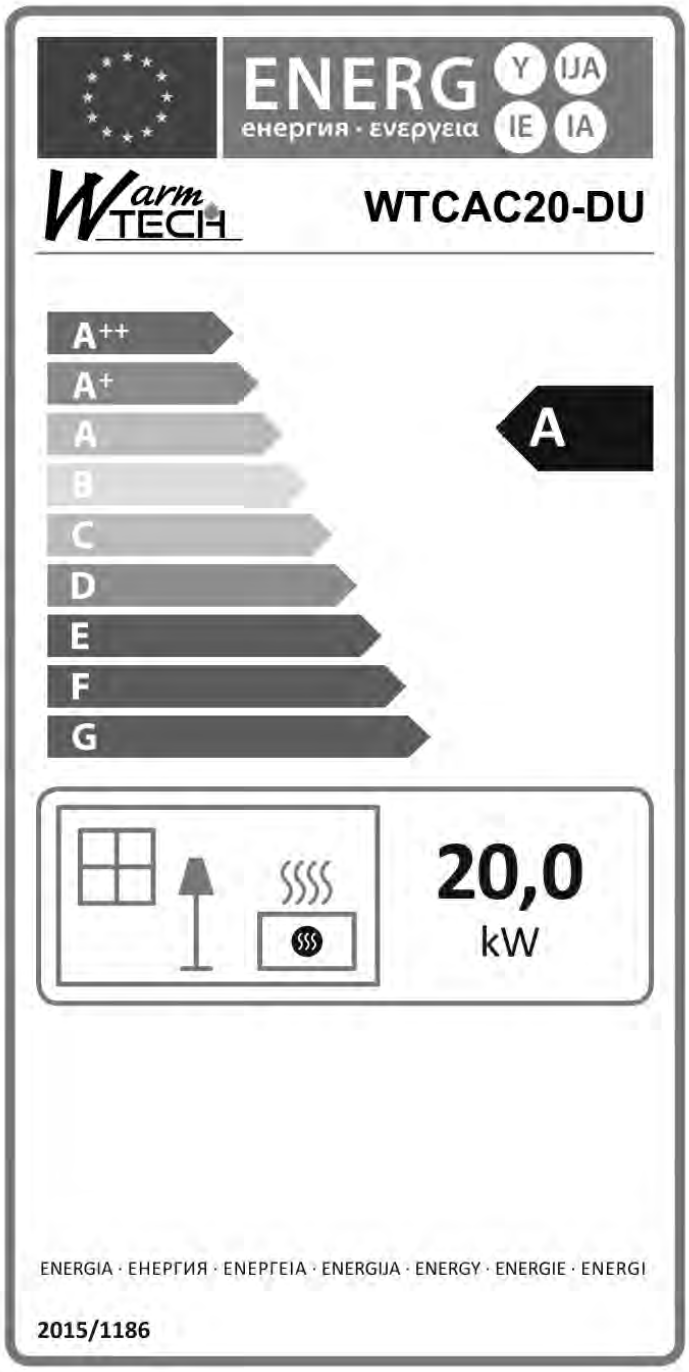
WTCAC20-DU

DIESEL OIL HEATERS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2015/1186

Jauge – Peilen - Gauge

Réglage de la pression - Druk aanpassing - Pressure adjustment

Kérosène (Pétrole) = 3 bars
Diesel / Gasoil = 4 bars

Réglage en usine à 4 bars / Fabrieksinstelling op 4 bar / Factory setting at 4 bar

GB DIESEL OIL HEATERS

BENZINE WILL BE FORBIDDEN
USED IN AERATION
YOU SHOULD READ THE MANUAL CAREFULLY BEFORE USING,
AND KEEP THE MANUAL WELL

⚠WARNING

This device may be used by children 8 years of age or older, and those with reduced physical, sensory or mental capacity or lack of experience or knowledge, if they are properly supervised. s or if instructions for the safe use of the device have been given to them and the risks involved have been apprehended. Children should not play with the device. Cleaning and maintenance by the user should not be done by unattended children.

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.

If the power cable is damaged, it must be replaced by a special cable or assembly available from the manufacturer or its after-sales service.

GENERAL SAFETY RULES

Read instructions carefully. read and follow all instructions. place instructions in a safe place for future reference. do not allow anyone who has not read these instructions to assemble, light, adjust or operate the heater.
if the information in this manual is not followed exactly, a fire or explosion may result causing property damage, personal injury or loss of life.
service must be performed by a qualified service agency.
unvented portable heaters use air (oxygen) from the area in which it is used.
adequate combustion and ventilation air must be provided. refer to instructions.

