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## UGW/D HEATING AND VENTILATION UNIT



- I. CONTACTS
- II. ORIGINAL INSTRUCTION MANUAL
- III. WARRANTY TERMS AND CONDITIONS
- IV. UNIT STARTUP REPORT
- V. INSPECTION AND MAINTENANCE DOCUMENT
- VI. SERVICE NOTIFICATION
- VII. LIST OF SUBASSEMBLIES INSTALLED IN THE UNIT



**Please read this instruction manual carefully before beginning any work.**

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## I. CONTACTS



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## II. ORIGINAL INSTRUCTION MANUAL

### UGW/D HEATING AND VENTILATION UNITS Size 10÷12

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## 1. INTENDED USE

UGW/D heating and ventilation units, size 10÷12, are intended to heat and ventilate such compartment as:

- » industrial halls
- » warehouses
- » workshops
- » other objects of similar use



The units should be used only according to the intended use. The manufacturer is not liable for using the units against the intended use and for any damages arisen for this reason.



Heating and ventilation units cannot be used in the compartments with relative humidity larger than 95% and air dust concentration over 5mg/m<sup>3</sup>.

The compartment can be served by one or larger number of the units, also by the units of different sizes.

Units are suitable for mounting on walls at a height that allows direct air flow to the heated area.

Units are equipped with centrifugal fan allowing independent operation of the device or witch attached additional equipment with air pressure drop up to 100 Pa.

The units can operate as heating units optionally with attached air filter at fan sucking side or as heating and ventilation units with added intake boxes. The intake boxes enable to draw circulating air, fresh air, or mixed in any proportion.

## 2. DESIGNATIONS

Heating and ventilation unit	UGW/D-	-	-	-	-	-
Size	10; 11; 12					
Heating medium	water (W); (°C);(MPa) steam (P);(MPa)					
Number of heating coil rows	III, IV for water, II, III for steam					
Motor type	two speed three phase (TD); single phase (J); single speed three phase(T)					
Speed	900/1400rpm, 1400rpm for size 10, 11 670 or 900 rpm for size 12					
Type	right (R) or left (L)					

°C - heating medium temperature

MPa - permissible heating medium pressure

## 3. OPIS URZĄDZENIA

The unit consists of:

- » **highly efficient centrifugal fan in chemicals resistant version (1);**
- » **water or steam heating coil (2);**

All heating coils are made of bimetallic tubes i.e. steel core barrel and aluminium ribs rolled outside. Standard water heating coils are made of tubes with the following dimensions: inner diameter d=12,4mm, rib outer diameter D=38mm and ribs spacing 2,8mm and the steam heating coils are made of tubes with d=21,4mm inner diameter, element outer diameter D=58mm and ribs spacing 5 mm. Connection spouts of the units with the steam and water heating coils are with threads.



For the bimetal water heaters the maximum temperature of heating medium is up to 150°C and the maximum operational pressure is up to 1,6Mpa.  
For the steam heaters the maximum operational pressure is up to 0,6 Mpa.



**There is a risk of heating medium freeze in the heater in the compartments with the temperature below 0°C.**

The risk can be reduced using an antifreeze thermostat (delivered at request), using antifreeze heating media or removing water from the unit.

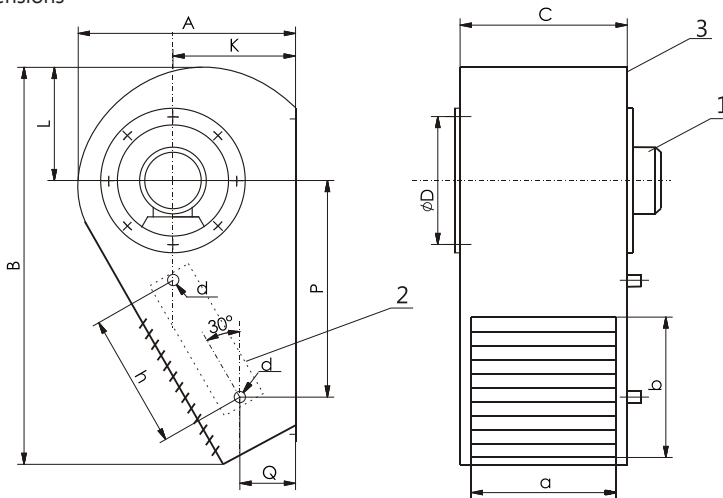
» **casing (3)** made of steel sheets with a single-row outlet grid allowing adjusting a direction of supply air. The structure of grid blades protects against an automatic rearrangement of the blades.

