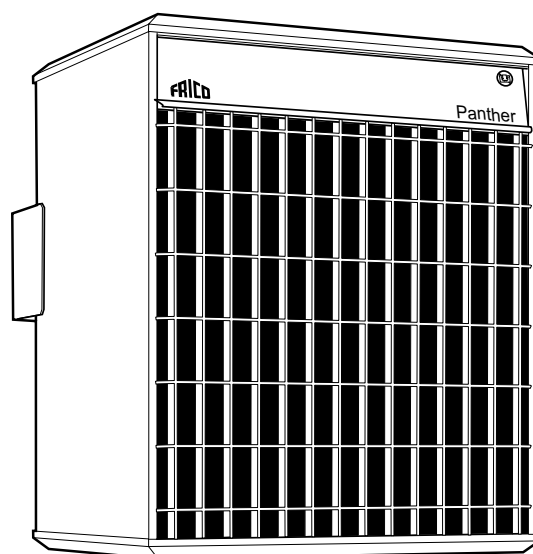


Original instructions

## Panther 20-30 kW



SE ... 11

GB ... 13

NO ... 15

FR ... 17

DE ... 19

FI ... 22

NL ... 24

RU ... 27

SE

EU-kommissionens Ecodesignförfordning (EU) 2015/1188 för rumsvärmare skiljer på användningsområden för olika installationer.

Förfordningen gäller då installationen är avsedd att skapa värmekomfort för människor som vistas i lokalen. Förfordningen gäller inte för installationer som är avsedda för värmebehov av mer teknisk art såsom grundvärme i maskinrum, värmebehov i produktionsprocesser, frostskydd, etc. Förfordningen gäller heller inte installationer i fordon, offshore eller utomhus.

Många av Fricos produkter kan användas både som rumsvärmare (definierade enligt (EU) 2015/1188) och som värmare för tekniska behov. **Vid installationstillfället är det upp till ansvarig installatör att bedöma om Ecodesignförfordningen är applicerbar eller inte.** Regleringslösningar för installationer som inte omfattas av Ecodesignförfordningen redovisas i separat tabell.

GB

Ecodesign Regulation (EU) 2015/1188 concerning local space heaters does not apply to all application areas.

The Regulation applies when an installation is intended to provide thermal comfort for people in the premises. The Regulation does not apply to heating installations of a more technical nature e.g. in engineering/utility rooms, in production processes, frost protection, etc. The Regulation also does not apply to installations in vehicles, offshore or outdoors.

Many of Frico's products can be used as both local space heaters (as defined in (EU) 2015/1188) and for technical heating purposes. **It is up to the installer responsible for the installation to assess whether the Ecodesign Regulation is applicable or not.** Control solutions for installations not covered by the Ecodesign Regulation are listed in a separate table.

NO

Økodesigndirektivet (EU) 2015/1188 som gjelder varmeovner, gjelder ikke alle bruksområder.

Direktivet gjelder når en installasjon har som formål å skape en komfortabel temperatur for personene på stedet. Direktivet gjelder ikke til oppvarmingsinstallasjoner av det mer tekniske slaget, som i produktutviklingsrom, bruksområder, i produksjonsprosesser, frostbeskyttelse etc. Direktivet gjelder heller ikke installasjoner som befinner seg i kjøretøy, offshore eller utendørs.

Mange av Fricos produkter kan brukes både som varmeovner (som definert i 2015/1188) og til formål innen teknisk oppvarming. **Det er opp til installatøren som er ansvarlig for installasjonen å vurdere hvorvidt Økodesigndirektivet er gjeldende eller ikke.** Reguleringsløsninger for installasjoner som ikke dekkes av Økodesigndirektivet står oppført i en separat tabell

FR

La réglementation relative à l'écoconception (UE) 2015/1188 concernant les dispositifs de chauffage décentralisés ne s'applique pas à tous les cas.

Elle s'applique lorsqu'une installation est destinée à assurer un confort thermique à des personnes dans les locaux. Elle ne s'applique pas au chauffage d'installations d'une nature plus technique (salles des machines/de service, processus de production, protection contre le gel, etc.). Elle ne s'applique pas non plus aux installations qui se trouvent à bord de véhicules, offshore ou en extérieur.

De nombreux produits Frico peuvent être utilisés comme des dispositifs de chauffage décentralisés (tel que défini dans la réglementation (UE) 2015/1188) et à des fins de chauffage technique. **Il appartient à l'installateur de déterminer si la réglementation relative à l'écoconception s'applique ou non.** Les solutions de contrôle pour les installations qui ne sont pas couvertes par la réglementation relative à l'écoconception sont présentées dans un tableau distinct.

DE

Die Ökodesign-Verordnung (EU) 2015/1188 über Einzelraumheizgeräte trifft nicht auf alle Anwendungsgebiete zu.

Die Verordnung findet Anwendung, wenn eine Installation dazu bestimmt ist, innerhalb eines Raumes ein für den Menschen angenehmes Temperaturniveau zu erreichen. Die Verordnung findet keine Anwendung auf Heizungsinstallationen technischer Natur, z. B. in Technik-/Wirtschaftsräumen, bei Produktionsprozessen, für Frostschutz usw. Die Verordnung findet ebenfalls keine Anwendung bei Installationen in Fahrzeugen, Offshoreanlagen und Außenbereichen.

