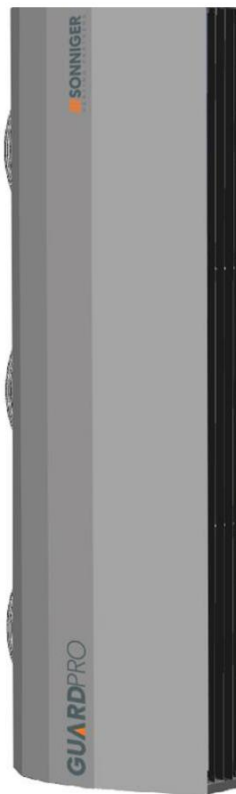


GUARDPRO

Operation and Maintenance Documentation







Turnbull & Scott™
Trusted.

1. PURPOSE OF THE DEVICE

The industrial air curtain range is intended to be used in areas with a moderate to cold climate, in spaces where temperature ranges from -15 to +40°C and with relative humidity up to 80% (at the temperature of +25°C), in conditions free from external factors such as pollens, hydrometeor (horizontal precipitation) and chemical vapors.

In winters, the air curtains protect against heat loss in areas by an airstream suitably directed that protects the entrance of cold air into the heated space. In the summer, the air curtains may be used as cooling devices preventing the entry of hot air from outside as well as air pollutants.

The GUARD PRO industrial air curtains are designed to protect against heat losses in the gateways of buildings of medium and high capacity especially such as the followings:

-  warehouse and production areas,
-  Loading/unloading sections in supermarkets and large commercial premises,
-  Car showrooms and service stations,
-  exhibition centres

2. BASIC TECHNICAL PARAMETERS

Parameters	unit	Curtain with water heater		Curtain with electric heater		Curtain without heater	
		GUARDPRO 150W	GUARDPRO 200W	GUARDPRO 150E	GUARDPRO 200E	GUARDPRO 150C	GUARDPRO 200C
Lenght of unit	m	1,5	2	1,5	2	1,5	2
Max airflow range	m	7,5	7,5	7,5	7,5	7,5	7,5
Heat output *	kW	33	47	14	21	-	-
Max air output	m³/h	6 500	9 000	6 700	9 100	6 800	9 200
Max working pressure	MPa	1,6	1,6	-	-	-	-
Diameter of connection nozzles	"	3/4"	3/4"	-	-	-	-
Motor power supply, consumption	V/Hz / A	230/50 2,4A	230/50 3,6A	230/50 2,4A	230/50 3,6A	230/50 2,4A	230/50 3,6A
Motor power	kW	0,5	0,75	0,5	0,75	0,5	0,75
Electric heater power supply, consumption	V/Hz / A	-	-	400/50 17A	400/50 29A	-	-
Weight filled with water / without water	kg	46/44	62/60	45	63	37	51
Noise level	dB (A)	59	61	59	61	59	61
Protection class IP		IP 54	IP 54	IP 54	IP 54	IP 54	IP 54

* for water parameters 90/70 C, inlet air temperature 0 C

max temperature of heating agent 130°C

3. HEAT OUTPUT RANGES

GUARD PRO 150E - 200 W Air curtains with water heat exchanger

GUARD PRO 150W																				
inlet/outlet water temperature	60/40					70/50					80/60					90/70				
inlet air temperature	0	5	10	15	20	0	5	10	15	20	0	5	10	15	20	0	5	10	15	20
air flow - 6500 m3/h																				
heat output [kW]	19,1	17,0	14,9	12,8	10,7	23,9	21,5	19,2	17,0	14,7	29,0	26,7	24,5	22,3	20,5	33,0	30,8	28,5	26,2	23,9
outlet air temperature [°C]	8,8	12,7	16,7	20,6	24,5	10,5	14,5	18,6	22,6	26,5	12,4	16,3	20,2	24,2	28,1	14,3	18,2	22,2	26,2	30,2
water flow [m³/h]	0,7	0,7	0,7	0,4	0,4	1,1	0,7	0,7	0,7	0,7	1,1	0,7	0,7	0,4	0,4	1,4	0,7	0,7	0,7	0,7
pressure drop [kPa]	2,4	1,8	1,3	0,9	0,5	3,7	3,1	2,5	2,0	1,5	5,1	4,4	3,7	3,1	2,6	6,7	5,9	5,2	4,4	3,8

GUARD PRO 200W																				
inlet/outlet water temperature	60/40					70/50					80/60					90/70				
inlet air temperature	0	5	10	15	20	0	5	10	15	20	0	5	10	15	20	0	5	10	15	20
air flow - 9000 m3/h																				
heat output [kW]	29,1	25,5	22,1	18,9	15,8	35,1	31,8	28,6	25,4	22,3	41,2	37,9	34,7	31,6	28,6	47,0	43,4	39,9	36,5	33,2
outlet air temperature [°C]	8,7	12,7	16,6	20,6	24,6	10,4	14,4	18,4	22,4	26,4	12,3	16,3	20,3	24,3	28,2	14,1	18,1	22,1	26,1	30,1
water flow [m³/h]	1,1	1,1	0,7	0,7	0,7	1,4	0,7	0,7	0,7	0,4	1,4	1,4	1,4	0,7	0,7	1,8	1,8	1,4	1,4	1,4
pressure drop [kPa]	5,8	4,3	3,1	2,1	1,1	8,5	7,1	5,8	4,7	3,7	12,0	9,9	8,5	7,1	5,9	15,0	13,0	12,0	9,9	8,5

GUARD PRO 150E - 200 E Air curtains with electric elements

	GUARD PRO 150E					GUARD PRO 200E				
	air flow 6700 m3/h					air flow 9100 m3/h				
inlet air temperature [°C]	0	5	10	15	20	0	5	10	15	20
heat output [kW]	14,0	14,0	14,0	14,0	14,0	21,0	21,0	21,0	21,0	21,0
outlet air temperature [°C]	8,0	13,0	18,0	23,0	28,0	8,0	13,0	18,0	23,0	28,0



GUARDPRO industrial air curtains are equipped with modern and safe solution **based on PTC electric elements**. Main advantages of PTC electric elements













- No current on coil surface
- **Lower temperature on coil surface in comparison to old type of electric elements**, long life solution
- Large space of PTC coil, enhanced energy exchange between coil and air. Fully automated regulation of heat capacity depending on air flow
- No risk of system **overheat**, thanks to „self cooling“ option (coil **automatically** decreases its temperature and heat capacity when air flow goes down)
- Very low energy consumption

4. GENERAL AND SAFETY PRINCIPLES







The GUARD PRO air curtains are manufactured in compliance with the rules and standards concerning quality, ecology, utility and work comfort . Before starting the device be sure to read the Manual carefully.

