy transfer.
- For the 20 kW units only applies the connection diagram 04210061.

1 2 3 4

A

A

B

B

C

C

D

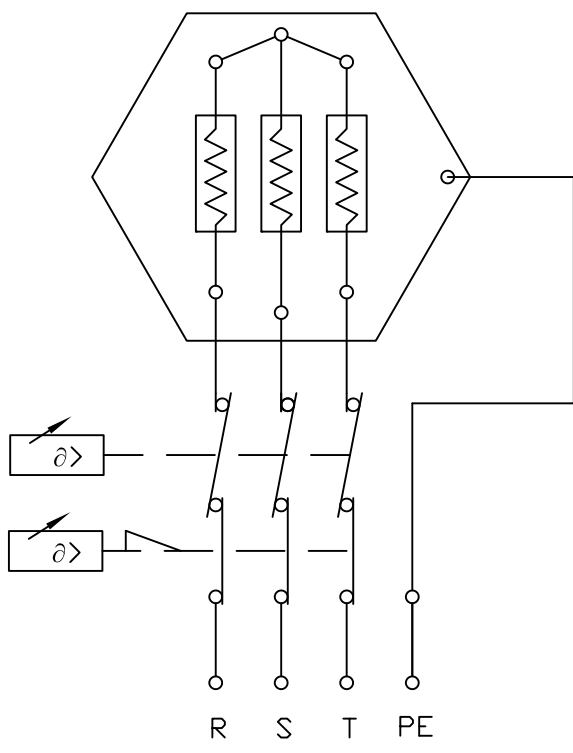
D

E

E

F

F



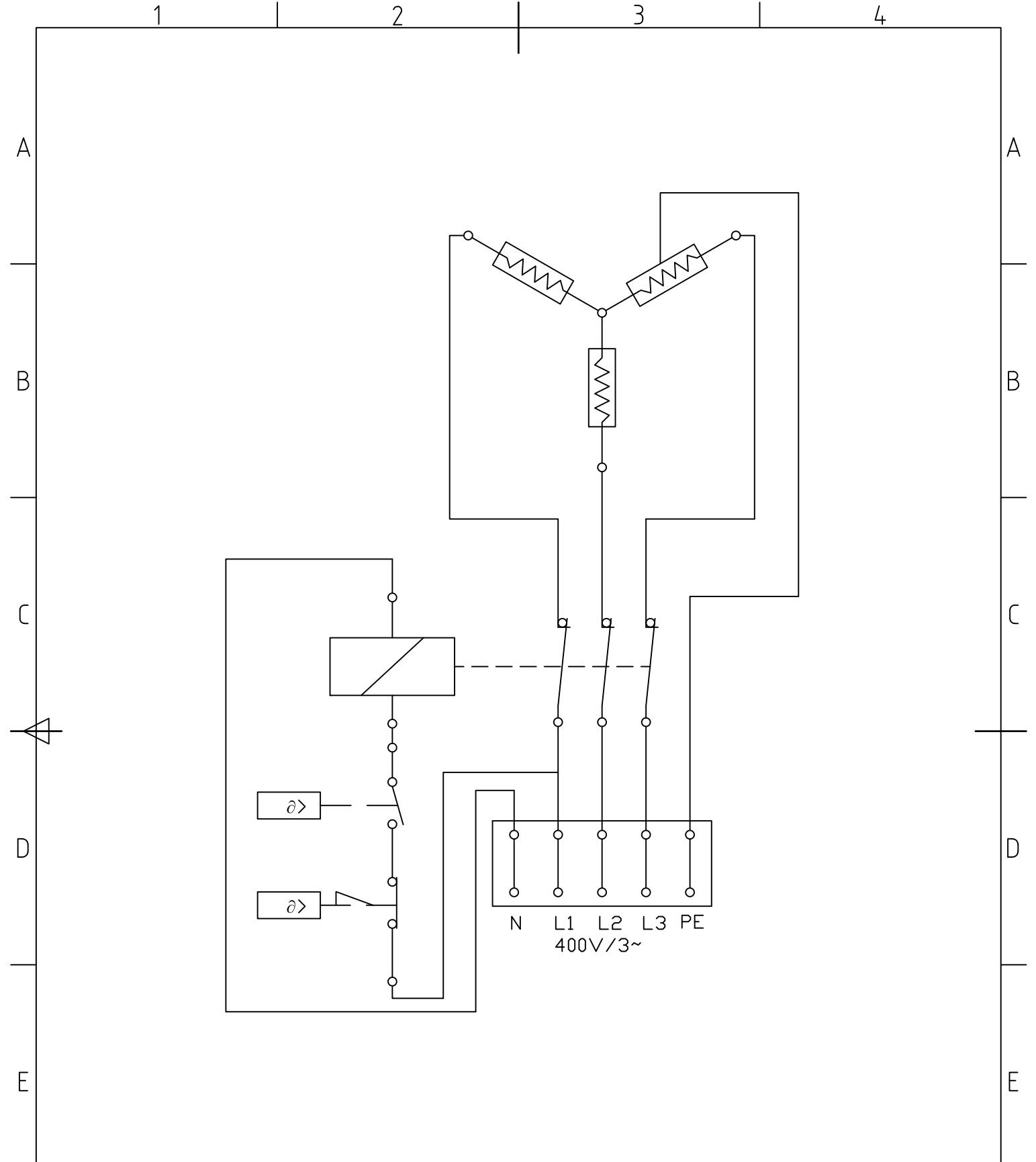
AC 400V/3~ PE

DRUID

FILE NAME 04210052.dwg	FSCM NO	SHEET	SCALE
SIZE A4			
DRAWN 27/08/2018 D4			
CHECK 27/08/2018 D4			
APPR. 27/08/2018 D4			
ISSUED 27/08/2018 D4			
REV A1			
CONTRACT NO	CONNECTION DIAGRAM 3-PHASE IMMERSION HEATERS		
	DWG NO 04210052		