WARNING

DO NOT STORE OR USE GASOLINE OR OTHER FLAMMABLE VAPORS AND LIQUIDS IN THE VICINITY OF THIS OR ANY OTHER APPLIANCE.

WARNING

FIRE, BURN, INHALATION, AND EXPLOSION HAZARD. KEEP SOLID COMBUSTIBLES, SUCH AS BUILDING MATERIALS, PAPER OR CARDBOARD, A SAFE DISTANCE AWAY FROM THE HEATER AS RECOMMENDED BY THE INSTRUCTIONS. NEVER USE THE HEATER IN SPACES WHICH DO OR MAY CONTAIN VOLATILE OR AIRBORNE COMBUSTIBLES, OR PRODUCTS SUCH AS GASOLINE, SOLVENTS, PAINT THINNER, DUST PARTICLES OR UNKNOWN CHEMICALS.

WARNING

DIRECT-FIRED HEATERS MAY CAUSE CARBON MONOXIDE (CO) POISONING WHEN INCORRECTLY USED, E.G INDOORS WITHOUT ADEQUATE AIR CIRCULATION, OR IF NOT PROPERLY WORKING. CO POISONING MAY LEAD TO DEATH.

GENERAL HAZARD WARNING

FAILURE TO COMPLY WITH THE PRECAUTIONS AND INSTRUCTIONS PROVIDED WITH THIS HEATER, CAN RESULT IN DEATH, SERIOUS BODILY INJURY AND PROPERTY LOSS OR DAMAGE FROM HAZARDS OF FIRE, EXPLOSION, BURN, ASPHYXIATION, CARBON MONOXIDE POISONING, AND/OR ELECTRICAL SHOCK. ONLY PERSONS WHO CAN UNDERSTAND AND FOLLOW THE INSTRUCTIONS SHOULD USE OR SERVICE THIS HEATER. IF YOU NEED ASSISTANCE OR HEATER INFORMATION SUCH AS AN INSTRUCTIONS MANUAL, LABELS, ETC. CONTACT THE MANUFACTURER.

WARNING

NOT FOR HOME OR RECREATIONAL VEHICLE USE

WARNING

YOUR SAFETY IS IMPORTANT TO YOU AND TO OTHERS,
SO PLEASE READ THESE INSTRUCTIONS BEFORE YOU OPERATE THIS HEATER

THE ELECTRICAL SYSTEM TO WHICH THE APPLIANCE IS CONNECTED MUST COMPLY WITH CURRENT LEGISLATION. INSTALLATION REQUIRES A RESIDUAL CURRENT CIRCUIT BREAKER (RCCB) IN THE MAIN ELECTRICAL DISTRIBUTION BOARD.

UNPLUG THE APPLIANCE BEFORE PERFORMING ANY MAINTENANCE OPERATIONS.

ALWAYS CHECK THE POWER CABLE BEFORE USING THE APPLIANCE. IT MUST NOT BE BENT, TAUT, STRETCHED, CRUSHED OR ANY WAY DAMAGED.

THE POWER CABLE MUST BE REPLACED BY QUALIFIED PERSONNEL ONLY. USE AN ORIGINAL POWER CABLE ONLY WITH A 3-PIN APPROVED PLUG.

THE FRONT OUTLET IS VERY HOT DURING OPERATION. DO NOT TOUCH! BURN DANGER.

INSTALLATION INSTRUCTIONS

- **Only install the heater in normal position.**

- **Do not place the heater near walls, corners or low ceilings.**
- **Do not place the heater below a socket outlet.**
- **Do not place the heater on moving vehicles or where it can tip over.**
- **Keep the heater away from flammable, combustible, explosive or corrosive materials.**
- **Keep the heater away from curtains or similar materials that could block the air inlet and outlet.**
- **Never block or restrict the air inlet and outlet for any reason.**
- **Keep the power cable away from heat sources, sharp edges, cutting and moving parts.**
- **Do not expose directly to the weather or to excessive humidity.**
- **Do not place the heater in the immediate surroundings of a bath, shower or swimming pool.**
- **Floors and ceilings must be made of fireproof materials in the place where the heater is operated.**
- **Do not connect direct-fired heaters to air ducts.**

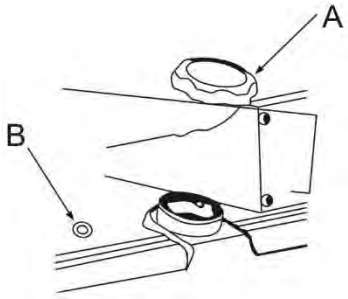
Preparation before the operation

1、 Never use high volatile fuel such as gasoline etc；
2、 Only fill the fuel tank when the heater stops running and the flame goes out；
3、 Please use No JIS1 kerosene or frostbite-prevent light diesel，never use degenerative, impure kerosene or diesel；
4、 When you fill the fuel tank, the tank filter must be installed；
5、 When kerosene or diesel touches human body please wash with soap immediately, to prevent potential skin inflammation；
6、 The burner surface is very hot just after flameout, so never touch it with hand or let oil pump come in touch with the burner, to prevent scalding or some other injure.