The GUARD PRO air curtains are delivered ready-to-use in a cardboard package that is to protect from any mechanical damages. The package consists of: the device, the Manual (Operation and Maintenance Documentation) and the Guarantee. If the optional automatic control ordered, it shall be delivered in a separate package. Make sure all the aforementioned elements are in the package immediately after the delivery. In the absence of any element, please fill in the suitable carrier document.

NOTICE!

-  Do not use the curtain in rooms containing any flammable and/or combustible substances, biological substances or in environments with corrosive air components.
-  Do not use the curtain in rooms with relative humidity above 80%
-  Do not leave the curtain ON unattended for longer periods
-  Do not use the curtain without proper earthing
-  Do not turn on the curtain with protective cover on
-  Before conducting any maintenance or cleaning work or during the break in operation for an extended period of time, make sure you disconnect the unit from the supply
-  To connect the air curtain, use a supply cable with a fork that protects against unintended disconnection from the power
-  When the air curtain is connected directly to the cable, please make sure there is a splitter protecting against any undesired disconnection
-  Pay special attention whilst transporting the device not to damage the casing
-  During operation, ensure the safety rules in accordance with the appropriate standards relating to the operation of any electrical devices
-  Do not place any objects on the curtain or reduce the airflow in order to ensure the fire safety and if sparks or a damaged supply cable noticed, discontinue the operation immediately
-  Electricity network, to which the curtain is connected, should be protected against overloading and short circuit

CAUTION!




-  For reasons of serious danger to electric shock any exchanges of supply cable must be performed by a qualified specialist
-  For reasons of serious danger to electric shock disconnect the power supply prior to conducting any repair or maintenance work
-  Any leakage repairs of the heating medium in the device, of which pipes are under pressure, is strictly prohibited
-  Cut-off/stop valve must be used to supply a heating medium
-  It is prohibited to connect grounding-type plug to water pipe, gas tubes, lightning conductors, telephone or antenna network
-  Wait for at least 3 hours before connecting the device to the supply power if the temperature while transporting is below zero

NOTICE !

- ① Before mounting the device, read the manual carefully and adhere to the rules concerning the mounting procedures. Not applying to the rules may result in the inappropriate functioning of the device and the loss of the guarantee rights.
- ① Pay special attention when working with electrical elements of the device.

5. ASSEMBLY

Before mounting the unit, take into consideration the following:

-  accessibility/easy access for any servicing and maintenance works
-  access to water and electrical installation
-  possibility to mount the curtain directly at the entrance

It is advisable to mount the device to the wall or the ceiling above the doorway on supporting mount pins or supporting constructions (shapes and dimensions of the supporting construction may be individually designed in compliance with durability and strength requirements).

Pay special attention to proper leveling of the device. If the device is not placed in a horizontal or vertical position, it may result in damage to the fan and consequently malfunction of the device. The air inlet and outlet must not be blocked by any objects. While installing the unit, remember to provide easy access to the control panel. A few curtains of the same type may be installed in case of a bigger doorway. They must be assembled side-by-side to make an uninterrupted stream of air. The curtain is mounted horizontally or vertically for permanent (on the left/right side of the doorway). The GUARD PRO air curtain is advised to be wider (in case of horizontal mounting) or higher (in case of vertical mounting) than the gate way.

If you decide on **ACTIVE PROTECTION** system, which is the assembly of curtains with water exchanger and without one, you have to mount air curtains with water exchangers on the bottom.

When connecting the curtain, make sure that maintenance work is possible to be conducted. On both connection nozzles manual shut-off valves should be installed in case of the necessity of disconnecting the unit. The hot water medium supply must be connected in accordance with the marking on the casing (inlet/outlet).

When pipes being screwed to the heat exchanger make sure you secure the inlet connection of the heater to protect it against the torque (that may cause leakage in the heat exchanger).

The connections **of heating medium with the threaded nozzles DIN 3/4"** should be based on the project carried out by an authorized designer. In case of connecting the curtain to the heating network with no mixing module, a water filter must be installed.

NOTICE !

- ① Pay special attention to proper leveling of the device. If the device is not placed horizontally or vertically, it may result in damaging the fan and consequently the malfunction of the device.
- ① To sustain proper functioning of the device, keep safe distances as given in Figure below.

Connecting GUARDPRO curtains

The **GUARDPRO multi-purpose connector** is designed to connect curtains and to mount curtains to the ceiling (in case of horizontal mounting) or to the wall (in case of vertical mounting). The **GUARDPRO multi-purpose connector** is not included in the content of the delivery and is available optionally. The connector should be installed in accordance with the figures below. The required number of the GUARDPRO multi-purpose connectors may be calculated from the formula below



Installation of connector inside the curtain

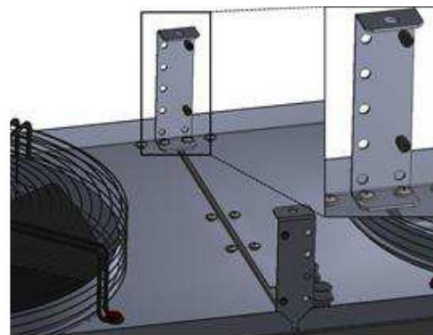
Horizontal assembly (N – number of curtains)

$N \times 4 =$ number of GUARDPRO multi-purpose connectors

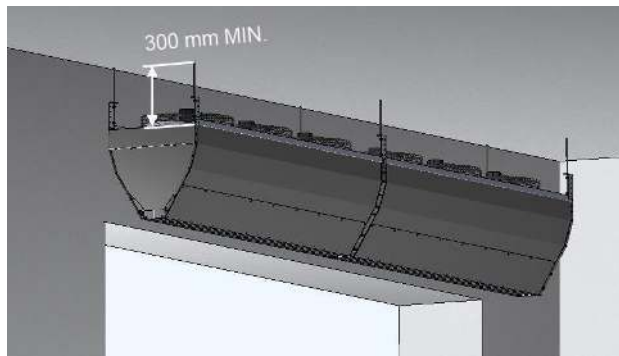
Vertical assembly (N - number of curtains)

