



**PAKOLE**

# USER'S MANUAL

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## INDIRECT GAS-FIRED FORCED CONVECTION CONDENSING AIR HEATERS



### Appliance types:

GTV-CON 27/19A, C, CL

GTV-CON 40/28A, C, CL

GTV-CON 58/40A, C, CL

GTV-CON\_009\_015-016\_003\_220609\_V008\_EN

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# 1. SAFETY INFORMATION

 **Read and understand this manual thoroughly before installing starting or servicing this equipment. The improper installation or using can cause serious damages! Keep this manual in a safe place in order to obtain information in case of incidental problems!**


## GENERAL SAFETY NOTICES

**Disregard of instructions and notices of this Manual can cause serious bodily injuries or damages as follows: burning, explosion, suffocation, carbon monoxide poisoning, electric shock and in extreme case death!**

 **This appliance can only be used and serviced by such persons who understood and follow the instructions of this Manual.**


**If you need help or information concerning the appliances – for example installation guide or labels etc. – in that case contact with the manufacturer!**

**This appliance must not be used by children and mentally or sensitively deficient persons! Take care that the children do not handle it and do not play with devices!**

 **WARNING! Fire, burning, inhalation and explosion hazard! Keep all flammable objects as follows building materials, papers, or carton unites away from heater according to the instructions! Never use this appliance in such rooms where there are flammable volatile materials or the following materials, which can get into the device: petrol, solvent, thinner, fine grained dusty or unknown chemical materials!**

 **WARNING! This appliance can not be used in domestic circumstances or mobile home!**

**WARNING! For your safety, if you smell gas do the followings:**

- 
- **Open windows.**
  - **Do not try to light any appliance.**
  - **Do not use electrical switches.**
  - **Do not use any telephone in your building.**
  - **Leave the building.**
  - **Immediately call your local gas supplier after leaving the building. Follow the gas supplier's instructions.**
  - **If you cannot reach your gas supplier, call the Fire Department.**


The GTV-CON type air heaters burning gaseous fuels appliances have been developed and certified in compliance with EN 1020 standard and qualified for heating of industrial rooms! The function of these heater appliances to ensure heating of appointed workplace temporarily or continuously!

In case of proper using the appliance guarantees safety and energy-saving operation! The combustion products issued during combustion process leave through the flue system into the open air. In case of further possible questions regarding the applicability please turn to the local Fire Protection Office!

Other standards can give you directions in terms of proper using of natural and propane gas as follows: leading/piping, storing etc.! Concerning the detailed content of these standards the local Bureau of Standards can help.

**ATTENTION! Processing the condensate:**

**From NGM decree 11/2013:**

 **The condensate produced in the condensing, gas consuming equipment having max. 70 kW unit heat load and/or in their flue gas exhaust system can be conducted through a water seal without neutralisation, unless the public sewer provider specifies otherwise.**

**For gas consuming equipment with a heat load exceeding 70 kW the necessity of neutralisation must be discussed with the public sewer provider.**

**Carbon-monoxide poisoning:** The initial symptoms of carbon-monoxide poisoning are similar to influenza namely headache, dizziness and/or nausea! If these symptoms are observed in that case the appliance probably does not work satisfactorily! First of all go fresh air, ventilate the rooms and have the appliance investigated!

**Propane-gas:** The propane-gas is odourless! Mercaptan-derivative as scented component is mixed into the gas to be able to observe the possible escape! In spite of the typical smell is not felt the propane gas can be present in the environmental air in case of escaping!

## 2. GENERAL INSTRUCTION



- Make sure that read and understood all the warnings, correct keeping of which can guarantee the safety and faultless operation!
- During the installation be always circumspect! Follow the valid instructions and recommendations!
- The appliance can be operated by specified voltage and frequency marked on its data board! The electrical connections and earthing are prepared as per EN 60335 standard!
- Electrical earthing specification: present appliance is equipped with three points earthing connection in the interests of your protection!
- It needed to ensure the sufficient quantity of combustion air if the appliance is installed without outside air supply!
- Keep away the device from the following strong effects: wind, high pressure water jet, rain or dropping water!
- The appliance must not be used in the open air!
- The application of device is STRICTLY PROHIBITED in such rooms, which are used for sleep or continuous stay!
- Keep away the flammable materials from the appliance and its near environment as follows: fuels, thinner or other flammable fluids and vapours!
- In the interests of avoiding of dust explosion do not used the device in such rooms where the degree of dust concentration is high if the device is installed without outside air supply!
- Before starting of appliance in every case check it in order to detect the possible damages! Never use damaged equipment!
- In case of propane-gas operation never install the device in basement or from that lower being rooms! The propane-gas is heavier specific gravity than the air for this reason in case of possible escaping it will spread towards the lower located rooms!
- Only use that kind of flexible gas pipe and pressure regulator, which is offered for the appliance by the manufacturer!
- Before every starting of heater appliance check the condition of connecting gas hose and if it is particularly worn or damaged in that case exchange it for a new one specified by manufacturer!
- Preserve the equipment in genuine condition, do not leave it to grow old!
- Do not use seriously aged equipment any longer!
- Fix the appliance on such stable surface, which during operation despite warming of appliance preserves its stability!
- If the appliance is put out of use in every case it must be cut off the current and gas!
- Never block the air supply and exhaust pipes!
- Keep away the children and animals from the equipment!
- Never service/mend such devices, which are hot and during operation or electrical charged!
- Never mount such air duct unit on front or back side of device, which is not approved by manufacturer!
- Use exclusively genuine-approved by manufacturer-spare parts, do not install similar quality spare parts for substitution! These kind of substitute parts can cause serious damages concerning the operation of appliance!
- Fix the appliance on such stable surface, which during operation despite warming of appliance preserves its stability!
- If the appliance is put out of use in every case it must be cut off the current and gas!
- Never block the air supply and exhaust pipes!

## INSTALLER'S RESPONSIBILITIES

- Making up of gas and electrical connection in compliance with the specifications (it is proposed to connect with the local Building Supervisory Authority or Fire-service),
- installation of equipment in accordance with the definitions of this manual,
- installation according to the fire prevention rules,
- supply of the necessary materials/components for installation(which are not belong to appliance),
- planing of air duct systems (ventilation/connections),
- service execution,
- placing the copy of present manual at owner's disposal,
- assuring of sufficient air circulation around the appliance,
- determination and assuring of needed air for burning, ventilation and blowing in according to the specifications.