The casing can be made of stainless steel sheets.

There are left or right types of units offered which means that with the right type the person looking at the outlet grate sees the air inlet on the right.

#### 4. TECHNICAL DATA

Basic dimensions



Unit size	A [mm]	B [mm]	C [mm]	D [mm]	K [mm]	L [mm]	P [mm]	Q [mm]	a x b [mm x mm]	h [mm]	d					
											water	steam	water III	water IV	steam II	steam III
UGW/D-10	519	945	373	345	291	260	563	90	295x400	385	3/4"	3/4"	53	59	56	60
UGW/D-11	663	1245	479	410	342	342	794	116	390x520	490	1"	1"	87	96	78	95
UGW/D-12	808	1445	610	540	465	407	921	156	530x645	625	1 1/4"	1"	117	137	110	139

Unit environment and fan motor parameters

Unit size	Operation temperature [°C]	Max. air humidity [%]	Max. dust content [mg/m³]	IP	Insulating class
UGW/D-10, 11, 12	-15 ÷ +40°C	95%	5 mg/m³	54	F

## Units operational noise level

Unit size	Speed [rpm]	Noise level [dB(A)]	
		at the distance of 1m*	at the distance of 5m*
UGW/D-10	900	59	55
	1400	67	63
UGW/D-11	900	60	56
	1400	70	66
UGW/D-12	670	62	58
	900	68	64

\*Level of operation noise - level of acoustic pressure with room absorbing capabilities  $A=100\text{m}^2$  and directivity factor  $Q=2$  taken into account.

## 5. ADDITIONAL EQUIPMENT

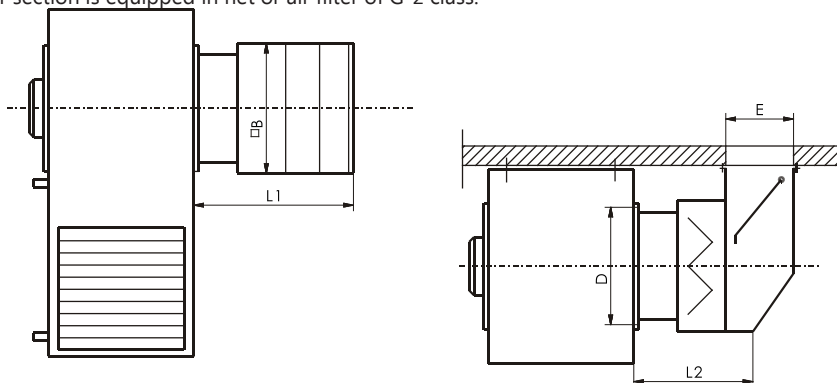
### Air intake boxes SkCz/D

They are used for drawing of fresh and recirculation air or of their mixture at any proportion.

Air intake boxes are made of powder-coated steel sheets.

Air throttles could be controlled manually or by use of servomotors.

Filter section is equipped in net or air filter of G-2 class.



Unit size	Box size	D [mm]	B [mm]	E [mm]	L1 [mm]	L2 [mm]
UGW/D-10	SkCz/D-10	345	340	157	436	269
UGW/D-11	SkCz/D-11	410	443	200	497	285
UGW/D-12	SkCz/D-12	540	570	240	497	285



When equipping the unit with intake boxes with filter:

- air capacity is reduced by ~10%;
- thermal powers are reduced by ~5%.

The air deriving boxes are offered in left and right types. The left type is used in left type units and right type is used in the right type units.

## 6. TRANSPORT

The delivered units are completely assembled, protected from outside by polyethylene foil against pollution and weather impacts.

The Product Manual is delivered along with the unit.

The intake boxes constitute additional equipment and they are delivered separately at the customer's request.

The automatics elements delivered at the customer's request are packed separately.



The units should be transported in one layer in a way preventing mechanical damages.

## 7. SAFETY RECOMMENDATIONS



Solutions minimizing a possibility of hazard to persons and property were applied when designing and manufacturing the units. However, it does not eliminate all possible risks.