$(N \times 4) - 2 =$ number of GUARDPRO multi-purpose connectors

Installation of connector at the back of the curtain



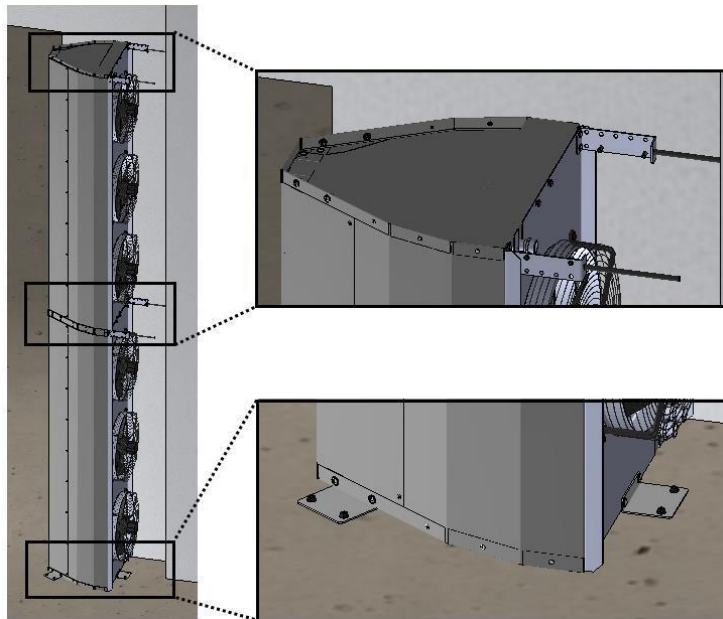
Horizontal assembly:



To mount the curtain horizontally in a proper way, keep the distance of min 300mm from the rear side of the device.

To mount the GUARDPRO curtain to the ceiling, use the GUARDPRO multi-purpose connector. Mounting pins of diameter 11 may be attached to the connector (not included in the delivery).

Vertical assembly:



To mount the curtain vertically make sure the air outlet of the curtain is as close as possible to the doorway and air gap is at the height of the upper edge of the entry. Please, make sure to keep the distance of about 300 mm between the outlet casing and the wall.

To mount two GUARDPRO curtains one above the other, it is necessary to use the GUARDPRO multi-purpose connector to install the curtain to the wall.

To mount GUARDPRO curtain to the floor, use vertical holder/support, which is used to attach the curtain to the EURO pallet (for the period of transport). The support is included in the delivery. The curtain must be attached to the floor from each side and its rear side as shown in Figure.



6. AUTOMATIC CONTROL SYSTEM - CONTROLBOX S3 GUARDPRO switch and power cabinet

The GUARD PRO curtain may be powered by any switch and power board made by a qualified person in accordance with the included Operational and Maintenance Documentation. Switch and power system must contain main/maintenance switch, fan's **current protection system**, a relay (ordered optionally) controlled by a door switch during the operation with door opening/closing application. **CONTROLBOX S3 GUARD PRO switch and power board** is available optionally and may be applied for maximum 3 GUARD PRO curtains (maximum 9 fans). CONTROLBOX S3 GUARD PRO is made in vacuum-tight casing, connections are made on **printed circuit board; additionally removable connectors were used for the installer's convenience. Basic functions of CONTROLBOX S3 GUARD PRO:**

- Main and additional current protection
- Possibility to connect DOORSTOP door switch (start/stop at the moment of opening gate)
- Possibility to connect SPEEDER S2 speed regulator (for two GUARD PRO curtains)
- Possibility to connect SPEEDER S3 speed regulator (for three GUARD PRO curtains)
- Delivery does not include main/maintenance switch

7. ELECTRICAL CONNECTION DIAGRAMS

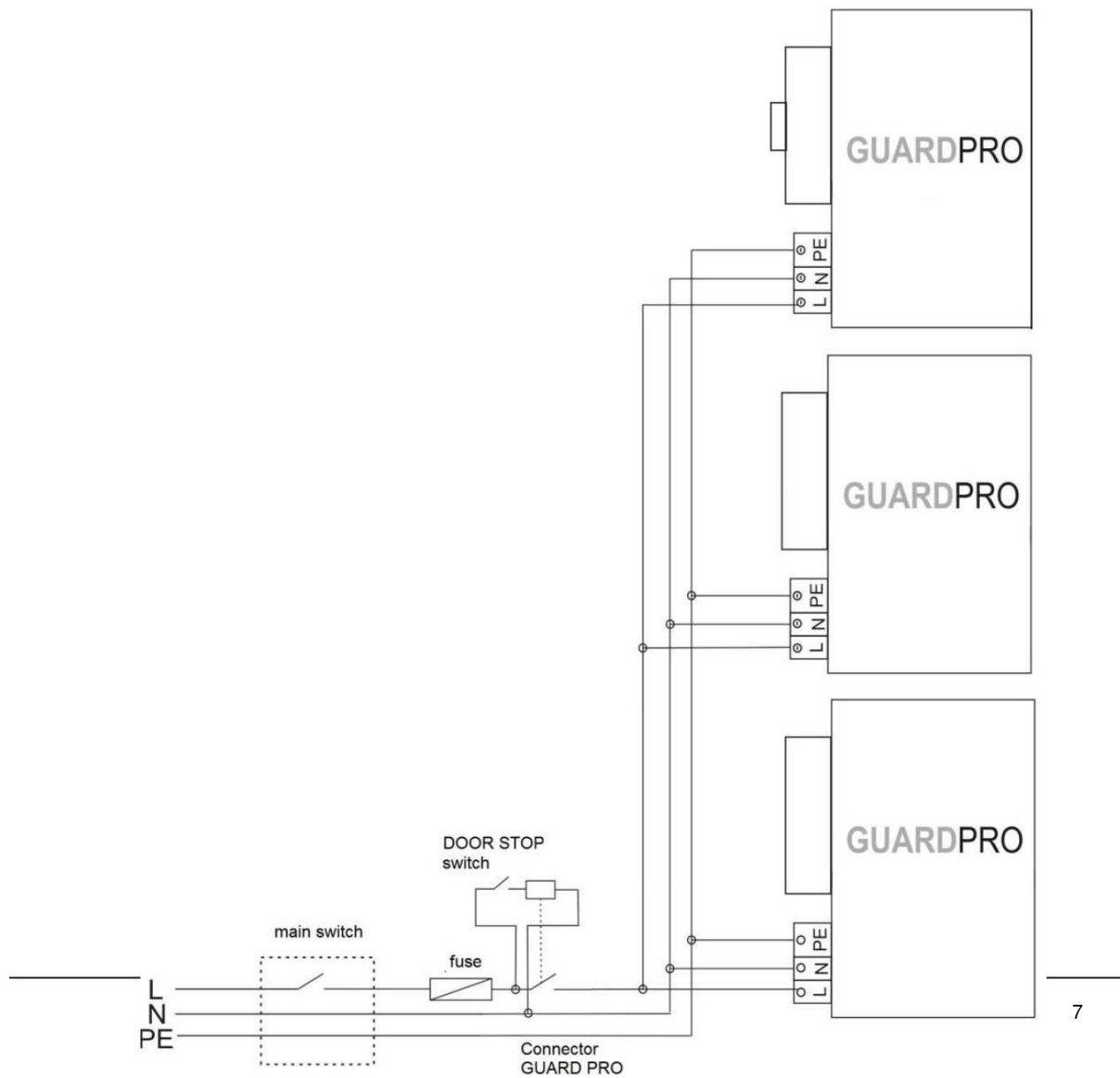
To connect the curtain use a 3-core copper cable of minimal diameter $3 \times 1,5 \text{ mm}^2$ for two curtains (up to 6 fans) or $3 \times 2,5 \text{ mm}^2$ for 3 curtains (up to 9 fans). The electrical installation and connection to power supply must be done in compliance with the existing regulations and standards for building industry.