## DATA BOARD

The appliance is equipped with data board, which is placed on inside of device's door. On this data board there are information concerning the type of device, gas type, electrical connection and flue types.

<b>Manufacturer</b> PAKOLE Trade Kft. 8000 Székesfehérvár, Börgöndi út 8-10.		<b>Type</b> <b>GTV-CON 27/19C</b>		 UA.TR.012-10  2806 20 PIN: 1008 CU 3305 Date/place of production 15.02.2021
<b>Electrical protection:</b> IP20		Nominal input:	<b>27-19 kW</b>	
<b>Electrical connection:</b> AC 230V 50Hz		Pconnecting max.:	<b>60 mbar</b>	
<b>Max.current entry:</b> 1,3 A		Jet pressure:	<b>10-6 mbar</b>	
<b>Electrical power:</b> 345 W		Pconnecting nom.:	<b>20 mbar</b>	
<b>Category:</b> I2H		Stat. air pressure:	<b>110 Pa</b>	
<b>Series number:</b> <b>111-9115-62</b>		<b>Airflow:</b>	<b>2790 m<sup>3</sup>/h</b>	
		<b>Gas type:</b>	<b>Naturalgas</b>	
		<b>Targeted country:</b>	<b>GB NOx 4</b>	

**CORROSIVE MATERIALS**

**WARNING! Do not use the appliance in such place where corrosive materials can be in the air! If the appliance has to be applied in this circumstances outside air has to be ensured for combustion air and circulation as well („CL” type)!**

The manufacturer can not assume responsibility for fault of equipment in case the installation is not happened according to the above. This responsibility concerns completely the installer. In order to avoid such eventualities, if it is not certain to fit to the building or activity, ask our colleague for help.

Both the owner and the installer have to identify every possible material, which can be present in the building (inflammable materials, corrosive materials, halo hydrocarbons etc.), and with knowledge of these materials must be planned the heater system!

**STANDARDS AND LAWS**

Every appliance installation must be satisfied the valid laws and standards. These laws refer to the gas and electrical installation respectively the ventilation (special specifications refer to park houses, airplane hangars etc).

**SAFETY SIGNS**



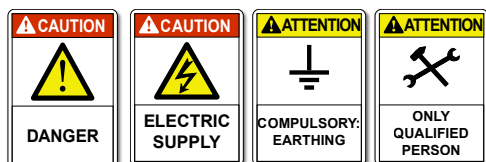
**SAFE USAGE**



Please observe the following rules during installation, first set-up, usage or maintenance:

- Installation must be carried out always strictly complying with the current standards of the country where the appliance is going to be used and following, of course, the instructions given by the producer.
- The installation and maintenance operations of the unit can be carried out by qualified and trained personnel only.

Qualified service engineers are those having specific technical experience and/or valid license in the field of heating and cooling installation for home and industry. In any case, call the Manufacturer office or the closest dealer ([www.pakole.com](http://www.pakole.com)) and ask for further informations.



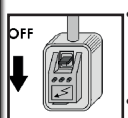
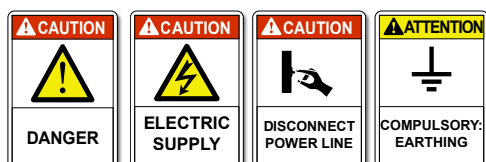
- According to the installation project, install the electric power lines.
- Always make sure that the unit and all its electrical parts have been correctly earthed prior starting up the unit.



- If you have to disassemble the unit, use special protective gloves.
- Beware of sharp edges inside the unit!
- Beware of roof corners of outdoor units!
- Keep suction grids always clear!



- Before cleaning or maintaining the unit, make sure that all electrical parts have been switched off, the appliance gas supply chain is closed and wait until the appliance cools down. In particular, make sure that the fan is off and cannot be inadvertently started prior to opening inspection panels.
- Fans can reach a speed of 1000 RPM. Do not insert any object nor hands in the electric fan.



- We recommend to install a safety switch which can be easily reached to cut off the current, near the unit. Before any cleaning and servicing operation, cut off the power line to the unit.
- Before opening the unit, make sure that all electrical parts have been switched off. In particular, make sure that the fan is off and cannot be inadvertently started prior to opening inspection panels.

**PLEASE, CHECK THE EARTHED !!**



- This unit is designed to be used for heating purposes only. Any different use is not allowed as it may be dangerous.
- Should the unit work in a house where disabled people and/or children live, it must be placed safely away from their reach. Always make sure that the access door to the inside control board stay locked.
- An incorrect installation can cause damages to people, animals and property. In case of erroneous installation, the manufacturer cannot be held responsible for such damages.
- **The manufacturer cannot be held responsible for such damages by improper uses, errate uses, etc.**



- Never use the unit to support other equipment.
- Never leave tools, spare parts, etc. inside the unit.
- Make sure that all inspection panels are closed properly.
- Do not expose the unit to inflammable gases.

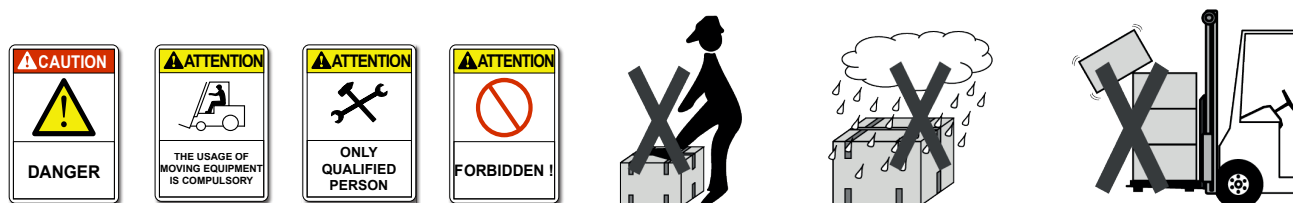


- In case of breakdown or failure: turn unit off, do not try to repair it on your own, call operator.
- If you are going to leave the heater switched off for a long time, first make sure that in no way this could cause harm to anyone in any way.

### 3. TRANSPORTATION, UNPACKING, HANDLING

- The delivery must be made according to the following:
  - The package must be carefully secured in the loading space.
  - The package must be transferred in a closed space (always keep packing parts away environmental impacts).
- The unit has a special safety packing for transport and delivery which must be kept in good conditions till the unit is positioned on the installation place.
- Make sure that the unit has all its parts, as specified in the order.
- Check if there are any damages and if the unit abbreviation is the same as the one of the ordered model.
- Every unit is factory tested before shipment, therefore, if there are damages, report them immediately to the carrier.