◆ When there is no fuel (kerosene or diesel) in the tank:
How to fill the tank：

1、Make sure the power plug is removed from the power source and the power switch is in OFF position“0”；
2、Place the appliance on a stable and level ground, remove the fuel cap and fill the fuel tank with fuel filter installed. Do not overfill your heater, see the full level position as shown in under figure；
3、Check if there is water or waste in the fuel tank, clean the tank if it is dirty；

4、Fill kerosene or diesel in fuel tank with oil pump only when the fuel filter is proper installed, after the filling turn the cap clockwise and tighten it.



A.Fuel tank cap
B. Fuel gauge

◆ When there is some fuel (kerosene or diesel) in the tank

Attention

1、 Only check the appliance after flameout and removal of the power plug from power source；

2、 Before the ignition make sure there is no oil leakage, when oil leaks please don't use the appliance and contact your dealer；

3、please check the fuel tank interior, clean the tank if there is water and waste in the tank.

INSTRUCTIONS FOR USE

Warning by ignition：

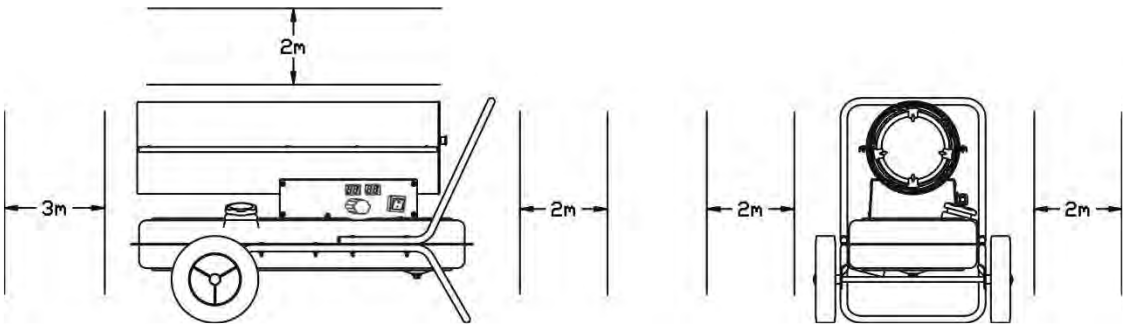
1、 check the fuel tank and make sure there is enough fuel in it；

2、 do not close your face near the heating part after the ignition, keep the safe distance, min. 3 meter front from hot air outlet，top 2 meter, left and right side more than 2 meter.（see under figure）

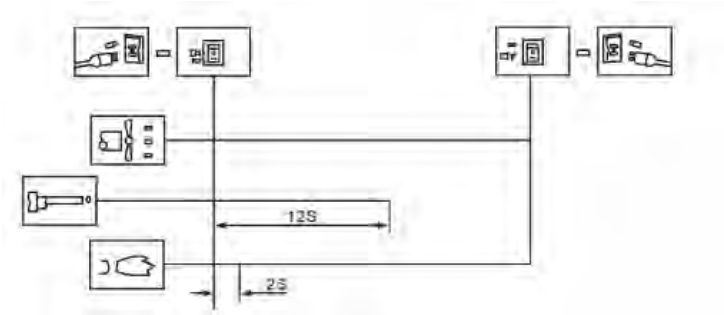
3、 stop using the appliance when there is smoke or strange odor omitted；

4、 make sure the heater is ignited before you leave it.

Safety clearances



Ignition：insert the plug in the socket，put the power switch to position"1", the indicator lights up, It would ignite automatically when the setting temperature is higher than ambient temperature in LED digital temperature display.



If heater does not start, turn power switch to “0” and then to “1” position. if the heater still does not start after three times please contact your dealer.
Attention： while the heater is operating, never let the floor ground overheats to prevent causing fire.

◆ Flameout

Pay attention
1、when you shut off the heater, make sure the flame is out before you left the appliance.
2、Put the power switch to position“0” waitting fan stop working and the indicator extinguishes, then remove the plug from the socket.