The electric network, to which the device is to be connected, should protect the device against overloading and short circuit. It is necessary to use protective grounding. Any electrical installation works and the connection to supply power must be conducted in accordance with the applicable building regulations and standards. The connection of the unit to the power supply **must be conducted by a qualified specialist who is familiar with the Manual. Fan's motor is equipped with internal thermal protection against overheating.** Power cable and a main switch are not included in the set.

Also the DOORSTOP door contact switch can be installed; it turns off the GUARD PRO curtain when the door is being closed and the moment the door is being opened the GUARD PRO curtain starts operating accordingly to the parameters set in the control panel of the device.

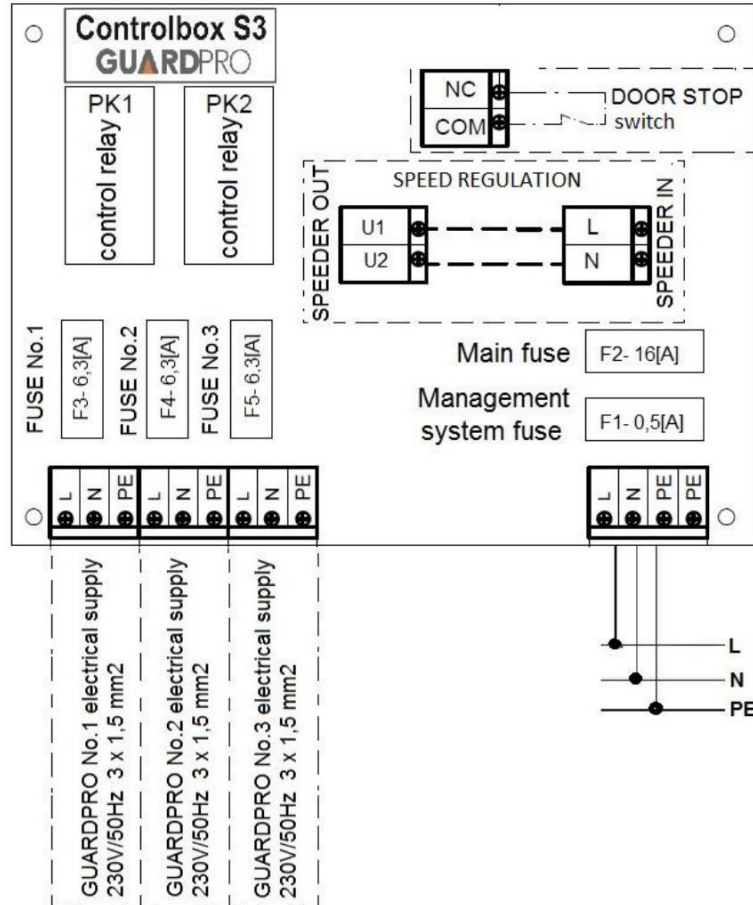
The regulation of air flow of GUARD PRO curtains by SPEEDER S2 - 10A or SPEEDER S3 - 14A speed regulator which is available optionally.

7.1 Connection scheme for GUARDPRO W (water coil) and C (without coil) with a switch and power board carried out by an installer.



7.2 Connection scheme for GUARDPRO W (water coil) and C (without coil) with CONTROLBOX S3 and SPEEDER S2 or SPEEDER S3 speed regulator.

NOTICE! A dashed line indicates factory-mounted jumpers that enable the operation of CONTROLBOX S3 without SPEEDER speed regulator. When installing the SPEEDER controller, jumpers must be taken out.



NOTICE!

① **DURING CONNECTION OF MAIN ELECTRICAL SUPPLY OF CONTROL BOX, POLARITY (L-N CONNECTION) MUST BE KEPT AS PRESENTED ON ABOVE SCHEME. L-N CONNECTION CANNOT BE MIXED (CONNECTED IN OPPOSITE WAY)!**




① A dashed line indicates factory-mounted jumpers that enables the operation of CONTROLBOX S3 without SPEEDER speed regulator. When installing the SPEEDER controller, jumpers must be taken out.