Transporting, unloading and moving is a process which must be made carefully to avoid any kind of damages. Try not to use the unit's components as hand holds. When lifting, bear in mind that the centre of gravity of the unit may be off-centre.



The device is placed in cardboard box, one-way pallets are delivered.

Unpacking process:

- remove the bands from packing of device, the carton box and the covering foil. Screw off the 4 pcs M8x45 fixing bolts on back side of pallet hereby the device can be removed from pallet.
- **do not remove the protection caps from device and gas installing set until the gas attachment**
- investigate the device if it is not damaged during the transportation
- if it is damaged in that case notify the retailer from whom the device was bought!

There is an envelope inside the unit containing the Instructions for Installation and Servicing, User's Manual and Guarantee and services and the warranty documents.

### 4. OPERATION PRINCIPLE

The equipment operates under the principle of direct heating; this means that the desired temperature value is reached by directly blowing in the heating air into the required room. Beside HEATING (winter) mode of operation the equipment is also able to perform VENTILATION only (summer mode of operation).

Operating principle: the air heater equipment fires the mixture of combustion air and gas (S-, L-, Propane or natural gas) drawn in; the condensing section is after the heating pipe unit. Here the water in steam state condenses and the heat generated during the change of state further increases the overall efficiency of the equipment, and thus produces the heating air which is conducted to the appropriate location (by direct blow-in or through an air duct) which ensures that the temperature of the space to be heated is kept at the desired level, with high efficiency.

The heating and consumption data by equipment type and gas type are included in Annex 4.

The equipment can be supplied with combustion air in two ways:

- directly by drawing in from the space to be heated (A, C types),
- through air ducts with adding external air (CL type). This can be applied in workshops using hazardous substances e.g. painting shop, workshops using explosive and corrosive substances etc.

The air heater type GTV-CON is an equipment with artificial combustion air supply, has several burners (so-called burners in a row), is gas fired, and is suitable for blowing hot air. It can be operated with natural gas, in accordance with the European guidelines concerning gas appliances.

It is typical of the GTV-CON equipment that the gas–primary air mixture is produced in the Venturi burner. The gas-air mixture is lighted by a high frequency electric spark after it leaves the burner. The flame gets into the heat exchanger located in front of the burners in which the flue gas collector fan, installed at the end of the pipes, creates a continuous suction effect. The so-called secondary air, required for perfect combustion, gets into the combustion pipe, oriented by an initial cone, at the air gap between the Venturi burners and the burner stand. The heat generated during the combustion heats up the heat exchanger. The heat absorbed by the heat exchanger is passed on

to the room to be heated, either directly or through an air duct, by a circulating (air ventilating) fan. Shutters take care of directing the blown-off air. The flue gas is passed on to the exteriors through the flue duct by the collecting flue gas fan installed at the ends of the combustion pipes.

At constant nozzle pressure the heat load of the equipment is also constant; if the nozzle pressure is gradually decreased during operation we talk about a modulation apparatus; the rate of modulation can be between 100% and 70%. This alternative can be arranged within the performance limits of 27 kW, 40 kW and 58 kW.

A type 845 Sigma double acting solenoid valve is installed in the equipment. This solenoid valve is suitable for changing the nozzle pressure continuously, i.e. in a modulation form, with a special actuator. In order to achieve perfect combustion the volume of air necessary for combustion must be adjusted according to the rate of changing the nozzle pressure. More air is required for a higher nozzle pressure, and less air for a lower nozzle pressure. In order not to change the gas-air mixing ratio the voltage of the flue gas fan must be reduced to the extent that the air delivered by the flue gas fan is reduced close to the same extent as that of the nozzle pressure.

Additionally the task of the temperature controller is to reduce the nozzle pressure with a current generator in the 40 mA – 145 mA interval, and simultaneously the voltage of the flue gas fan, between 110 – 230 V.

The heating and consumption data by equipment type and gas type are included in Annex 4.

The condensing GTV-CON is an addition to the basic GTV with a condensing pipe section; by installing it we increase the combustion technology efficiency of the apparatus to a value close to 98-99%. In its operation and structure the condensing GTV-CON is identical with the basic GTV.

The combustion product flows to the direction of the flue gas discharge through the pipes of the heat exchanger while heating them up, and in parallel the discharge fan has the drawn in internal or external air flow through the heat exchanger, thus producing the hot air needed for heating (on average 50°C air).

**The discharging fan can be supplied by fresh air in two ways:**

- by direct suction from the space to be heated (in case of types A, C, CL),
- by the suction of external air (C, CL types).

**The hot air that was produced gets into the space to be heated in two ways:**

- through guide flaps, blown in directly (in case of types A, C, CL),
- blown in through air ducts, delivered to the desired location (in this case no flaps are installed on the equipment). This is typical of type C and CL GTV-CON. The technical data of the equipment can be found in Annex 1.

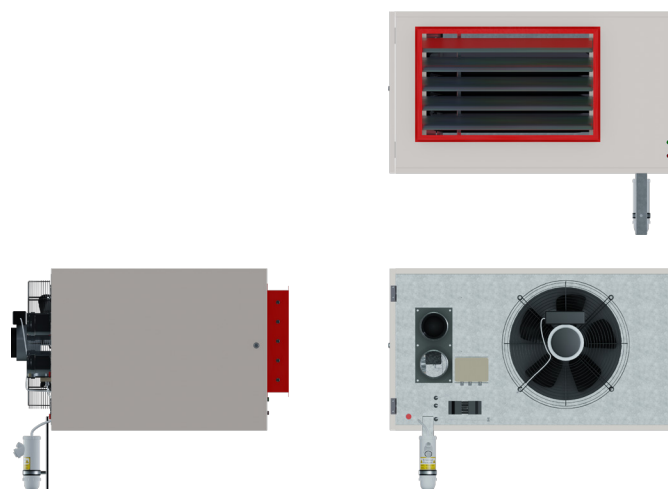
## APPLIANCE TYPES

The overall dimension of appliances are in enclosure 2.