Viele Frico-Produkte können sowohl als Einzelraumheizgerät (gemäß Definition nach (EU) 2015/1188) als auch für technische Heizprozesse eingesetzt werden. **Der Monteur, der für die Installation verantwortlich ist, muss beurteilen, ob die Ökodesign-Verordnung anwendbar ist oder nicht.** Steuerungslösungen für Installationen, die nicht unter die Ökodesign-Verordnung fallen, sind in einer separaten Tabelle aufgelistet.

FI

Paikallisia tilalämmittimiä käsittelevä Ecodesign-asetus (EU) 2015/1188 ei kata kaikkia käyttökohteita.

Asetus on voimassa ainoastaan silloin, kun lämmittimellä halutaan parantaa tiloissa olevien ihmisten lämpömukavuutta. Asetus ei koske teknisempiä lämmitysjärjestelmiä esim. konehuoneissa/kodinhoituhuoneissa, tuotantoprosesseissa, pakkasuojausta, jne. Asetus ei myöskään koske ajoneuvoissa, laivoissa ja ulkona käytettäviä järjestelmiä.

Useita Frico-tuotteita voidaan käyttää sekä paikallisina tilalämmittiminä (asetuksen (EU) 2015/1188 mukaan) että teknisempiin lämmitystarkoituksiin. **Asentajan on määritettävä sovelletaanko asennukseen Ecodesign-asetusta vai ei.** Ohjauksratkaisut asennuksiin, joita Ecodesign-asetus ei käsittele, on lueteltu erillisessä taulukossa

NL

De ecodesignverordening (EU) 2015/1188 betreffende lokale ruimteverwarmers is niet van toepassing op alle toepassingsgebieden.

De verordening is van toepassing in het geval een installatie bedoeld is om mensen in het pand te voorzien van verwarmingscomfort. De verordening is niet van toepassing op verwarmingsinstallaties van een meer technische aard, bijv. in machinekamers/bijkeukens, in productieprocessen, ten behoeve van vorstbeveiliging, enz. De verordening is ook niet van toepassing op installaties in voertuigen, offshore of buiten.

Veel van de Frico-producten kunnen zowel gebruikt worden als lokale ruimteverwarmers (zoals gedefinieerd in (EU) 2015/1188) als ten behoeve van technische verwarmingsdoeleinden. **Het is de taak van de installateur die verantwoordelijk is voor de installatie om te bepalen of de ecodesignverordening wel of niet van toepassing is.** Regelsystemen voor installaties die niet vallen onder de ecodesignverordening worden vermeld in een aparte tabel.

RU

Положения требований Экодизайн (EU) 2015/1188 по приборам локального обогрева не охватывают все возможные области их применения.

Требования Экодизайн применяются, когда установка предназначена для обеспечения теплового комфорта людей в помещениях. Эти Требования не распространяются на установки и системы обогрева более сложного технического характера, например, при обогреве технических, служебных и производственных помещений, при организации защиты от замерзания и т. д. Также требования Экодизайн не применяются в случае установки оборудования в транспортных средствах, сооружениях на море и на открытых площадках.

Многие виды оборудования Frico могут применяться как в качестве приборов локального обогрева (как определено нормативами (EU) 2015/1188) так и в качестве составных частей обогревательных систем общественных и производственных зданий. **Ответственность за определение необходимости применения или не применения требований Экодизайн несет организация, осуществляющая монтаж данного оборудования.** Приборы управления для установок оборудования, не подпадающих под положения требований Экодизайн, перечислены в отдельной таблице.