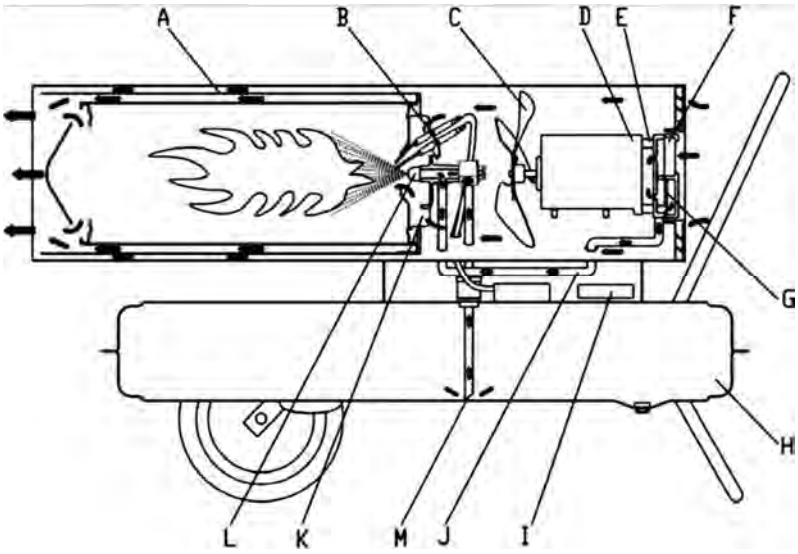
◆ safety device

Flame-out protection：Utilizes a photocell to monitor the flame in burn chamber during normal operation.The photosensitive resistor will become infinite big , cut off Electrovalve Assy ,will stop offer oil automatic , the fan will working 90s then cut off the power .

Electrical power breakdown protection

when the power breaks down the heater stops working without the plug being removed from the socket . When the power is recovered, the indicator will light but the heater will not work. Please press the power switch to start up the heater.

Description of working principles



A . Combustion chamber B. Spark plug C. Fan blade D. Motor E. Pump
F. Air intake filter G. Air output filter H. Fuel tank I. Controller J. Air inlet pipe
K. Flame steady plate L. Oil nozzle M. Oil sucking pipe

Open the fuel cap to add kerosene/diesel in the tank. put on the fuel cap and plug the power cord in the socket. Turn the power switch on to position “1”, motor start working and the digital temperature display light up at this time. The left display window is setting temperature and right one is room temperature. It would ignite automatically when the setting temperature is higher than room. It begins to work, the spark plug ignites. This heater is equipped with an electric air pump that forces air through the air line connected to the fuel intake and then through a nozzle in the burner head. When the air passes in front of the fuel intake it causes fuel to rise from the tank and into the burner nozzle. This fuel and air mixture is then sprayed into the combustion chamber in a fine mist. The air blew by the fast turning fan blades 1.enters the flame steady plate and the burner, supplies additional oxygen to the burning and makes the burning more sufficient and takes away the heat from the burner interior to outside2. enters the heat insulation layer of A, takes away the heat from the insulation layer，so that the burner surface will not overheats.The spark plug stops working after 12s of sparkling.

CLEANING, MAINTENANCE AND STORAGE

Regulary wipe the enclosure using a soft sponge or cloth. For very dirty parts, use a sponge wetted with lukewarm water and a mild detergent, then dry using a clean cloth.
Keep air inlet and fan free from dust and dirt. To clean inner parts, gently blow compressed air through air inlet.
Regularly inspect the power cable: if worn, cracked or damaged have it replaced by technical service.
Before storing the heater, make sure it is perfectly cool and dry. Cover the unit with a plastic bag, put it in its packing box and store it in a dry, ventilated place.

Before starting any maintenance task, shut down, unplug and let the heater cool down for at least 15 minutes.

Do not attempt any electrical repair yourself. If the heater needs service or repair, contact a qualified technician.

Do not use a faulty unit unless a qualified technician has inspected and repaired it.
When cleaning, make sure that water does not enter the unit.

Do not open the enclosure to clean the inner parts. Do not spray water into the heater.

Never use solvents, gasoline, toluene and similar aggressive chemicals to clean the heater.