### AXIAL FAN-TYPE EXECUTION (GTV-CON-...A)

Features:

- suction in of heater air is executed from the heated place, it can not be connected to air duct
- owing in of warm air is executed directly through the air leading lamellas

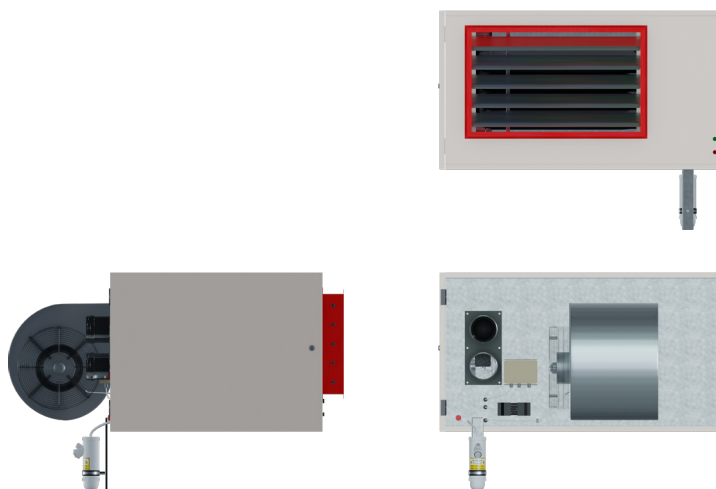


2. picture: Axial fan-type warm air blower

CENTRIFUGAL FAN-TYPE EXECUTION (GTV-CON-...C)

Features:

- suction in of heater air is executed from the heated place,
- blowing in of warm air is executed directly through the air leading lamellas or through the attached air duct to the demanded places

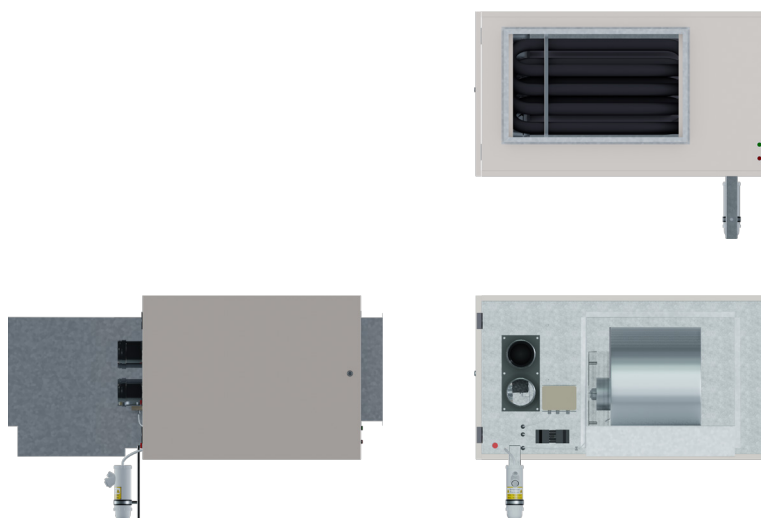


3. picture: Centrifugal fan-type with lamella execution

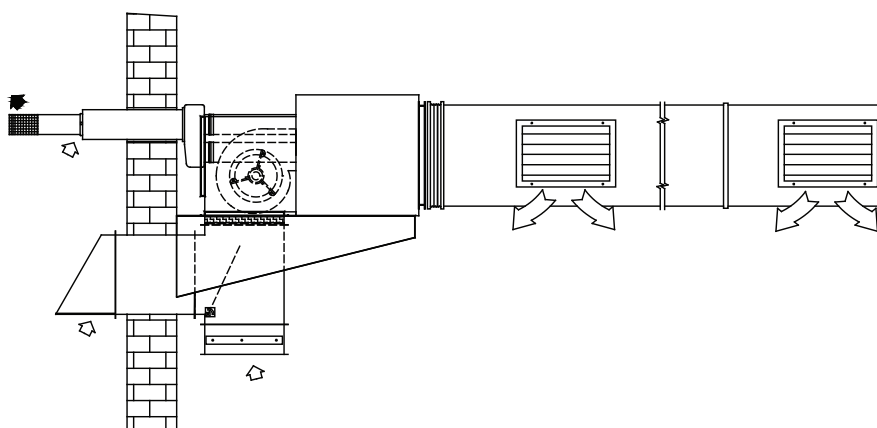
CENTRIFUGAL FAN-TYPE EXECUTION (GTV-CON-...CL)

Features:

- suction in of heater air can be from inside or outside respectively in case of installed „winter-summer” mode relay the suction-ing of mixed inside-outside air is executed through air duct,
- blowing in of warm air is executed through the attached air duct system to the demanded places.



4. picture: Centrifugal fan-type with air duct execution



5. picture: Air duct execution at „CL” type



**OPTIONAL ACCESSORIES****MODULATION CONTROLLERS AND TEMPERATURE**

6. picture: AHP-MOD type controller and temperature sensor

**AHP-MOD**

The controller has the following settings: HEATING / 0 / VENTILATION; there is a RESET button and a switch that changes between MODULATION and the double-point control, and there is also a program clock. The daytime and the night temperature can be set by two knobs. The programmable thermostat switches on the appliance depending on the time of the day and the temperature we want to have in the room.

**Setting:** In heating mode the equipment operates at 100% when the knob is set to 30°C and maintains this for 30 seconds. Set the solenoid valve to peak pressure. After the 30 seconds have elapsed, turn the knob until the red light starts flashing. Then measure the voltage between points S1 and L1, which has to be between 120 V and 125 V at minimum power; if there is a deviation you can set the value with the potentiometer. After that set the minimum pressure value on the solenoid valve. Finally set the desired temperature.

This type of control is the so-called PILOT control where the communication between the program clock and the hot air appliance(s) takes place only through 1 wire, the „control wire”. The signals coming from the temperature regulator are received and processed by a control electronics (signal processing) unit and it starts the program accordingly.

**5. APPLIANCE SPECIFICATION****APPLIANCE INSTALLATION**

- **SOLELY INTERIOR** installation is possible,
- for the sake of appropriate efficiency the position and the high of installation has to be carefully defined,
- the mounting of appliance can be executed by cantilever respectively suspension
- the appliance has to be placed in that way that its every part be accessible.