# Panther 20/30

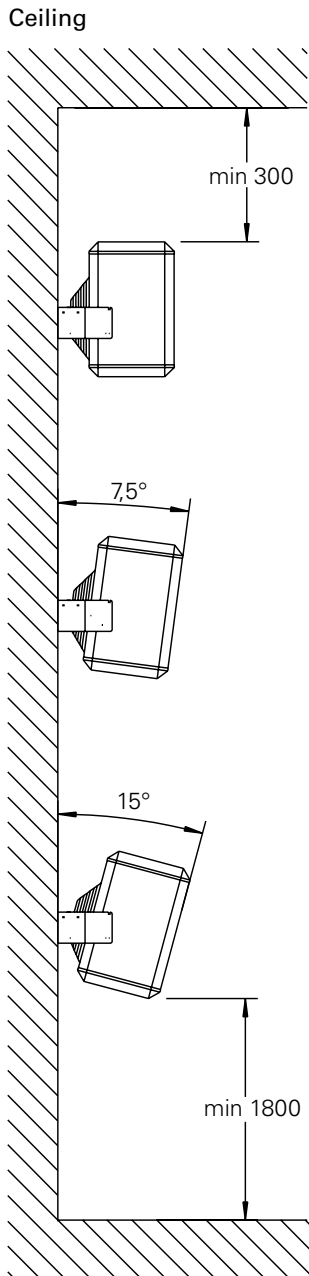
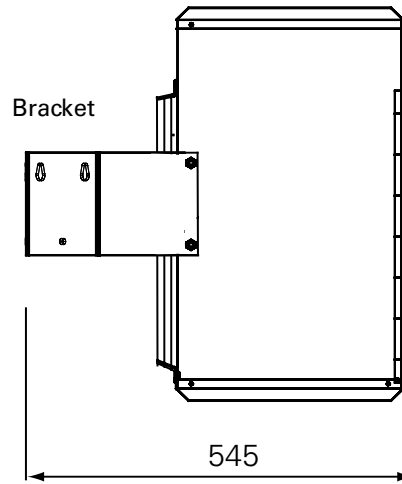
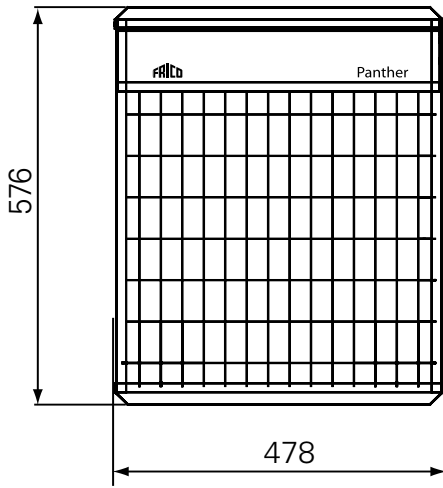


Fig. 1a: Minimum distance ceiling

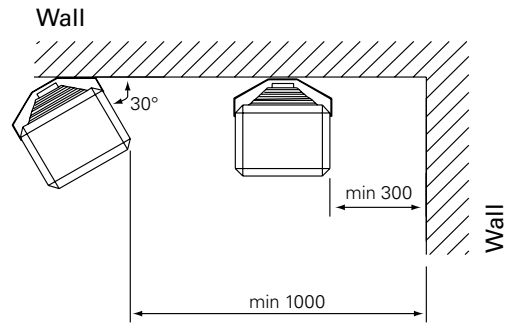


Fig. 1b: Minimum distance wall

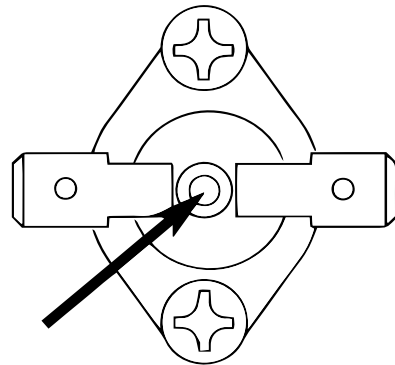


Fig. 2

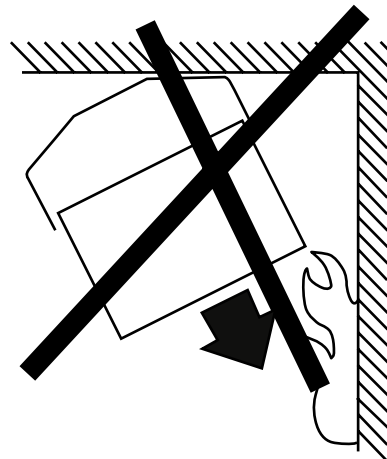
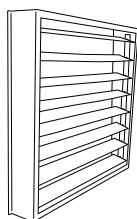


Fig. 3

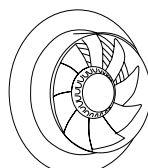
## Panther 20/30

### Accessories

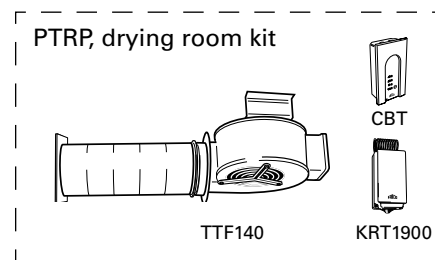
Type	HxWxD [mm]
PLR30	415x445x60
PFF30	
PTRP	



PLR30



PFF30



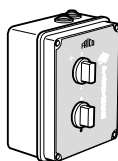
PTRP, drying room kit

TTF140

KRT1900

### Controls

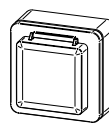
Type	HxWxD [mm]
PP20N	160x120x96
PP30N	160x120x96
TAP16R	87x87x53
TEP44	87x87x55
RTX54	82x88x25



PP20/30N



TAP16R



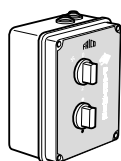
TEP44



RTX54

### Controls for installations not covered by the Ecodesign Regulation (EU) 2015/1188

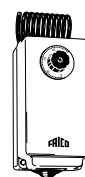
Type	HxWxD [mm]
PP20N	160x120x96
PP30N	160x120x96
KRT1900	165x57x60
KRTV19	165x57x60
PTA01	185x215x1150