Notice

1、Before the maintenance shut off the heater and pull out the plug；

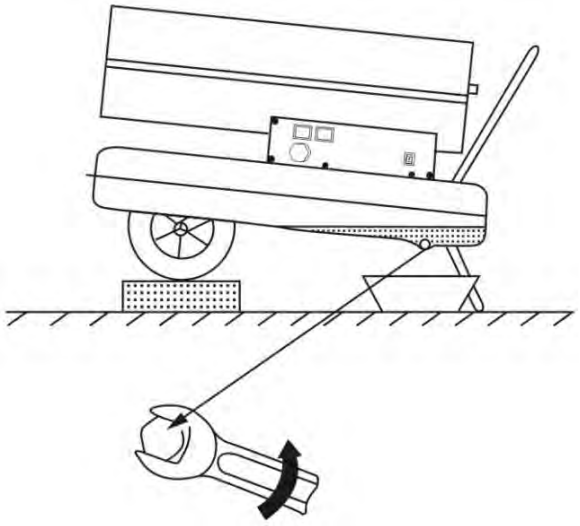
2、Never maintain the heater with fuel in tank.

◆ check the fuel tank

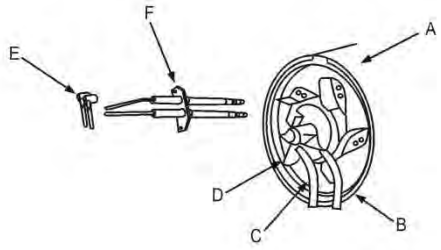
When there is waste and water in the tank, clean and drain the fuel tank.

How to drain the fuel tank

1、 put the heater on the working table and place an oil container under the fuel tank
2、 use a spanner to loose the drain screw und release the water and waste inside the tank；
3、 after draining tighten the drain screw again and wipe clean the left water and oil.



◆ burner head



A. burner assembly

B．air inlet pipe

C．oil inlet pipe

D．flame steady plate

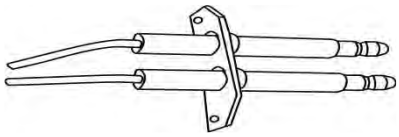
E．high voltage line

F．spark plug

◆ spark plug

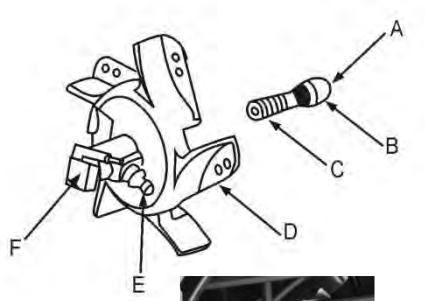
the distance between the electrode should be in scope of 4-5 mm, to get the best ignition result.

gap between the electrode：4-5mm



◆Assembling the oil nozzle

A. oil nozzle
B．nozzle core
C．seal ring
D．flame steady plate
E．air pipe fitting
F．Electrovalve Assy



◆ Pressure adjustment

Kerosene = 3 bars
Diesel = 4 bars

Factory setting at 4 bar

◆ Air pump

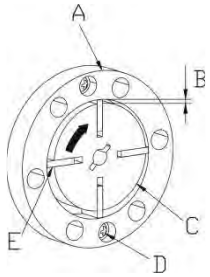
By maintenance the air pump must be proper assembled, to prevent low air pressure or air leakage.

A. Pump blade
B. Pump cover
C. Air intake filter
D. Pressure cover
E. Air inlet guard
F. Air outlet filter
G. Pump core
H. Connecting part
I. Pressure gauge

◆ the match between the pump body and pump core

The four pump blades were set in the four grooves of the pump core，which move centrifugally clockwise in the pump，the cooperation gap between the pump enclosure and the pump core should be kept in 06~0.08mm，to ensure that the air pump can produce sufficient pressure.

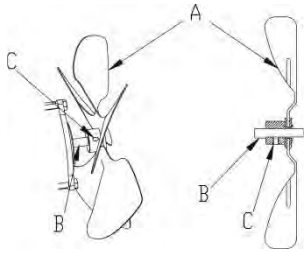
A．pump body
B．gap 0.06~0.08mm
C．pump core
D．screw
E．pump blade