① Required main protection - fuse C16 [A]

① Required electrical supply wires - 3 x 1,5 mm² for 2 GUARDPRO curtains (up to 6 fans) or 3 x 2,5 mm² for 3 pcs GUARDPRO curtains (up to 9 fans)

① Electrical connection, maintenance and service operations may be run while main supply is OFF. Only qualified staff is allowed to run above operations

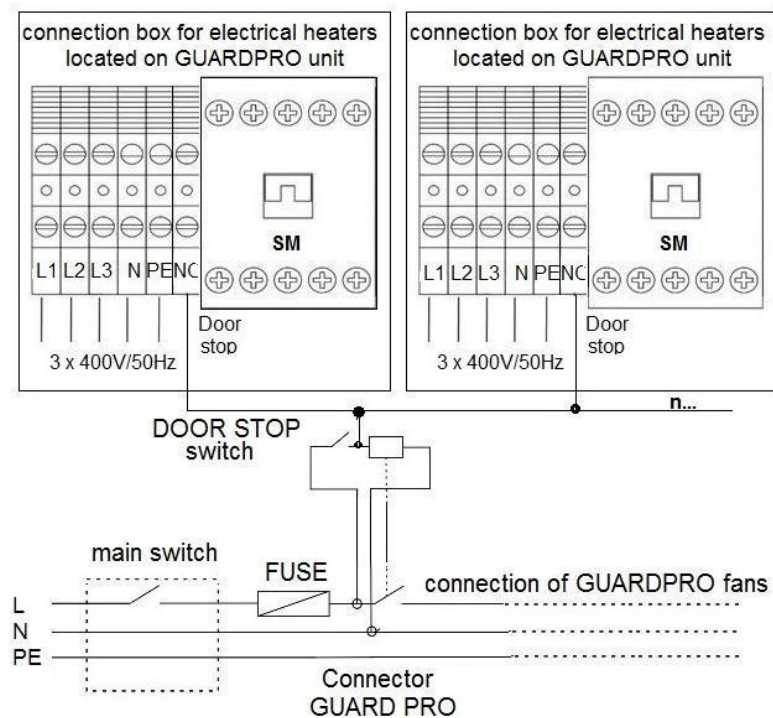
Electrical connection scheme for GUARDPRO E (electric heater)

-  Before starting of electrical connection please verify if power supply and frequency corresponds to requirements of GUARDPRO (presented on product sticker and technical manual)
-  GUARDPRO are equipped with single phase fans (1~230 V/50 Hz) it is required to use additional protection for overload and short circuit.
-  It is not allowed to start up GUARDPRO without grounded line.

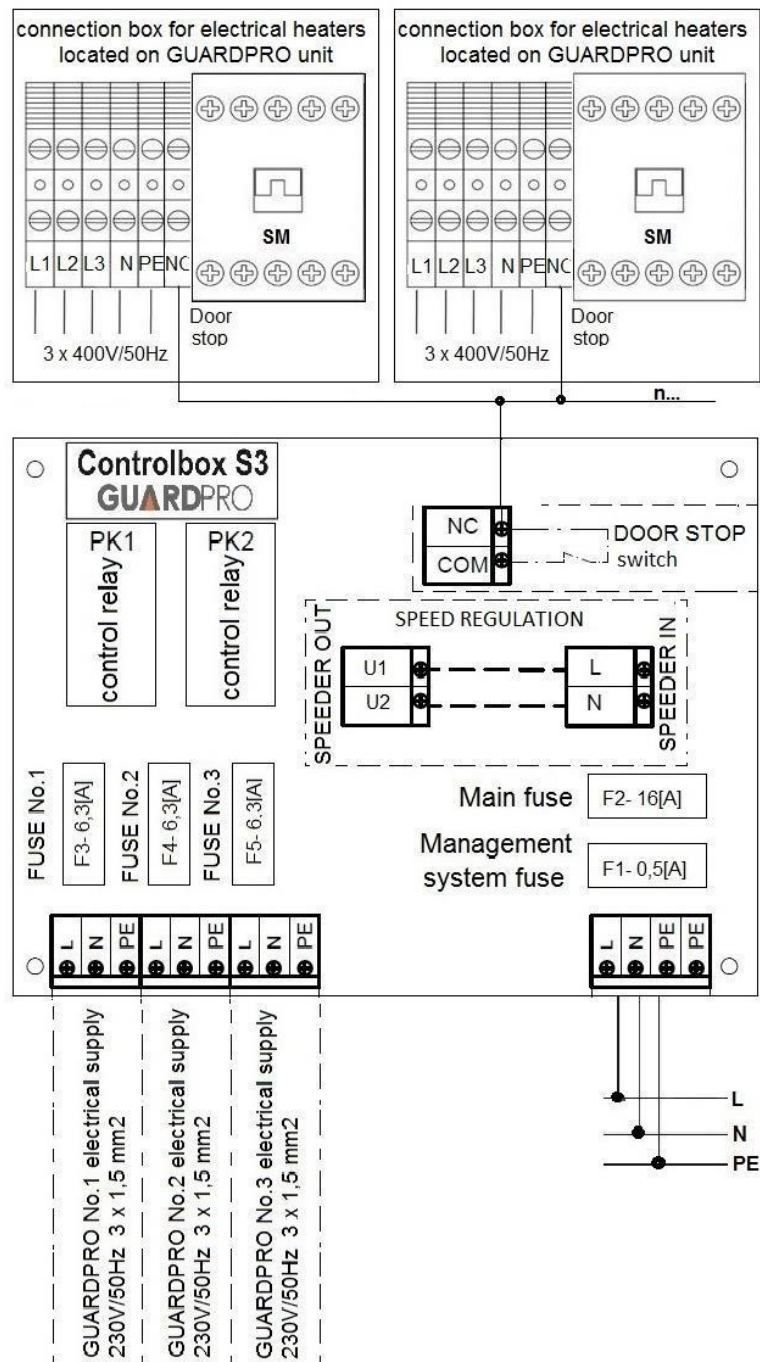
NOTICE! Supply of electrical heaters 3 x 400V/50 Hz

- ① GUARDPRO 150E – supply wires min 5 x 4mm², required protection B25
- ① GUARDPRO 200E – supply wires min 5 x 6mm², required protection B40