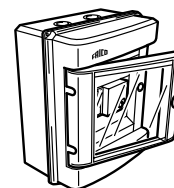
PP20/30N



KRT1900



KRTV19



PTA01

SE: Regleringar för installationer som inte omfattas av Ecodesign, förordning (EU) 2015/1188

NO: Reguleringsløsninger for installasjoner som ikke dekkes av Økodesigndirektivet (EU) 2015/1188

FR: Régulations pour les installations non couvertes par la réglementation relative à l'écoconception (UE) 2015/1188

DE: Steuerungen für Installationen, die nicht unter die Ökodesign-Verordnung (EU) 2015/1188 fallen

FI: Ohjauksratkaisut asennuksiin, joita Ecodesign-asetus (EU) 2015/1188 ei käsittele

NL: Regelaars voor installaties die niet vallen onder de ecodesignverordening (EG) 2015/1188

RU: Приборы управления для установок оборудования, не подпадающих под нормы требований Экодизайн (EU) 2015/1188

## Technical specifications

Type	Output steps [kW]	Airflow [m <sup>3</sup> /h]	Sound level* <sup>1</sup> [dB(A)]	$\Delta t$ * <sup>2</sup> [°C]	Motor [W]	Voltage [V]	Amperage [A]	HxWxD [mm]	Weight [kg]
SE20N	0/10/20	1900/2600	42/60	31/23	150	400V3N~	29,5	576x478x545	27
SE30N	0/10/20/30	1900/2600	42/60	47/34	150	400V3N~	43,9	576x478x545	31
SE305N	0/7,5/15/23 0/10/20/30	1900/2600	42/60	36/26 47/34	150	440V3~* <sup>3</sup> 500V3~	30,8 35,1	576x478x545	32
SE2023N	0/10/20	1900/2600	42/60	31/23	150	230V3~	29,5	576x478x545	27
SE3023N	0/10/20/30	1900/2600	42/60	47/34	150	230V3~	43,9	576x478x545	31

\*<sup>1</sup>) Conditions: Distance to the unit 3 metres. Directional factor: 2. Equivalent absorption area: 200 m<sup>2</sup>.

\*<sup>2</sup>)  $\Delta t$  = temperature rise of passing air at maximum heat output at lowest/highest air flow.

\*<sup>3</sup>) Can be connected to both 440V3~and 500V3~.



Protection class: IP44.

CE compliant.

\*<sup>1</sup>) Förutsättningar: Avstånd till aggregat 3 meter. Riktningfaktor: 2. Ekvivalent absorptionsarea 200 m<sup>2</sup>.

\*<sup>2</sup>)  $\Delta t$  = temperaturhöjning på genomgående luft vid maximal värmeeffekt och lägst respektive högst luftflöde.

\*<sup>3</sup>) Kan anslutas till både 440V3~och 500V3~.

Kapslingsklass: IP44.

CE-märkt.

\*<sup>1</sup>) Betingelser: Avstand til aggregat 3 meter. Retningsfaktor: 2. Ekvivalent absorpsjonsareal: 200 m<sup>2</sup>

\*<sup>2</sup>)  $\Delta t$  = temperaturøkning på gjennomstrømmende luft ved maksimal varmeeffekt og lav/høy luftmengde.

\*<sup>3</sup>) Kan kobles til både 440V3~ og 500V3~.

Kapslingsklasse: IP44.

CE-merket.

\*<sup>1</sup>) Conditions : Distance de l'appareil : 3 mètres. Facteur directionnel : 2. Surface d'absorption : 200 m<sup>2</sup>.

\*<sup>2</sup>)  $\Delta t$  = augmentation de température sous un débit d'air mini / maxi et une puissance maximale.

\*<sup>3</sup>) Peut être raccordé sur 440 V3~ et 500 V3~.

Indice de protection: IP44.

Marquage CE.

\*<sup>1</sup>) Bedingungen: Abstand zum Gerät: 3 Meter. Richtungsfaktor: 2. Entsprechende Absorptionsfläche: 200 m<sup>2</sup>.

\*<sup>2</sup>)  $\Delta t$  = Temperaturanstieg bei maximaler Heizleistung und hohem/niedrigem Volumenstrom.

\*<sup>3</sup>) Kann an 440V3~ und 500V3~ angeschlossen werden.

Schutzart: IP44.

CE-konform.

\*<sup>1</sup>) Mittausjärjestelyt: Etäisyys laitteeseen 3 m. Suuntaavuuskerroin 2. Ekvivalentti absorptioala: 200 m<sup>2</sup>.

\*<sup>2</sup>)  $\Delta t$  = läpivirtaavan ilman lämpötilan nousu suurimmalla lämpöteholla ja pienellä/suurella ilmavirralla.

\*<sup>3</sup>) Voidaan kytkeä 440V3~ ja 500V3~ jännitteeseen.

Kotelointiluokka: IP44.

CE-merkitty.

\*<sup>1</sup>) Conditioes: Afstand tot de unit 3 meter. Richtingsfactor: 2. Equivalent absorptiegebied: 200 m<sup>2</sup>.

\*<sup>2</sup>)  $\Delta t$  = Temperatuurstijging van de passerende lucht op maximale verwarming en laagste/hogste luchtstroom.