**VENTILATION**

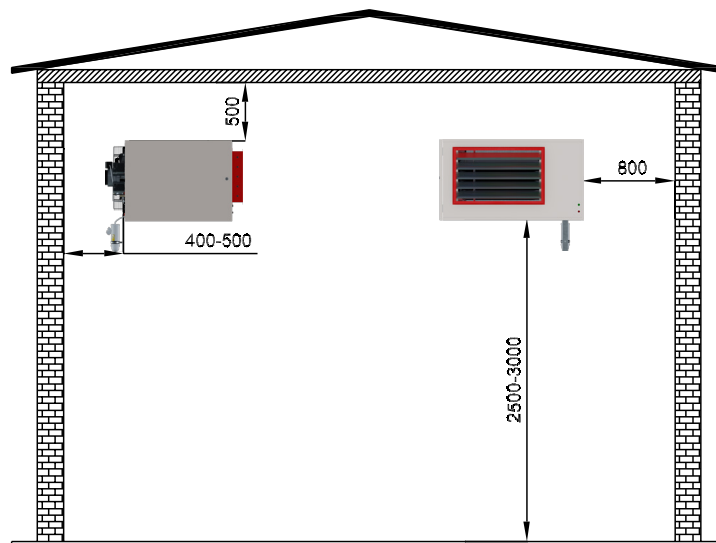
The appliance operates either using of inside air or outside air respectively inside-outside mixed air, which can be sucked in through of located air duct system.

If the appliance uses indoor air than need replace the air by ventilation.

## PROTECTIVE DISTANCES

From flammable materials it is obligatory to keep **SAFETY OF OPERATION** and **FIRE PREVENTION** distances!

### MINIMAL DIMENSIONS OF PROTECTIVE DISTANCES:



7. picture: Protective distances

## 6. APPLIANCE OPERATION

### START, RESTART

The properly installed appliance according to the control sign received from temperature regulator - in the present case heating – starts the exhaust fan, which executes the 30 seconds pre-purge time. This time period is also enough for biggest power appliance to ensure the satisfactory air exchange namely the triple of combustion air volume. When the ventilation happened the sparking is started and the dual magnetic valves are opened the gas ignites.

If the continuous burning is formed within 5-10 seconds the appliance is operating normally the green control lamp is lighting. During operation the appliance continuously monitors the status/sign of differential pressure switch and flame detector, if needed the electronic control intervenes in the process.

If the status of differential air pressure switch is changed during operation namely switches over from work/switched on position to basic/standstill position in that case the automatic electronic control stops the gas supply by closing of magnetic valves and controls the appliance in error mode moreover the red control lamp located on front side of device is lighting.

In case the flame detector of automatic burner control does not sense flame formation during ignition in that case stops the gas supply and controls the appliance in error mode moreover the red control lamp is lighting.

In case during burning process the pressure difference decreases under the permissible minimal value on the air pressure switch than the automatic control prohibits the operation as follows:

- stops the gas supply,
- stops the operation of exhaust fan,
- controls the appliance in error mode and red control lamp is lighting.

**ATTENTION!** The restart of appliance, which is in safety status can only be possible by pushing of „RESET” push button located on the PCB (inside of appliance) or on the temperature regulator!

**General information:** The flame detector is self-checking and can just operate with the burner, other environmental effects (ambient temperature, lights) can not influence it.

**ATTENTION!** If the heater appliance is working, than it is prohibited to close the shutters completely!

## 7. MAINTENANCE

The GTV-CON type warm air blowers apart from the checking of suspension and cleaning of cover, lamellas and circulating fan do not need extra maintenances but to be able to preserve the long lifetime of appliance it is recommended to have yearly supervision done with a qualified service or expert.

### MAINTENANCE PROCEDURES

Maintenance supervisions by the costumer: (recommended half a yearly)

- supervision of circulating fan, if needed clean it (by high pressure air),
- supervision of outblowing apertures (lamellas)
- supervision of suspension points/surfaces by survey
- supervision of the condensate discharge siphon and the silicone pipes, regular cleaning.



**WARNING! Before every maintenance the appliance must be detached from the electrical supply by switching off the main-switch and disconnecting the connection plug located on the back side of appliance!**



**ATTENTION! In case operational circumstances of appliance (atmosphere is contaminated with corrosive substances, dirt) need it, then supervision and cleaning may have done more often! The main reason of this that dirt placed on the fan may damage efficiency of appliance!**

### MAINTENANCE SUPERVISION SOLELY BY A QUALIFIED SERVICE DEPARTMENT

(all kinds of interventions for which disassembly of appliance is necessary):

- check of the condition of pressure regulator
- check of the protective earthing
- check of the electrical connection
- check of the exhaust fan and circulating fan: check the free rotation of fan and remove the possible contaminations from the impellers
- supervision of the heat exchanger
- supervision of working of the temperature controller
- check of the ignition and ionization electrode, if necessary change it
- check of the exhaust fan and circulating fan, if necessary clean those
- supervision of the quality of combustion
- dismounting and clean of the gas filter by high pressure air



**ATTENTION! After every maintenance the appliance must be again adjusted !**

Constructional components, which ensure the suitable operation:

- double-closed solenoid valve
- automatic burner control
- electrical board (sign processing)
- differential pressure switch
- exhaust fan
- combined thermostat (bimetal),
- heat-limiter thermostat (100 °C),
- circulating fan

Apart from cleaning of exhaust fan and circulating fan the a.m. components do not need maintenance! The cleaning of fans is expedient to carry out by high pressure air.



**WARNING! Never block the outflow of fume and inflow of combustion air!  
Never change the original adjustments what the expert made!  
Never allow that water or water-vapour can be got on the appliance!**

For professional maintenance it is practical to conclude a maintenance contract, or call the distributor's technical service for regular maintenance!

If the mains power supply gets damaged, replacement may only be carried out by a qualified person or professional service staff, in order to eliminate hazards.

## 8. ENCLOSURES

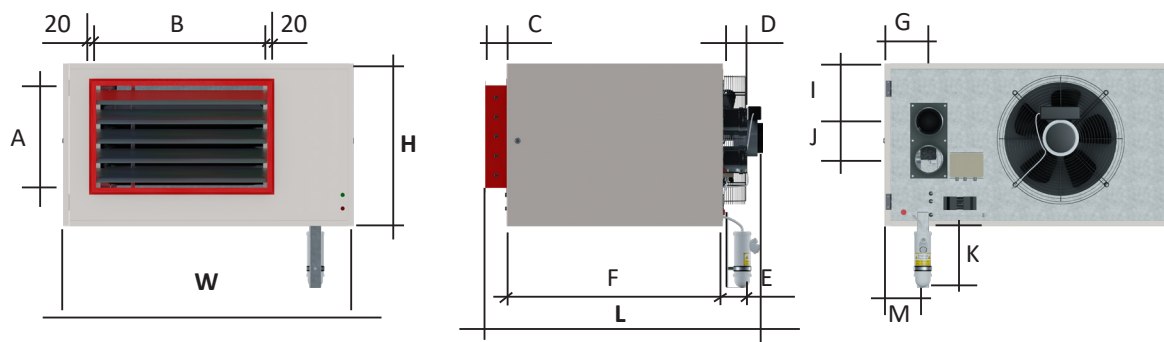
### ENCLOSURE 1.: APPLIANCE PERFORMANCE DATA