7.3 Connection scheme for GUARDPRO E (electric heater) with a switch and power board carried out by an installer.

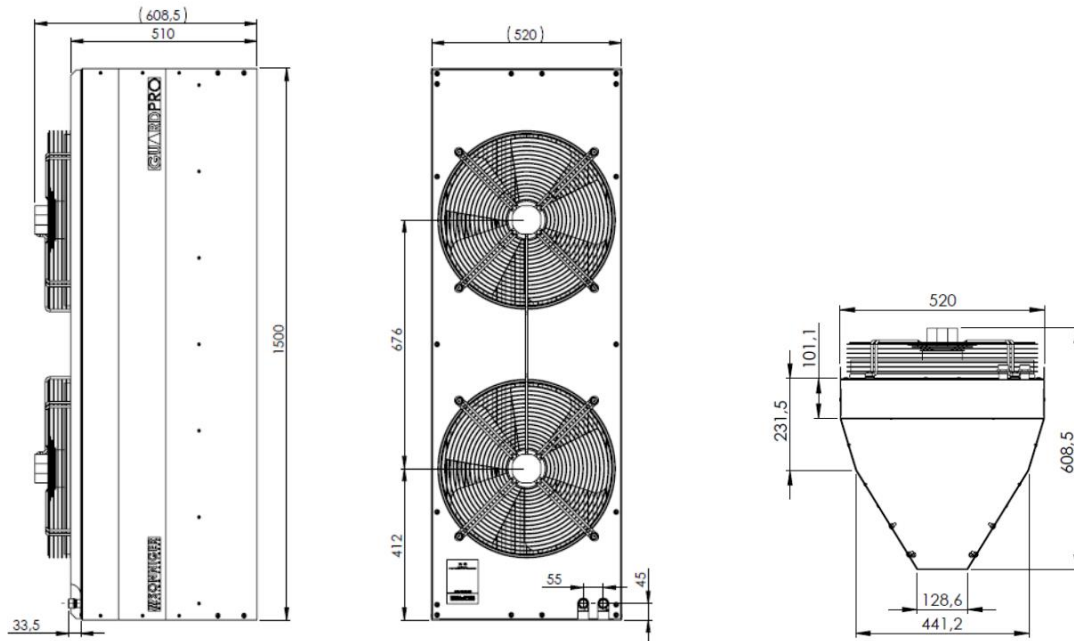


7.4 Connection scheme for GUARDPRO E (electric heater) with CONTROLBOX S3 and SPEEDER S2 or SPEEDER S3 speed regulator.

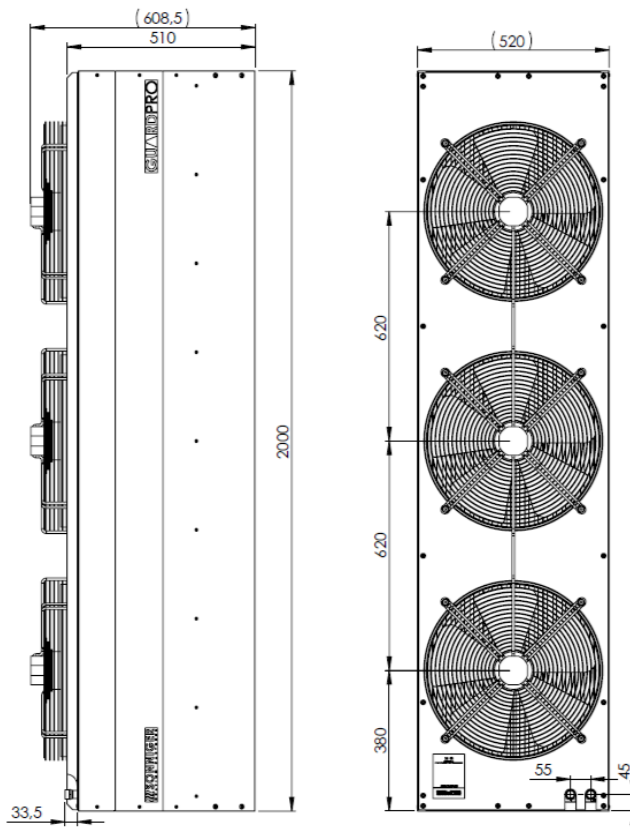


8. DIMENSIONS

GUARD PRO 150W, GUARD PRO 150C, GUARD PRO 150E,



GUARD PRO 200W, GUARD PRO 200C, GUARD PRO 200E



9. OPERATION AND MAINTENANCE

The engine and fan used in the GUARD PRO air curtains are maintenance-free devices but regular check-ups are advised, **especially motor and bearing (fan's rotor should rotate freely, free from any axial and radial throws/run-outs and undesired knocks/rattles.**

The heat exchanger requires systematical cleaning all dirt /impurities off. Before the start of the heating period, the heat exchanger is advised to be cleaned with compressed air directed to the air outlets; there is no need for dismantling the device. **Pay special attention when cleaning the exchanger's fin due to high possibility of damaging them. If the fin is bent, use a special tool.** If the device has not been used for a longer period of time, unplug it before the next use.

The heat exchanger is not equipped with any anti-freeze protection device. The heat exchanger may be damaged if the room temperature goes below 0°C.

If the device is to operate in a room where the temperature goes below 0°C, anti-freeze liquid must be added to the water circulation/system. Anti-freeze liquid must be appropriate for the material the exchanger is made of (copper), as well as other elements of the hydraulic system/circulation. The liquid must be diluted with water **accordingly to the manufacturer's** recommendation.

NOTICE !

- ❶ Any and all repair and maintenance works must be conducted with the power off and the heat input disconnected.
- ❶ Only suitably qualified staff well acquainted with the safety regulations concerning handling with an electrical device must be employed when the device is being installed, started and operated
- ❶ In the event of coolant leak, when the water system is under pressure, any repairs of the leakage are strictly prohibited.
- ❶ Any repairs of the device must be conducted only if the device is disconnected from the power supply.
- ❶ If the device being operated gives metallic clatter, vibration or the level of noise is increasing, check if the mounting of the fan has not become loose – in case of any problems contact the installer of the device or the SONNIGER Authorized Service immediately.

GUARANTEE TERMS AND CONDITIONS

1. General

(a) In these Conditions of Sale:-

“The seller means Commercial Industrial Heat Ltd, “the buyer means a buyer of any goods from the seller and “the goods means any goods sold by the seller to the buyer.

- (b) The seller only does business upon the terms of these Conditions of Sale which shall be deemed to be incorporated into any contract between the buyer and the seller. If there is any conflict between these conditions and the terms of the buyer's orders, these conditions shall prevail except to the extent that the seller has agreed in writing that they are excluded. These Conditions of Sale shall not be altered or varied except by express written amendment signed on behalf of the seller. The buyer confirms to the seller that no written or oral representation made by or on behalf of the seller (other than as expressly incorporated in these Conditions of Sale) have induced the buyer to enter into this contract.