\*<sup>3</sup>) Kan worden aangesloten op 440V3~ en 500V3~.

Beschermingsklasse: IP44.

Voldoet aan CE.

\*<sup>1</sup>) Условия: Расстояние до прибора 3 метров. Фактор направленности 2. Эквивалентная площадь звукопоглощения 200м<sup>2</sup>.

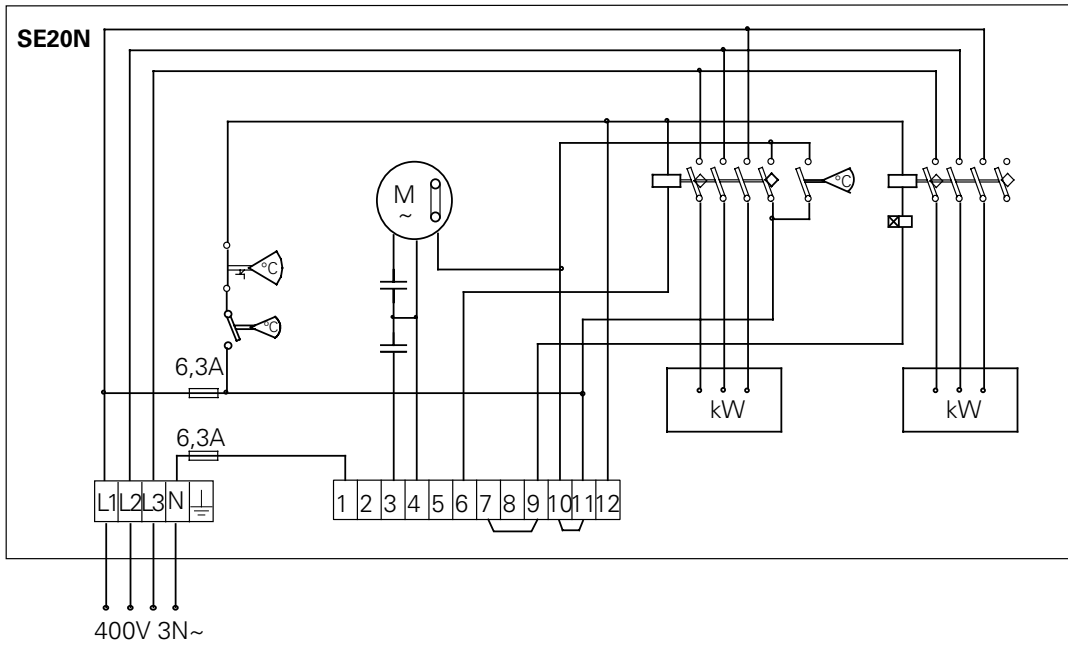
\*<sup>2</sup>)  $\Delta t$  = Увеличение температуры проходящего воздуха при полной выходной мощности и min/max расходе воздуха.

\*<sup>3</sup>) может подключаться на напряжение 440В3~ и 500В3~.

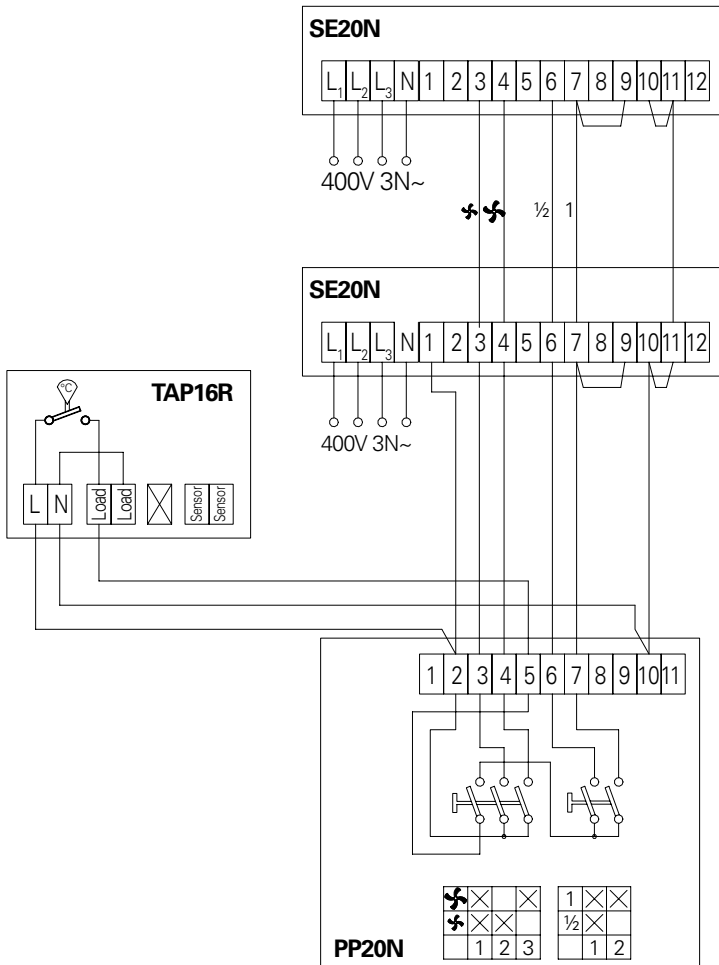
Класс защиты: IP44.