Type			GTV-CON 27/19A	GTV-CON 40/28A	GTV-CON 58/40A
INPUT POWER(NCV)	kW		27/19	40/28	58/40
OUTPUT POWER (NCV)	kW		26,7/17,6	39,9/26,4	58,3/38,4
EFFICIENCY	%		79,1	79,3	79,1
GAS CONSUMPTION	NATURAL GAS	m <sup>3</sup> /h	2,86	4,23	6,14
AIR FLOW		m <sup>3</sup> /h	2790	4160	5890
QUANTITY OF FAN	db		1	1	1
DIFFERENT OF AIR TEMPERATURE ΔT	°C		26,7	26,1	26,3
AIR THROW	m		16	20	25
EXHAUST PIPE / AIR SUPPLY DIAMETER	mm		Ø100/Ø100		
GAS CONNECTION			G1/2" ISO 228 OD		
ELECTRICAL CONNECTION			230V / 50Hz		
NOMINAL CURRENT CONSUMPTION	A		1,5	3,7	3,7
ELECTRICAL PERFORMANCE	W		330	790	790
NOISE LEVEL	dB(A)		53	55	57
WEIGHT	kg		100	123	193
IP PROTECTION OF DEVICE			IP 20		

Type			GTV-CON 27/19 C, CL	GTV-CON 40/28 C, CL	GTV-CON 58/40 C, CL
INPUT POWER(NCV)	kW		27/19	40/28	58/40
OUTPUT POWER (NCV)	kW		26,7/17,6	39,9/26,4	58,3/38,4
EFFICIENCY	%		79,1	79,3	79,1
GAS CONSUMPTION	NATURAL GAS	m <sup>3</sup> /h	2,86	4,23	6,14
AIR FLOW		m <sup>3</sup> /h	2787	4140	5870
QUANTITY OF FAN	db		1	1	1
DIFFERENT OF AIR TEMPERATURE ΔT	°C		26,7	26,1	26,3
AIR THROW	m		16	20	25
EXHAUST PIPE / AIR SUPPLY DIAMETER	mm		Ø100/Ø100		
GAS CONNECTION			G1/2" ISO 228 OD		
ELECTRICAL CONNECTION			230V / 50Hz		
NOMINAL CURRENT CONSUMPTION	A		4,1	5	6
ELECTRICAL PERFORMANCE	W		870	1090	1280
NOISE LEVEL	dB(A)		58	58	58
WEIGHT	C - TYPE	kg	115	145	214
	CL - TYPE		121	149	220
IP PROTECTION OF DEVICE			IP 20		

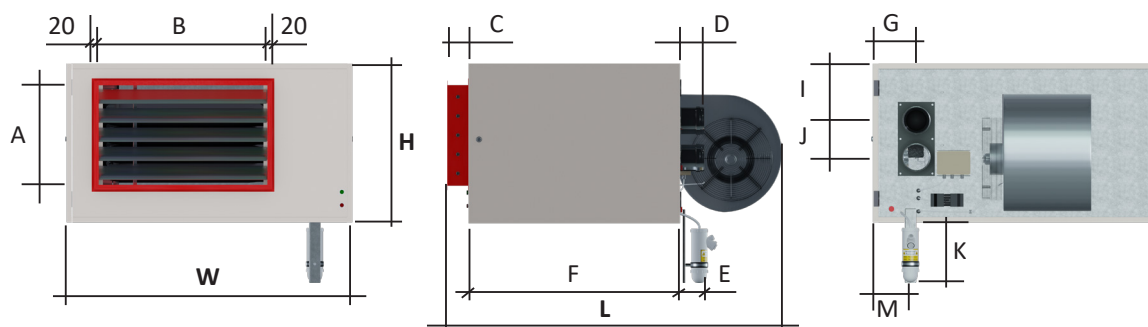
**ENCLOSURE 2.: APPLIANCE DIMENSIONS PER TYPES**

GTV-CON-...A AXIAL FAN-TYPE 27...58 kW



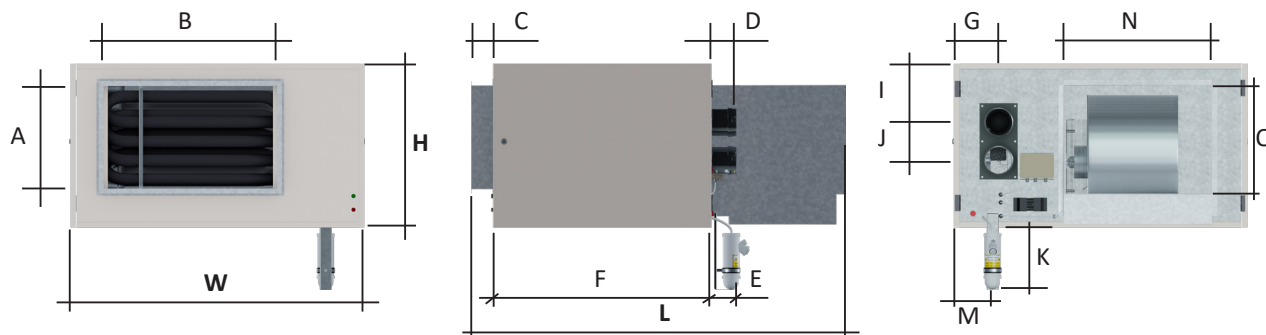
	W	H	L	A	B	C	D	E	F	G	I	J	K	M
GTV CON-27/12 A	1080	600	1030	360	600	85	60	91,5	800	165	215	140	230	141,5
GTV CON-40/18 A	1080	670	1030	500	600	85	60	91,5	800	165	247	140	230	141,5
GTV CON-58/26 A	1170	800	1090	640	600	85	60	91,5	800	232	300	140	230	141,5