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FILE NAME 04210061.dwg	FSCM NO	SHEET	SCALE 1:1
SIZE A4	<h2 style="margin: 0;">CONNECTION DIAGRAM</h2> <h3 style="margin: 0;">3-PHASE IMMERSION HEATERS</h3>		
DRAWN 22/04/2016 D4			
CHECK 24/02/2016 D4			
APPR. 04/03/2021 D4			
ISSUED 24/02/2016 D4			
REV A0	DWG NO 04210061		
CONTRACT NO			

GENERAL CONDITIONS FOR GUARANTEEING DRALL HEATING ELEMENTS

Any **DRALL** heating element is subject to strict quality controls according to the quality standards set **by DRALL ELLINIKI A.E.** and is accompanied by a guarantee of good operation. There is a warranty period of 24 months for products bought for private use, 12 months for professional use and not more than 48 months from the date of their production. Within this period, the liability of **DRALL ELLINIKI A.E.** is limited to the repair and/or free replacement of defective parts of its products in case of a manufacturing error or hardware failure. The warranty does not cover the charges and risks associated to the transportation of the product for repair to the reseller or **DRALL ELLINIKI A.E.**, as well as to the installation of the product and any other costs indirectly or directly related to its repair.

If the product is not working properly during the warranty period, the authorized service of **DRALL ELLINIKI A.E.** will repair the product for the purpose of the use for which it was manufactured, without charging for spare parts or work. A refund or credit issuance is made only in case of failure to repair or replace. The warranty is void if the defect is due (as it occurred) to misuse, negligence, and violation or incorrect adjustment. The warranty is cancelled if unauthorized persons make any changes and/or repairs.

The transportation of the products to and from repair is carried out in any case under the responsibility of the customer. The customer delivers the product for inspection accompanied by a written detailed description of the problem.

The warranty excludes:

- Heating elements that are not marked by the **DRALL** brand.
- All parts and spare parts (e.g. cable, styrofoam, tell-tales, screws, perch, etc.).
- Heating elements used for display or rent.
- Heating elements damaged by non-compliance with the manufacturer's instructions such as improper use or installation not in accordance to the written instructions of **DRALL ELLINIKI A.E.**
- Damage resulting from normal wear and use.
- Cases where an accessory that is not supplied or recommended by **DRALL ELLINIKI A.E.** causes problems or damage related to the product.
- The heating elements offered free of charge (e.g. as samples, offer free of charge, etc.).
- Damage from irregular operation or use of the heating element other than what is prescribed.
- It is particularly noted that no damage is covered by corrosion of the heating element's pipe.
- Heating elements used beyond the specifications for which they were manufactured.

- Periodic checks on good operation, maintenance and repairs or change of spare parts due to normal wear.
- Misuse, excessive use, handling or operation of the product in a manner not consistent to the instructions contained in the user manuals and/or related user documents, including without limitation, improper storage, falling, excessive vibrations.
- Insufficient packaging of the product upon return to **DRALL ELLINIKI A.E.**
- Damage caused indicatively by thunder, water or moisture, fire, war, public disorder, incorrect voltages of the power supply network, or any reason that is beyond the manufacturer's control.

The heating element must always be protected (whether it is working or not) by adequate cathodic protection. External cathodic protection devices offer no protection. Electronic devices with cathode-protective electrodes do not offer the necessary protection. It is recommended to use a magnesium anode of a proper size depending on the size and type of the container. Good water quality is also needed. This avoids the corrosion of the stainless-steel pipe of the heating element. Corrosion is not a manufacturing defect of the product, but proof of its function in an inappropriate environment. The corrosion may cause a power leak and extensive rupture of the pipe. If the water quality (hardness, conductivity, etc.) is poor in your area, it is advisable to use the heating element with a pipe of more durable alloys. Indicated below are the water quality values required and for which the end user is responsible:

- | | |
|-------------------------|----------------------------------|
| 1. pH: 7-9 | 2.Total hardness: 6-15° dH |
| 3. Chlorides: <100 mg/l | 4.Free chlorine :< 0, 5 mg/l |
| 5. Sulphites: <80 mg/l | 6.Conductivity: <650 mS/cm 25° C |

DOCUMENTS FOR THE APPROVAL OF THE GUARANTEE

The warranty must be claimed within the warranty time. In order to repair a damage covered by the warranty conditions, the buyer should contact either the company at: info@drall.gr or the dealer and present the original invoice or proof of purchase (where the heating element product code and the date of purchase are indicated). **DRALL ELLINIKI A.E.** reserves the right to refuse repair during the warranty if the information is incomplete or inaccurate after the purchase of the product by the consumer. After the warranty has been returned, the warranty time is not renewed or extended. Greek Law applies to this warranty. Other requirements, other than those mentioned in this warranty form for repair of heating elements, shall not apply.

In case of non-coverage of the heating element with a guarantee due to the exceptions as mentioned above, an offer of repair costs of the damage is offered. In case of nonacceptance of this cost by the customer, there is a minimum charge of €25 + VAT for the technical check carried out.

DRALL ELLINIKI A.E, 8 Venizelou Street, 145 65 Agios Stefanos GRECCE

Phone +30-210-8004080, fax +30-210-8004090, e-mail: info@drall.gr, www.drall.gr