Сертифицированы ГОСТ, стандарт CE.

Panther 20



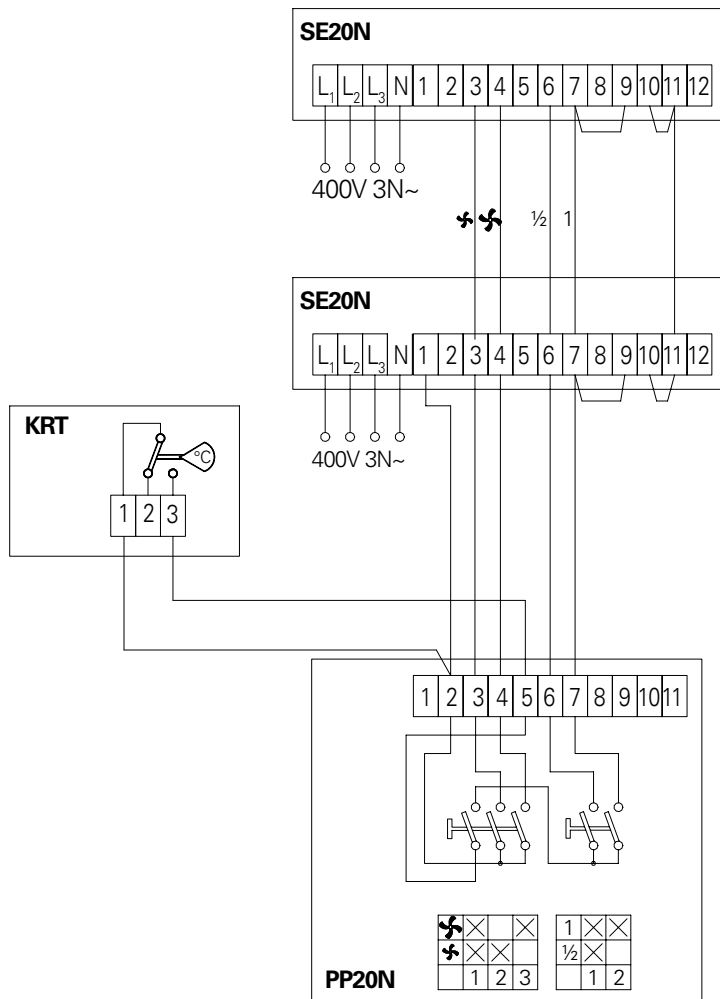
**Note! Remove the two internal fuses 6.3A in the slave units.**



Panther 20

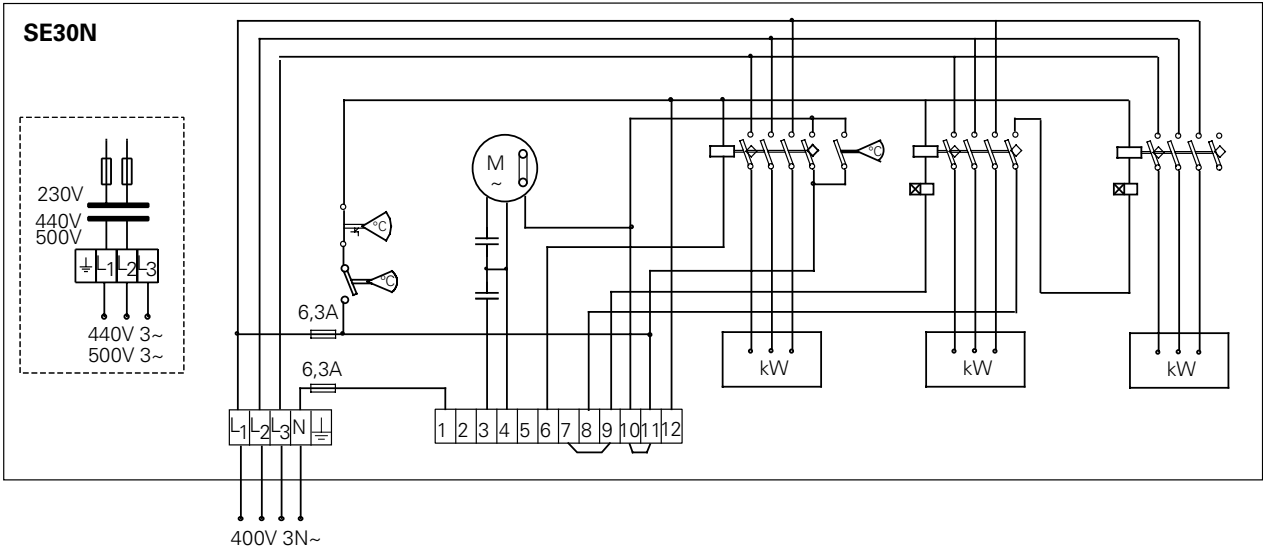
Control options for installations not covered by the Ecodesign Regulation (EU) 2015/1188