The heating and ventilation units should be used only in compliance with the instruction manual.



The start-up, mounting, connection, inspections and repairs of the unit should be executed by an authorized installer, the electric works should be executed by a person having required certificates authorized to carry out electric works.

All service and repair works should be executed when voltage is off.



In case of the unit failure it is necessary to switch off the power supply to the electric motor of the fan and close the heating medium supply to the heater immediately.



The unit can be used only when electric safety devices operate correctly.

It must be permanently connected to the electric installation equipped with protective (earth) terminal, residual current device and service switch.

It is necessary to pay attention not to change the protection lead to the power lead.



The operation of the unit with the fan without a protective net is forbidden.



The heaters of the units can be supplied with water or steam of very high temperature (up to 160°C) what forces the users to be particularly careful.



A correct selection of fittings (including drain valves) by the designer of the installation is a condition of safe operation of the steam heater.



Only original spare parts should be used.

**Note for the user! The mounting or use of the heating and ventilation unit against the instruction manual makes the threat of unit damage, creates the hazard to persons and property and causes the loss of warranty.**



Due to the structure the unit does not emit harmful radiation.

Although the unit was designed and manufactured in compliance with the requirements of the standards, according to their state at the moment of production launch, a probability of injury or health loss when using the unit is not to be avoided. This probability is connected with a frequency of access to the unit in the course of its use, cleaning or repair, presence of persons within a dangerous zone, acting against the safety rules specified in the instruction manual.

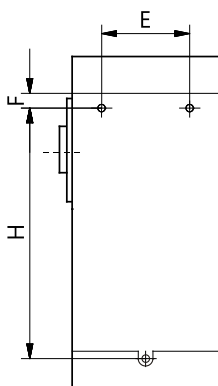
The gravity of body injury or deterioration of health condition depends on many factors that often can be foreseen only partially, taking them into consideration in the structure of the unit, specifying them and warning against them in the instruction manual.

Therefore there is a **residual risk** when the operator does not observe the recommendations and guidelines included in the instruction manual.

## 8. MOUNTING

### Hanging of the unit

For hanging the unit on the construction columns the catches are used (3 pcs) located at the rear of the casing.



Unit size	E [mm]	F [mm]	H [mm]
UGW/D-10	240	28	760
UGW/D-11	345	28	1030
UGW/D-12	545	28	1180

Minimal distance of the heating unit from construction partitions at the unit sides is ~ 30 cm.

### Hanging the units with intake boxes

Intake boxes should be screwed to the unit, the unit hung on the wall and the intake box flange screwed to the wall.

## 9. WATER INSTALLATION

Unit supply could be from top or lower spout. In new installations, better results are obtained with lower spout supply due to the heater venting easier.

It is recommended:

- » to use cut-off valves upstream and downstream the unit to enable its dismounting without the necessity to drain the supply installation
- » installation of the valve (recommended by Juwent) on medium supply spout.

The venting and draining of the heaters of the units is foreseen centrally in the network.

The venting and drain valves located in the installation outside the unit should be used.

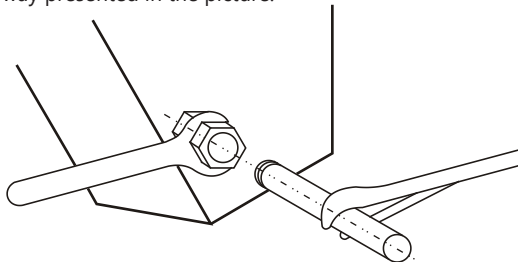


The imprecise venting of the heater can be a reason for which the unit does not reach planned parameters.



The weight of installation pipes should not rest on the spouts of the heater.

When connecting the heater to the heating network the spouts of the heater should be protected against breaking in a way presented in the picture.



**The heater damages arisen for the afore-mentioned reason are not covered by the warranty.**

## 10. STEAM INSTALLATION

The steam heaters should be supplied from the top.



A correct selection of fittings (including drain valves) by the designer of the installation is a condition of safe operation of the steam heater.

## 11. ELECTRICAL INSTALLATION



The electric installation and the connection of power to the unit must be executed according to the relevant requirements of the standards and construction regulations.