◆ fixation of the fan blades

Install fan blade on motor shaft und use set screw to tighten them firmly

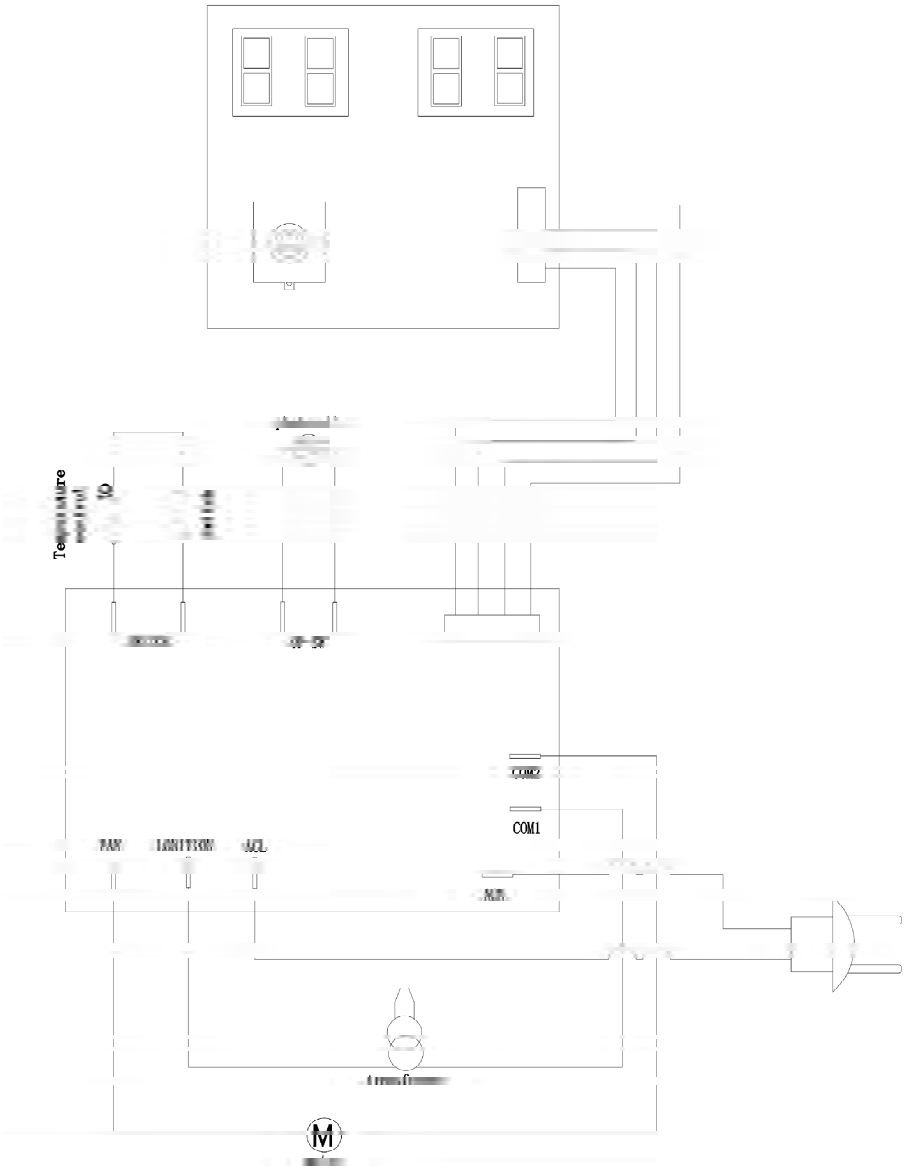
A．fan blade



B．motor shaft

C．set screw

WIRING DIAGRAM



TROUBLESHOOTING

Before you send out the heater for repair please check the following points first, they are not faults :

Problem	reason
Odor, smoke or spark omitted by the first use	It is normal. Because at the beginning there are air and dust mixed in the burning. Wait for some time they will disappear.
Ignite when he first use or when the fuel was used out, strange sounds, odor, white smoke	Air is mixed in the pipe, the phenomenon will disappear when the air in the pipe was pressed out.
Strange sound while igniting or flameout	The metal parts of the heater expand and contract cause the noises. normal
Fire appears out of the outlet while igniting. Sparkle	Fuel and air of last time were left in the oil pipe of the nozzle, so the air and fuel are not proper mixed, the burning isn't continuous. Sparkle is caused by the left carbon powder, is also normal

trouble shooting guide--reason and solution

trouble	Heater does not start	Flame does not ignite	Flame goesout while burning	Fuel leaks	Smoke or dust	Fire from outlet	solution
No power	●						Make sure the power is proper connected
Power breakdown	●						When the power recovers, operate the heater again
Low voltage					●	●	Resolve the problems which cause the voltage gets low
Frequency not proper					●	●	Use the defined frequency on the label
The air hole blocked			●				Clean the hole on the fuel tank cap
Filter blocked			●		●	●	Check and replace the filter
Fuel exhausted			●				Fill the tank
Water is mixed in the tank		●			●	●	Clean the fuel tank
The quality of fuel is bad					●	●	Clean the fuel tanks and fill fresh kerosene or diesel
Fuel drain screw isn't tightened				●			Tighten the screw
Others	●	●	●	●	●	●	Contact your dealer or service personnel