GTV-CON-...C CENTRIFUGAL FAN-TYPE 27...58 kW



	W	H	L	A	B	C	D	E	F	G	I	J	K	M
GTV CON-27/12 C	1080	600	1370	360	600	85	60	91,5	800	165	215	140	230	141,5
GTV CON-40/18 C	1080	670	1420	500	600	85	60	91,5	800	165	247	140	230	141,5
GTV CON-58/26 C	1170	800	1420	640	600	85	60	91,5	800	232	300	140	230	141,5

GTV-CON-...CL CENTRIFUGAL FAN-TYPE 27...58 kW



	W	H	L	A	B	C	D	E	F	G	I	J	K	M	N	O
GTV CON-27/12 CL	1080	600	1380	360	600	85	60	91,5	800	165	215	140	230	141,5	550	400
GTV CON-40/18 CL	1080	670	1430	500	600	85	60	91,5	800	165	247	140	230	141,5	600	450
GTV CON-58/26 CL	1170	800	1430	640	600	85	60	91,5	800	232	300	140	230	141,5	600	450

**ENCLOSURE 3.: FLUE LONGS, ALLOWED PRESSURE DROPS**

 **ATTENTION! The joint of pipes must be sealed and fixed! Not allowed longer flue system as the above chart shows!**

Supplement: The fresh air supply and venting set can contain an elbow 90°.

In case of use more elbows, you need to reduce the length of fresh air supply and venting set, as follow:

- the pressure drop of 1m Inox Ø100 mm pipe is 2 Pa
- elbow 90° is equal about 1m length pipe 2 Pa

 **It is allowed to use longer fresh air supply and venting set with isolation and condensate outlet. In this case, contact the manufacturer!**

Type	GTV-CON 27/19A /C /CL	GTV-CON 40/28A /C /CL	GTV-CON 58/40A /C /CL
Input power (NCV)	27/19	40/28	58/40
Output power (NCV)	26,7/17,6	39,9/26,4	58,3/38,4
Venting set type	Maximal lenght of venting set Ø 100 mm [m]		
B22	8	8	8
C12	8	8	8
C32	8	8	8
C52	8	8	8
Venting set type	Maximal pressure drop of venting set Ø 100 mm [Pa]		
B22	8	12	16
C12	8	12	16
C32	8	12	16
C52	8	12	16

**ENCLOSURE 4.: GAS CONSUMPTION**

Type			GTV-CON 27/19	GTV-CON 40/28	GTV-CON 58/40
INPUT POWER(NCV)	kW		27/19	40/28	58/40
OUTPUT POWER (NCV)	kW		26,7/17,6	39,9/26,4	58,3/38,4
GAS CONSUMPTION	NATURAL GAS	m <sup>3</sup> /h	2,86	4,23	6,14

**ENCLOSURE 5.: TARGET COUNTRIES/GAS CATEGORIES**

Modell	Appliance category	Gas pressure of connection (mbar)	Target countries
GTV-CON 27/19A, C, CL GTV-CON 40/28A, C, CL GTV-CON 58/40A, C, CL	I <sub>2H</sub>	20	DK, EE, FI, LT, LV, NO, SE
	I <sub>2E</sub>	20	LU, DE
	I <sub>2H</sub>	20	BA, BG, MD, RO, RU, SK, UA, HR, RS
		20	CH, ES, GB, IE, PT, SI
		20	CZ, GR, IT
		20	AT, TR
	I <sub>2E</sub>	20	PL
	I <sub>2H</sub>	25	HU

The appliances were tested together with the flue system, recommended by the manufacturer.  
The applied flue system parts: LIM-MONT ECO DIM, DW,  
LIM-MONT ECO DIM DE.

**ENCLOSURE 6.: ECO-DESIGN DECLARATION OF CONFORMITY**Modell: **GTV-CON 27/19A Modulation controlled gas-fired forced convection air heater with axial fan**B<sub>1</sub> Warm air heater: NoC<sub>2</sub> Warm air heater: NoC<sub>4</sub> Warm air heater: No

Type of fuel: Gas

Item	Symbol	Value	Unit	Item	Symbol	Value	Unit
Capacity				Useful efficiency			
Rated heating capacity	$P_{rated,h}$	26.75	kW	Useful efficiency at rated heating capacity	$\eta_{nom}$	89.12	%
Minimum capacity	$P_{min}$	17.69	kW	Useful efficiency at minimum capacity	$\eta_{pl}$	87.95	%
Electric power consumption				Other items			
At rated heating capacity	$e_{l,max}$	0.068	kW	Envelope loss factor	$F_{env}$	0.0	%
At minimal capacity	$e_{l,min}$	0.050	kW	Ignition burner power consumption	$P_{ign}$	0.0	kW
In standby mode	$e_{l,sb}$	0.0	kW	Emissions of nitrogen oxides	$NO_x$	85.4	mg/kWh input energy (GCV)
Regulation (EU) 2016/2281				Emission efficiency	$\eta_{s,flow}$	93.19	%
				Seasonal space heating energy efficiency	$\eta_{s,h}$	79.1	%

Modell: **GTV-CON 40/28A Modulation controlled gas-fired forced convection air heater with axial fan**B<sub>1</sub> Warm air heater: NoC<sub>2</sub> Warm air heater: NoC<sub>4</sub> Warm air heater: No

Type of fuel: Gas

Item	Symbol	Value	Unit	Item	Symbol	Value	Unit
Capacity				Useful efficiency			
Rated heating capacity	$P_{rated,h}$	39.99	kW	Useful efficiency at rated heating capacity	$\eta_{nom}$	89.3	%
Minimum capacity	$P_{min}$	26.44	kW	Useful efficiency at minimum capacity	$\eta_{pl}$	88.1	%
Electric power consumption				Other items			
At rated heating capacity	$e_{l,max}$	0.072	kW	Envelope loss factor	$F_{env}$	0.0	%
At minimal capacity	$e_{l,min}$	0.060	kW	Ignition burner power consumption	$P_{ign}$	0.0	kW
In standby mode	$e_{l,sb}$	0.0	kW	Emissions of nitrogen oxides	$NO_x$	84.2	mg/kWh input energy (GCV)
Regulation (EU) 2016/2281				Emission efficiency	$\eta_{s,flow}$	93.16	%
				Seasonal space heating energy efficiency	$\eta_{s,h}$	79.3	%



Modell: **GTV-CON 58/40A Modulation controlled gas-fired forced convection air heater with axial fan**