The electric connections, start-up, inspections and electric repairs may be executed only by an electrician who has required certificates to carry electric works and got acquainted with the instruction manual.



Before the connection it is necessary to make sure whether the voltage value and power system frequency are compliant with the data specified on the rating plates of the units. In case of noncompliance the unit should not be connected.

The units are equipped with single (1~230 V/50 Hz) or three-phase (3~400 V/50 Hz). The units should be powered from the main switchboard equipped with a main switch, differential protection device, protective (earth) terminal and overload and short-circuit protection devices (motor switches). The setup of overload protection cannot be higher than rated current of the motor (specified on the rating plate of the motor of the unit).



The lack of required motor safety devices and non-connection of thermal contact TK to the control circuit cause the loss of warranty.

The lead powering the motor of the fan should be inserted to the terminal box and fastened to the protective supports by means of clamp bands.

Electrical connection of the motor must comply with the wiring diagrams placed in the terminal box. Examples of wiring diagrams and control devices are given in Figures 1, 2 and 3.

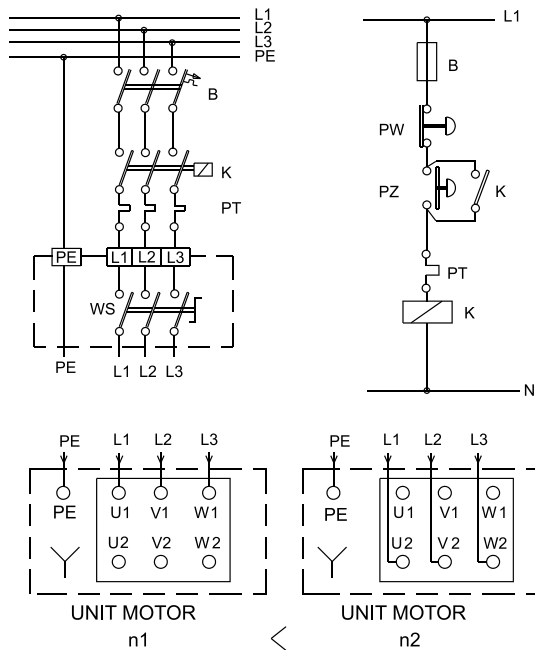


Fig. 1. Example diagram of wiring and control of UGW/D units sizes 10, 11 with a two-speed three-phase motor (connection Y / Y)

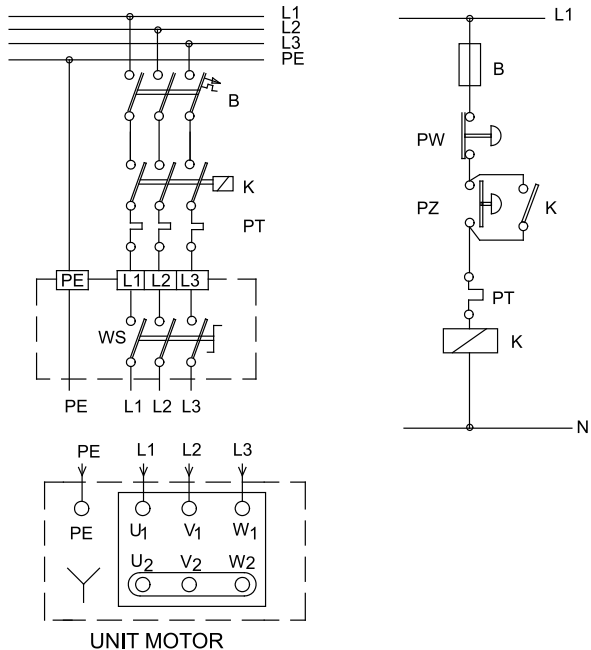


Fig. 2. Example diagram of wiring and control of UGW/D units size 12 with single-speed three-phase motor (star connection only)