2. Delivery

- (a) Except where otherwise specifically stated in writing, any references to delivery shall be construed as referring to date of dispatch from the seller's works. Any period quoted will run from receipt by the seller of either the buyer's order or final technical information necessary for manufacture, whichever shall be the later.
- (b) Quoted or acknowledged dates for dispatch are made by the seller in good faith and every effort will be made to adhere to them but the seller shall not be under any liability whatsoever for the consequences of any delay. Time for delivery is not of the essence of the contract.
- (c) If for any reason the buyer fails to take delivery of any goods after it has received notification that they are ready for delivery, the seller shall be entitled to invoice the buyer for any expense (including storage and insurance) that may have been incurred as a result of the buyer's failure to take delivery at the appropriate date.
- (d) Delivery shall be deemed to have been accepted unless and to the extent that in the case of non-delivery the seller is notified in writing within seven days from dispatch and in the case of damage, the goods are signed for as damaged and the seller is notified on the day of delivery, such notification to be confirmed in writing within three days after delivery.
- (e) The seller reserves the right to deliver any goods by instalments and to invoice accordingly. The provisions of these Conditions of Sale shall apply to such instalments as if each constituted a separate contract hereunder.

(f) Where goods are to be delivered by instalments and the buyer

(i) fails to accept any delivery when due; or

(ii) defaults making payment when due,

then in either case the seller may cancel any or all subsequent deliveries and the buyer shall compensate the seller in full for any loss or expense arising from such cancellation.

- (g) Delivery to the buyer is complete when the goods are unloaded from transport to the buyer or into the buyer's vehicle and the risk then passes to the buyer who shall be responsible for affecting his own insurance. The buyer shall be responsible for the safe unloading of the goods from the vehicle in which they are delivered.
- (h) If the seller replaces goods free or charge delivery shall be deemed to have been made and risk shall pass in respect of those goods in accordance with condition 2 (g).

3. Warranty

- (a) The seller warrants (subject to condition 6 below) that the goods manufactured by it are free from defects in material or workmanship provided that the seller's liability shall be limited to repair or replacement free of charge at the seller's works of the defective part within twelve months after delivery, provided notification of such failure or defect is given to the seller immediately upon the same becoming apparent and on the seller's request the goods are promptly returned to the seller carriage paid.
- (b) When the price quoted includes delivery other than at the seller's works the seller will repair or, at its option, replace free of charge, goods lost or damaged in transit, provided that it is given written notification of such loss or damage within such time as will enable it to comply with the carrier's conditions of carriage regarding loss or damage in transit or where delivery is made by the seller's own transport within a reasonable time after receipt of the advice note.
- (c) The seller warrants that it will have good title to sell all goods to be supplied and that they will be free from all liens and encumbrances in favour of any third party not declared or known to the buyer before or at the time of contract. In the case of goods supplied but not manufactured by the seller, the seller will, so far as it is able to do so, extend to the buyer the benefit of the supplier's warranty.
- (d) The seller shall be under no liability for any defect which is due to accident, fair wear and tear, negligent use, tampering, improper handling, improper use, improper operation or improper storage or any other default on the part of any person other than the seller.
- (e) Save for, and in respect of, the above warranty:-
- (i) The seller shall not under any circumstances be liable for loss of profits, loss of orders or consequential loss of any kind.
- (ii) The seller shall not be liable for any damage to property arising from any defect in the goods or from the negligence of the seller, its servants or agents.

- (iii) All conditions, representations, warranties or undertakings in connection with the goods, whether implied by statute, common law or any other reason whatsoever and whether as to quality, condition, fitness for use or otherwise whatsoever, are hereby excluded.
- (f) Where these conditions apply and the buyer deals as a consumer for the purpose of the Unfair Contract Terms Act 1977 ("a consumer sale") this condition will be in addition to the statutory rights of the purchaser meaning of that expression, as defined in the Consumer Transactions (Restrictions on Statements) Order 1976 ("statutory rights") and will in no way affect the statutory rights of the buyer and in particular, in the case of a consumer sale, none of the statutory rights are excluded by condition 3 (e) above.
- (g) All goods are sold explicitly on the understanding that they will be used only in the prescribed manner as designed. The seller expressly rejects liability for any risks to health and safety resulting from any use of the goods which is not in accordance with the operating instructions normally provided.
- (h) Goods repaired and parts replaced during the warranty period shall be in warranty for the remainder of the original warranty period or for ninety days, whichever is the greater.

4. Quotations

The seller reserves the right to cancel or withdraw any quotation, without notice, at any time before acceptance. A quotation issued by the seller does not constitute an offer to supply goods and any orders placed by the buyer following a quotation issued by the seller shall not be binding on the seller unless and until accepted by the seller in writing.

5. Price

- (a) All goods are sold and all prices are quoted ex works unless otherwise stated. Small orders may be subject to a minimum charge. The buyer's attention is drawn to condition 8 (b) below.
- (b) Unless otherwise stated the price of the goods excludes Value Added Tax (VAT) or any other tax, duty or levy which shall be added to the amount set out on the seller's invoice and paid to the buyer.
- (c) All prices quoted or acknowledged are firm for delivery within the delivery period stated in the seller's quotation or acknowledgement.
- (d) In the event of the suspension of work or inability on the seller's part to delivery either as a result of instructions from the buyer or through failure by the buyer to provide the seller with the seller's necessary instructions the contract price may be increased by the seller to cover any extra expense thereby incurred by the seller.
- (e) The seller shall be entitled to revise the price of goods to reflect any increase in the cost of materials, rates of wages or overhead costs incurred by it or made to take account of change in exchange rates or any new increased tariffs, import charges or taxes.
- (f) The price of goods may be increased for the supply of any quantity smaller than that quoted for.

6. Description

- (a) All descriptions, drawings and other particulars furnished in catalogues, price lists and other documents issued by the seller are as accurate as possible but being given for general information are not to be treated as binding unless specifically confirmed in writing. All dimensions and materials are, unless otherwise stated, subject to reasonable variations resulting from the raw material available or arising in the ordinary course of manufacture.
- (b) All items mentioned in condition 6 (a) above are the seller's property and so far as they are capable of being the subject of copyright are the seller's copyright and may not be copied or reproduced by the buyer without the seller's written consent.