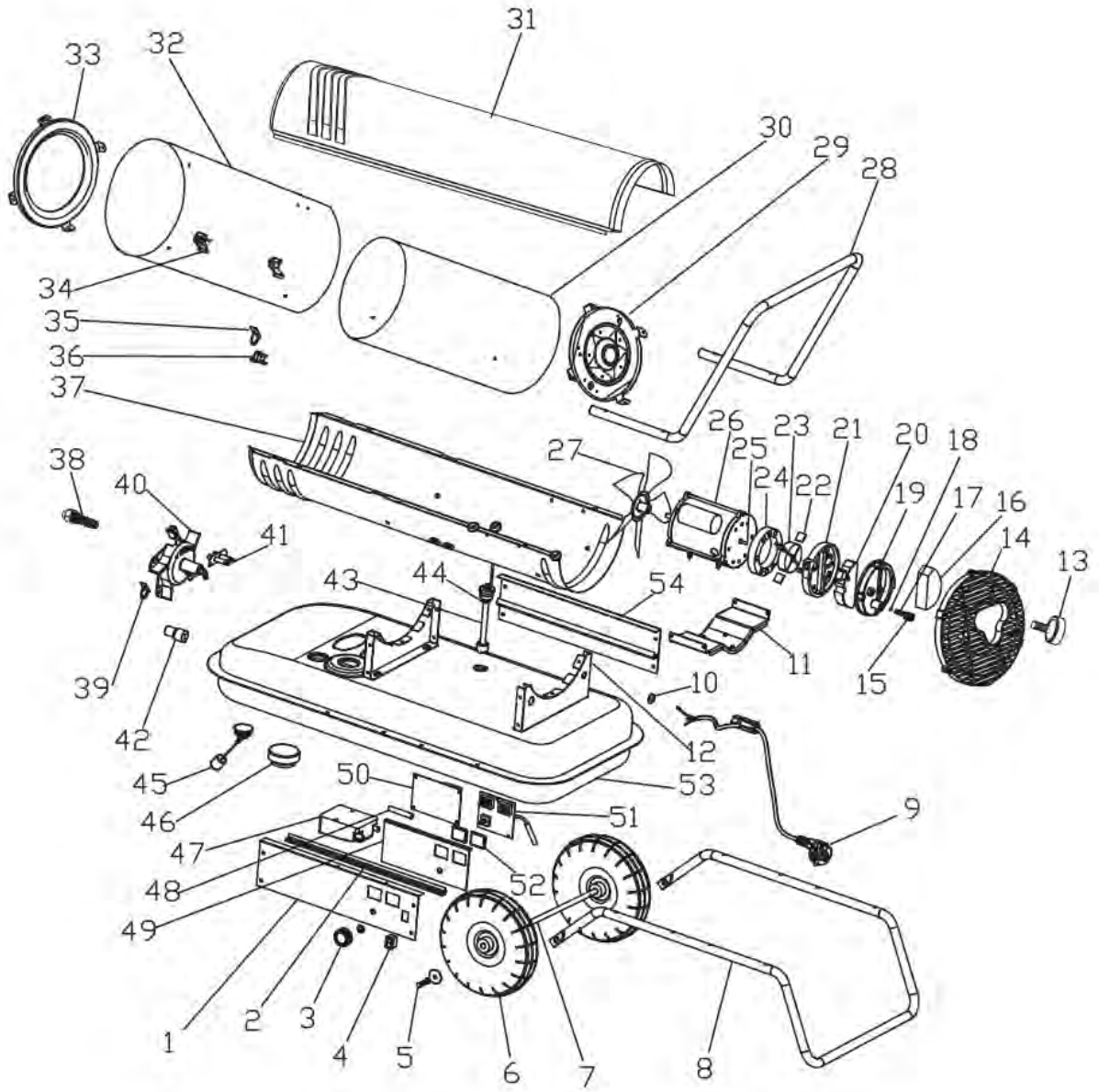
Information requirements for gaseous/liquid fuel local space heaters