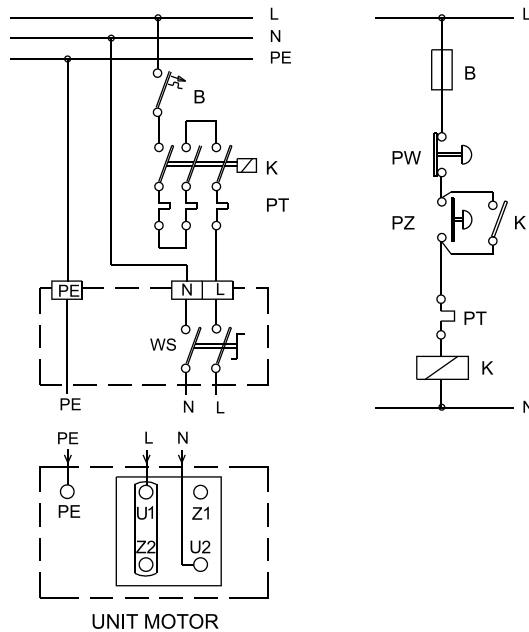


Fig. 3. Example diagram of wiring and control of UGW/D units size 10, 11 with single phase motors

**DIAGRAMS NOTATION:**

- |                                   |                                   |
|-----------------------------------|-----------------------------------|
| PT – overcurrent motor protection | K - Contactor                     |
| PZ – Control connecting button    | PW – Control disconnecting button |
| B - Fuses                         | WS – service switch               |

**12. AUTOMATICS**

We can deliver for the units:

**Supply and control boxes**

The supply and control boxes (equipped with a main switch, overcurrent circuit breakers, short-circuit protection devices, signalling lamps) are intended to cooperate and control the elements of automatics, as above.


One control box allows controlling a group of the units by means of single thermostat.

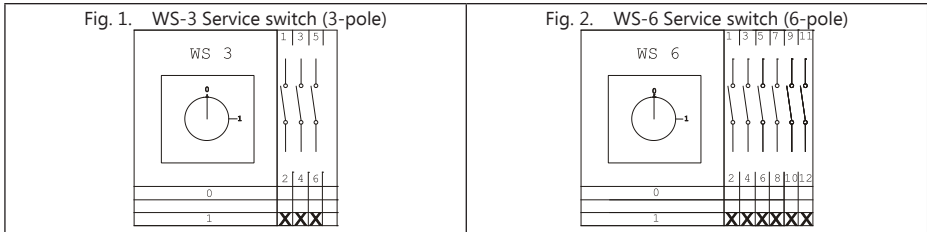
The single (1~230V/50Hz) or three-phase (3~400V/50Hz) power supply of the supply and control box should be from the main switchboard equipped with a main switch and differential protection device.

When the automatics are ordered with the unit the electric diagrams of the unit and automatics are delivered by the company as well.

## WS Service switch

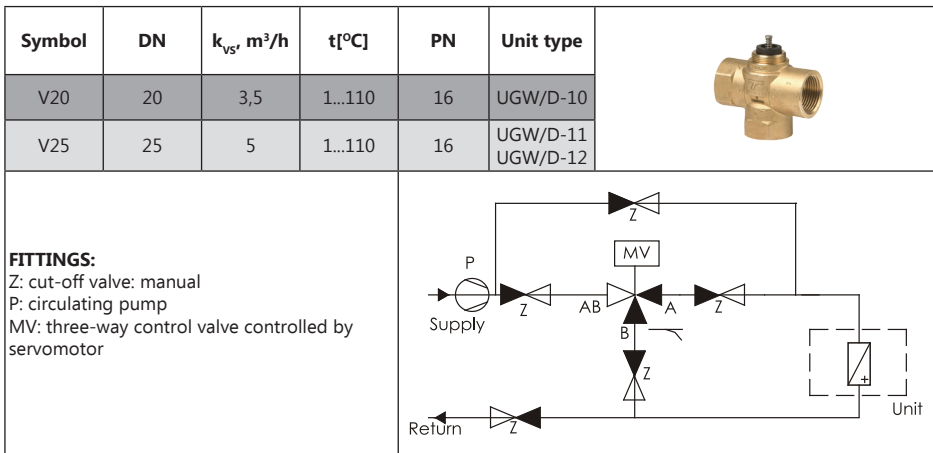
It is intended to switch off the fan motor in order to carry out service works. The use of the switch WS prevents an unexpected activation of the motor that could cause the risk during the service works.