**Note! Remove the two internal fuses 6.3A in the slave units.**

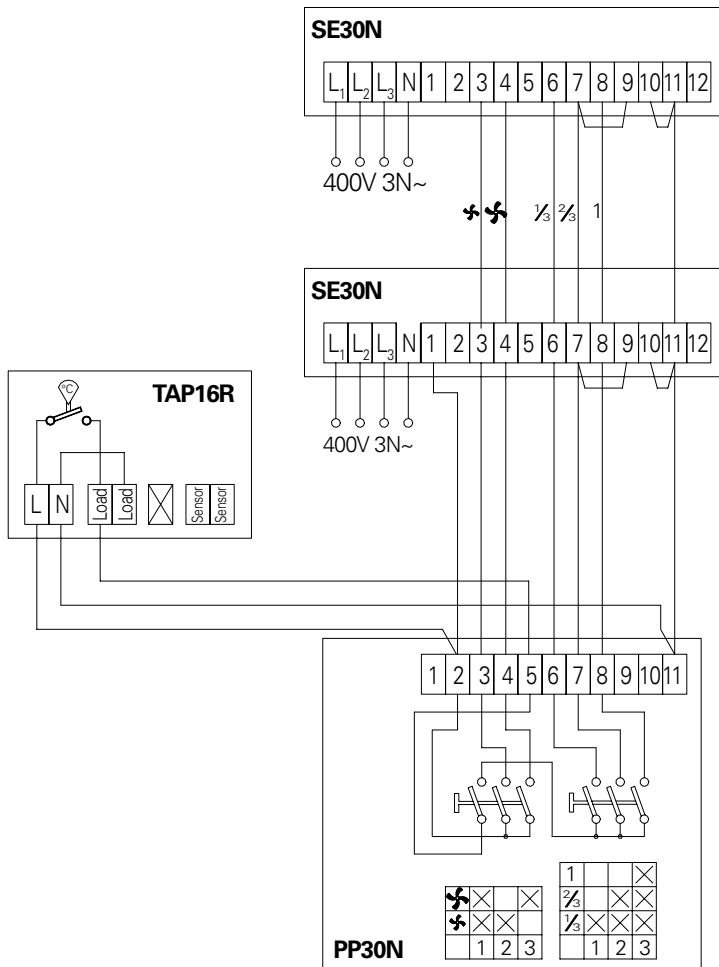




Panther 30



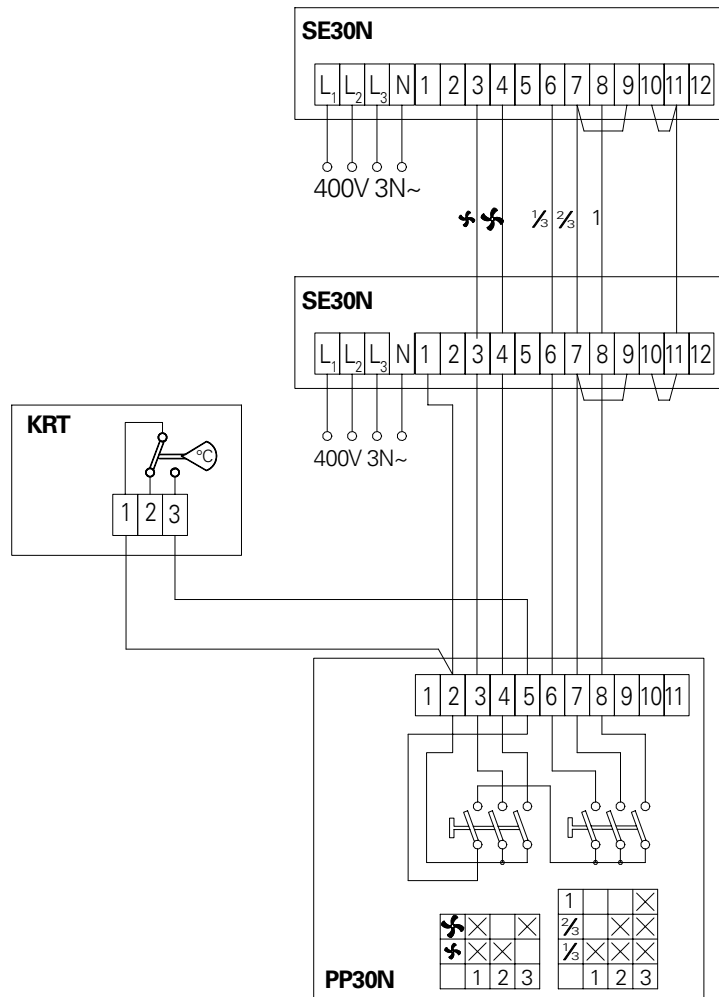
**Note! Remove the two internal fuses 6.3A in the slave units.**



Panther 30

Control options for installations not covered by the Ecodesign Regulation (EU) 2015/1188

**Note! Remove the two internal fuses 6.3A in the slave units.**



## Installation and operating instructions

### General Instructions

Read these instructions carefully before installation and use. Keep this manual for future reference.