7. Packing

Containers and any packing materials supplied as returnable will also be charged to the buyer's account by the seller but will be credited if returned carriage paid in good condition within twenty eight days and duly advised.

8. Payment

- (a) Except where otherwise stated the seller will invoice the goods upon dispatch or upon notification of readiness for dispatch whichever is the earlier. Invoices shall become due for payment within thirty days of the invoice date without reduction or deferment on account of disputes or cross claims.
- (b) Notwithstanding condition 8 (a) above, the seller may at its option require payment in part or full prior to dispatch and the seller reserves the right to withhold delivery of the goods until such payment is received.
- (c) Whilst any moneys remain unpaid upon a contract entered into under these conditions of sale after the due date for payment the seller reserves the right to refuse to commence or continue with any subsequent or prior order from the buyer and the seller shall be under no liability whatsoever for any such refusal

but the buyer will remain liable for the cost of all materials and work in connection with the manufacture or acquisition of goods by the seller for the purpose of future deliveries less an allowance of the value thereof as realised or as utilised by the seller.

- (d) The seller shall be entitled to charge interest at an annual rate equal to the Base Rate from time to time of Barclays Bank Plc plus four percent on all overdue accounts from the due date for payment until the actual date of payment.

- (e) The seller shall be entitled to bring an action for the price whether or not the property in the goods has passed to the buyer.

9. Passing of Property

- (a) The property in the goods shall remain in the seller until full payment for the goods has been received by the seller.
- (b) Until payment in full for the goods has been received by the seller, the buyer shall keep the goods free from any charge, lien or encumbrance whatsoever and shall store the goods separately from its own goods or those of any person and will make or otherwise identify the goods clearly and conspicuously as the property of the seller.
- (c) Until payment in full for the goods has been received by the seller, the seller may at any time require the goods to be returned to it and if such requirement is not forthwith complied with may retake possession of the goods and for such purpose is irrevocably authorised to enter upon any premises of or occupied by the buyer or its agents.
- (d) Before payment in full for the goods has been received by the seller, the buyer (acting on its own account and not as agent of the seller) is licensed by the seller to agree to sell any of the goods in its possession in the ordinary course of its business provided that the seller has not required the return of the goods.
- (e) Any sale by the buyer before payment in full for the goods has been received by the seller shall be on the express condition that the proceeds of such sale (including for the purposes of this condition any right to or claim for such proceeds) are held in trust for the seller and such proceeds shall be kept distinct and apart from other moneys of the buyer.

10. Insolvency etc.

If the buyer shall default in or commit any breach of its obligations to the seller or if any distress or execution shall be levied upon the buyer or if the buyer shall become bankrupt or insolvent or shall compound with its creditors or proceedings are commenced for the liquidation of the buyer (other than for a voluntary winding up for the purposes of re-organisation) or if a receiver or manager is appointed over the buyer's assets or any of them then the seller shall be entitled to cancel this and any other contract with the buyer in whole or

in part by written notice and such cancellation shall be without prejudice to any right or remedy accrued or accruing to the seller.

11. Materials

Where the buyer sends the seller items such as materials, tools or the like in connection with the buyer's orders it does so at its own risk and the seller accepts no responsibility for insuring such property except by arrangement in writing. Any patterns, jigs or tools provided by the seller remain the property of the seller except as stated by the seller in writing.

12. Tests

In the case of special tests at the seller's premises or on site which may be necessary or called for on the buyer's order seven days notice in writing or any shorter agreed notice will be given to the buyer of such tests. In the event of failure or delay on the buyer's part to attend the tests they will proceed in the buyer's absence and shall for all purpose of the contract of sale be deemed to have been accepted on the buyer's behalf if the person conducting the tests shall certify in writing that the goods have duly satisfied the tests. Unless included in the seller's quotation any test requested by the buyer may be charged for in addition to the quoted price. Unless specifically indicated the seller's price does not include for inspection by the buyer or any other inspection on behalf of the buyer.

13. Indemnity

When manufacturing or designing goods to specifications supplied by the buyer the seller shall not be liable for any loss of damage of whatever nature arising in any way out of or out of the use of defective designs, specifications or information supplied by the buyer or on its behalf and the buyer will keep the seller fully and effectually indemnified in respect thereof.

14. Patent Rights

- (a) Patent, design and other intellectual property rights relating to goods offered or supplied shall remain the seller's absolute property and the seller's designs and drawings shall not be reproduced or disclosed to any third party without its previous written consent. The buyer will not without the seller's previous written consent copy or enable others to copy any goods or part thereof supplied by the seller.
- (b) The buyer hereby indemnifies the seller against all claims, damages, costs and expense to which the seller may become liable through executing any order in accordance with the buyer's specification or drawing by the infringement or the

alleged infringement of a patent, registered design or similar intellectual property rights.

15. Sub-Contracting

The seller reserves the right to sub-contract the fulfilment of any order (including any installation) or any part thereof.

16. Cancellation and Variation

No cancellation of any order can be accepted without the prior consent of the seller in writing.

17. Governing Law

These conditions shall be governed by and construed in accordance with English Law and the parties shall be subject to the exclusive jurisdiction of the English Courts.

18. Notices

Any notice given by either the buyer or the seller shall be sufficiently given if sent by first class recorded delivery post (air mail post for export orders) or telex or facsimile transmission addressed to the place of business of the relevant party shown on the face hereof and shall be deemed to have been received (a) in the case of postage two days (seven days for export orders) after it was posted and (b) in the case of telex or facsimile transmission on the date of dispatch.

19. Force Majeure

The seller shall not be liable to the buyer for any failure to perform its obligations under the contract to the extent that such performance is hindered by acts of God, war, sabotage, explosions, epidemic, strikes, lockouts, labour disputes, shortage of labour or materials, compliance with rules, regulations or orders of any Governmental office, department or agency, fire storm, flood, earthquake or other natural catastrophe or any other.

GUARANTEE CARD

INVESTEMENT:

Device model:.....

Serial number:.....

Date of purchase:.....

Start date:

Details of Installation Company:

Person activating the device:.....

Name of company:.....

.....

Address:.....

Telephone:.....

Signature of a person who has started the device:.....

Installation works, check-ups/inspections, repairs:

Date	The scope of installation works, inspections, repairs	Signature and installation company stamp