B<sub>1</sub> Warm air heater: No

C<sub>2</sub> Warm air heater: No

C<sub>4</sub> Warm air heater: No

Type of fuel: Gas

Item	Symbol	Value	Unit	Item	Symbol	Value	Unit
Capacity				Useful efficiency			
Rated heating capacity	$P_{rated,h}$	58.33	kW	Useful efficiency at rated heating capacity	$\eta_{nom}$	89.4	%
Minimum capacity	$P_{min}$	38.45	kW	Useful efficiency at minimum capacity	$\eta_{pl}$	88.0	%
Electric power consumption				Other items			
At rated heating capacity	$e_{l,max}$	0.095	kW	Envelope loss factor	$F_{env}$	0.0	%
At minimal capacity	$e_{l,min}$	0.074	kW	Ignition burner power consumption	$P_{ign}$	0.0	kW
In standby mode	$e_{l,sb}$	0.0	kW	Emissions of nitrogen oxides	$NO_x$	97	mg/kWh input energy (GCV)
Regulation (EU) 2016/2281				Emission efficiency	$\eta_{s,flow}$	92.98	%
				Seasonal space heating energy efficiency	$\eta_{s,h}$	79.1	%

## 9. GUARANTEE AND SERVICES

### PRESERVE THIS WARRANTY

Type: _____
Serial no.: _____
Date of purchasing: _____

### LIMITED GUARANTEE \*

The manufacturer guarantee the costumer that the product and its parts are free from material and production failures. During normal use the warranty is 2 years. This warranty concerns the first retail customer.

The guarantee concerns the costs of laboratory investigations and the parts, which are needed for proper operation. The delivery and unforeseeable costs belong also to the mending costs and do not contain compensation costs.

Guarantee mending can only be realized by authorized retailer or service centre.

The guarantee does not concerns the following failures, which are caused by: improper using, damaging, neglect, accident, lack of maintenance, normal attrition, transformation, modification and operation influenceable factor, contaminated fuel, installation of non-suitable part and mending which is done by not authorized retailer or service station.

The regular maintenance is the owner's responsibility.

The manufacturer does not assume the responsibility in case of accidentally happened or directly caused mistake respectively improper using.

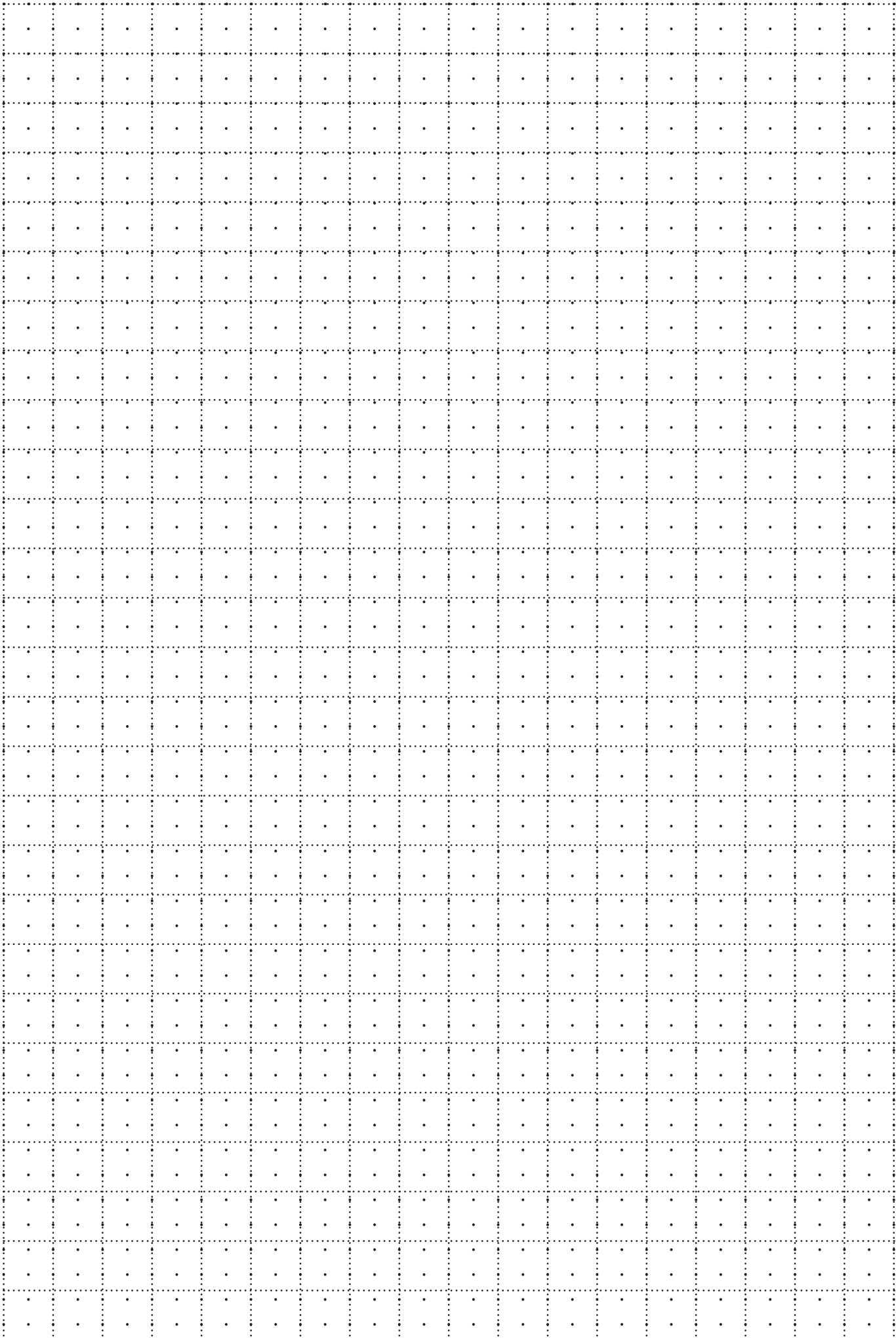
**\*We reserve the right to change of this specification without extra notification. The guarantee can be applied in accordance with above defined. Additional guarantee is not accepted.**

#### Guarantee servicing

If your appliance needs guarantee service in that case it can be requested at nearest authorized service station giving in the appliance for repairs.

#### Mending services

Take the appliance to the nearest authorized service station. If the device is not under guarantee the service cost will be invoiced to the costumer at defined price. The service centres are independent from one another and may have different owners. We reserve the right to change of this specification without extra notification. If you would like to contact us the type and serial number of device always be at hand. In case of other needed information write to the distributor.





**PAKOLE**

[www.pakole.com](http://www.pakole.com)

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