Model identifier(s):WTCAC20-DU								
Indirect heating functionality:[no]								
Direct heat output:20(kW)								
Indirect heat output:N/A(kW)								
Fuel						**Space heating emissions**		
						NO_X		
Select fuel type				[liquid]	[specify]	**<39.29[mg/kWh$_{input}$](GCV)**		
Item	**Symbol**	**Value**	**Unit**		**Item**	**Symbol**	**Value**	**Unit**
Heat output					**Useful efficiency(GCV)**			
Nominal heat output	P_{nom}	20	kW		Useful efficiency at nominal heat output	$\eta_{th,nom}$	100	%
Minimum heat output(indicative)	P_{min}	N/A	kW		Useful efficiency at minimum heat output	$\eta_{th,min}$	N/A	%
Auxiliary electricity consumption					**Type of heat output/room temperature control(select one)**			
At nominal heat output	el_{max}	0.160	kW		Single stage heat output,no room temperature control			[yes]
At minimum heat output	el_{min}	N/A	kW		Two or more manual stages,no room temperature control			[no]
In standby mode	el_{SB}	0.002 283	KW		With mechanic thermostat room temperature control			[no]
					With electronic room temperature control			[no]
					With electronic room temperature control plus day timer			[no]
					With electronic room temperature control plus week timer			[no]
					Other control options (multiple selections possible)			
					Room temperature control, with presence detection			[no]
					Room temperature control, with open window detection			[no]
					With distance control option			[no]
					With adaptive start control			[no]
					With working time limitation			[no]
					With black bulb sensor			[no]
Permanent pilot flame power requirement								
Pilot flame power requirement(if applicable)	P_{pilot}	N/A	kW					
Contact details	**ELEM technic S.A, rue de Gozée 81, 6110 Montigny-Le-Tilleul, Belgium**							

WTCAC20-DU			
The seasonal space heating energy efficiency η_s			
Item	Symbol	Value	Unit
The seasonal space heating energy efficiency in active mode	$\eta_{s,on}$	100	%
Correction factor(F1)	/	/	%
Correction factor(F2)	/	2	%
Correction factor(F3)	/	1	%
Correction factor(F4)	/	2.04	%
Correction factor(F5)	/	0	%
Biomass label factor	BLF	1	/
The seasonal space heating energy efficiency η_s	η_s	/	%
Energy Efficiency Index(EEI)	EEI	90.96	%
Energy efficiency classes		A	

Erforderliche Angaben zu Einzelraumheizgeräten für gasförmige/flüssige Brennestoffe

Modellkennung(en):WTCAC20-DU								
Indirekte Heizfunktion:[nein]								
Direkte Wärmeleistung:20(kW)								
Indirekte Wärmeleistung:N/A(kW)								
Brennstoff						**Raumheizungs-Emissionen**		
						NO_X		
Bitte Brennstoffart auswählen				[flüssig]	[bitte angeben]	**<39.29[mg/kWh$_{input}$](GCV)**		
Angabe	**Symbol**	**Wert**	**Einheit**		**Angabe**	**Symbol**	**Wert**	**Einheit**
Wärmeleistung					**Thermischer Wirkungsgrad(NCV)**			
Nennwärmeleistung	P_{nom}	20	kW		Thermischer Wirkungsgradbei nennwärmeleistung	$\eta_{th,nom}$	100	%
Mindestwärmeleistung (Richtwert)	P_{min}	N/A	kW		Thermischer Wirkungsgradbei Mindestwärmeleistung (Richtwert)	$\eta_{th,min}$	N/A	%
Hilfsstromverbrauch					**Art der Wärmeleistung/Raumtemperaturkontrolle (Bitte eine Möglichkeit auswählen)**			
Bei nennwärmeleistung	el_{max}	0.160	kW		Einstufige Wärmeleistung, keine raumtemperaturkontrolle	[ja]		
Bei Mindestwärmeleistung	el_{min}	N/A	kW		Zei oder mehr manuell einstellbare stufen,keine raumtemperaturkontrolle	[nein]		
Im bereitschaftszustand	el_{SB}	0.002 283	KW		Raumtemperaturkontrolle mit mechanischem thermostat	[nein]		
					Mit elektronischer raumtemperaturkontrolle	[nein]		
					Mit elektronischer raumtemperaturkontrolle und tageszeitregelung	[nein]		
					Mit elektronischer raumtemperaturkontrolle und wochentagsregelung	[nein]		
					Sontige regelungsoptonen (Mehrfachnennungenmöglich)			
					Raumtemperaturkontrolle mit Präsenzerkennung	[nein]		
					Raumtemperaturkontrolle mit Erkennnung offener Fenster	[nein]		
					Mit Fernbedienungsoption	[nein]		
					Mit adaptiver Regelung des Heizbeginns	[nein]		
					Mit betriebszeitbegrenzung	[nein]		
					Mit schwarzkugelsensor	[nein]		
Leistungsbedarf der Pilotflamme								
Leistungsbedarf der Pilotflamme(soweit vorhanden)	P_{pilot}	N/A	kW					
kontaktangaben	**ELEM technic S.A, rue de Gozée 81, 6110 Montigny-Le-Tilleul, Belgium**							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