*The product may only be used as set out in the assembly and operating instructions. The guarantee is only valid if the product is used in the manner intended and in accordance with the instructions.*

### Application area

Panther 20–30 is a range of powerful and quiet fan heaters for stationary use. They are intended for heating and drying of large premises, for example, industries.

Protection class: IP44.

### Mounting

The Panther fan heater is mounted on the wall with a wall bracket making it possible to direct the airflow down and to the side.

- Note that the minimum spacing as set out in fig. 1, on page 4 must be kept. The heater fan must not be mounted so the output is directed towards the wall, fig. 3.
- Loosen the bracket from the unit by unscrewing the lower screws completely and the upper screws as far as required.
- Mark off and drill holes for the screws as shown in the diagram on page 4.
- Screw in the screws for the keyhole slots until approx. 10 mm remains. Put up the bracket.
- Screw the upper screws into the unit until 10 mm remains.
- Suspend the unit on the bracket and adjust to the desired angle.
- Screw in the lower screws and then tighten all screws.

### Electrical installation

Installation shall be permanent and performed by a qualified technician in accordance with applicable directives. The installation shall be preceded by a fully isolating switch with at least a 3 mm contact opening and preferably fitted with a status lamp.

On delivery, the external thermostat controls heat on/off. In operation, fan and output steps are set on the control box PP20/30N.

There are four knockouts at the back for the external connections. These should be fitted with a grommet when used to guarantee the protection class. SE305N can be connected to both 440V3~ and 500V3~. Check that the main voltage and the data on the type plate correspond. The wiring diagram can be found attached to the inside of the top cover and in these assembly instructions.

NOTE! All work should be carried out when the unit is not voltage fed.

### Control

When using this product as a local space heater according to Ecodesign Regulation (EU) 2015/1188, it must be supplemented with one of the following approved controls.

- PP20/30N, control box and TAP16R, electronic thermostat that include:
  - Electronic room temperature control plus week timer
  - Room temperature control with open window detection
  - Adaptive start control

The product can be controlled in a different way, e.g. by an overall control system (BMS), but in that case the responsibility lies with the installer to ensure that the control system is programmed to make the installation meet the requirements of Ecodesign Regulation (EU) 2015/1188.

### Start-up

When the unit is used for the first time or after a long period of disuse, smoke or odour may result from dust or dirt that has collected on the element. This is completely normal and disappears after a short time.

### Overheating

If the unit overheats the in-built temperature cut-out will trip. Reset the temperature cut-out once the unit has cooled and the fault has been rectified. (Fig. 2)

NOTE! All work inside the unit's connection

*area must be carried out by a qualified technician and while the unit is not voltage fed.*

### **Maintenance**

The motor and other components are maintenance-free. Dust and dirt may cause overheating and danger of fire. The appliance must therefore be cleaned regularly.

### **Residual current circuit breaker**

When the installation is protected by means of a residual current circuit breaker, which trips when the appliance is connected, this may be due to moisture in the heating element. When an appliance containing a heater element has not been used for a long period or stored in a damp environment, moisture can enter the element.

This should not be seen as a fault, but is simply rectified by connecting the appliance to the main supply via a socket without a safety cut-out, so that the moisture can be eliminated from the element. The drying time can vary from a few hours to a few days. As a preventive measure, the unit should occasionally be run for a short time when it is not being used for extended periods of time.

### **Packaging**

Packaging materials are chosen with consideration to environment and are therefore recyclable.

### **Handling of product at end of working life**

This product may contain substances necessary for functionality of product but potentially dangerous for the environment. The product should not be disposed mixed with general household waste but delivered to a designated collection point for environmental recycling. Please contact local authority for further details of your nearest designated collection point. Recycling of used products saves earth's resources and reduces global footprint.

### **Safety**

- *For all installations of electrically heated products should a residual current circuit breaker 300 mA for fire protection be used.*
- *Keep the areas around the air intake and exhaust grilles free from possible obstructions!*
- *The unit must not be fully or partially covered with clothing, or similar materials, as overheating can result in a fire risk! (E)*
- *The unit must not be placed directly under fixed wall sockets!*
- *This appliance can be used by children aged from 8 years and above and persons with reduced physical, sensory or mental capabilities or lack of experience and knowledge if they have been given supervision or instruction concerning use of the appliance in a safe way and understand the hazards involved. Children shall not play with the appliance. Cleaning and user maintenance shall not be made by children without supervision.*
- *Children of less than 3 years should be kept away unless continuously supervised.*
- *Children aged from 3 years and less than 8 years shall only switch on/off the appliance provided that it has been placed or installed in its intended normal operating position and they have been given supervision or instruction concerning use of the appliance in a safe way and understand the hazards involved.*
- *Children aged from 3 years and less than 8 years shall not plug in, regulate and clean the appliance or perform user maintenance.*

**CAUTION** — Some parts of this product can become very hot and cause burns. Particular attention has to be given where children and vulnerable people are present.







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about your local contact: [www.frico.se](http://www.frico.se)**