<b>Type</b>	WS-3	WS-6	
<b>Main circuits: poles</b>	3-pole	6-pole	
<b>Supply circuit switch</b>	1- and 3-phase current	3-phase current	
<b>Rated continuous current</b>	25A	25A	
<b>Protection rating</b>	IP 65	IP 65	



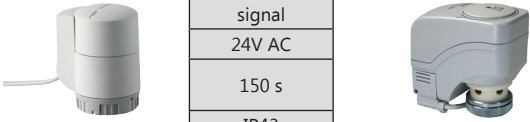
## Three-way valves

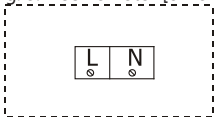
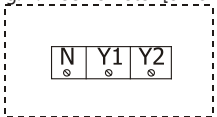
The directional valves found a wide application in the units for the adjustment of heating medium flow through the heaters. The valves should be installed in the supply line, the flow is admissible only in the marked direction AB->A or AB->B.



## Valve servomotors

The servomotors that allow controlling the valves "continuous-0÷10V DC" (by means of controller RT) or "on-off" (by means of thermostat TP or TPP) are used for a direct installation on the valves. Therefore a position (protrusion) of the servomotor stem is proportional to the value of control signal from the controller or thermostat.

<b>Servomotor type</b>	on/off		continuous signal
<b>Supply voltage</b>	230V AC		24V AC
<b>Closing / opening time</b>	180 s		150 s
<b>Protection rating</b>	IP40		IP43


<p>Fig. 3. Servomotor [on-off]</p>  <p>L-N Supply voltage 230V AC</p>	<p>Fig. 4. Servomotor [on-off]</p>  <p>N Supply voltage 230V AC Y1 Control signal: open 230V Y2 Control signal: close 230V</p>
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## Room thermostat


A room thermostat (on-off) TP allows setting the required temperature in the room within the range of 8...30°C by means of a knob, however, the room thermostat (on-off) TPP allows setting the required temperature in the room within the range of 8...35°C in the day and night mode on the liquid-crystal display.

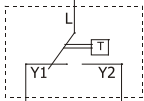
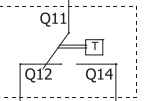
The loss of temperature in the room below the set value causes that the thermostat applies a signal to open the valves and switches on the fan. However, if the temperature in the room exceeds the set value then the thermostat toggles itself applying a signal to close the valves and switches off the fan. The thermostat can be used in the circulating and external air system.

### TP or TP/IP65 thermostat

<b>Supply voltage</b>	24..250V AC	24..250V AC	
<b>Measurement range</b>	8...+30°C	8...+35°C	
<b>Contact rating</b>	6(2)A	10(1,5)A	
<b>Protection rating</b>	IP30	IP65	

### TPP thermostat with time programmer

<b>Supply voltage</b>	2 batteries 1,5V	
<b>Measurement range</b>	5...+35°C	
<b>Contact rating</b>	5(2)A	
<b>Protection rating</b>	IP30	

<p>Fig. 5. Thermostat TP</p>  <p>L-Y1 Heating L-Y2 Cooling</p>	<p>Fig. 6. Thermostat TPP</p>  <p>Q11-Q14 Heating Q11-Q12 Cooling</p>
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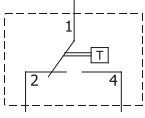

## Antifreeze thermostat

The heater protection system against freezing (antifreeze thermostat) is a recommended part of the control system in the heating and ventilation units with the water heaters operating in the external air system.

The thermostat has a capillary evenly unrolled along the field of the heater that – after the reduction of the air temperature (even on a short section of the capillary) below the boundary temperature (5°C) – transmits a signal to the supply and control box which – to the thermostat response – signals the alarm state by the lamp "HEATER ALARM", switches off the fan, closes the external air throttle and opens completely the heating water valve of the heater. The system returns to the normal operational mode automatically when the heater temperature is increased.

The antifreeze thermostat TPZ1W is used in the system with the room thermostat TP(TPP).


TPZ1 controller

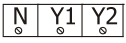
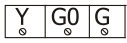
<b>Supply voltage</b>	24...230V AC	Fig. 7. Thermostat TPZ1 	
<b>Measurement range</b>	-5...+15°C		
<b>Factory setting</b>	5°C		
<b>Contact rating</b>	10(2)A		
<b>Protection rating</b>	IP54		
		<b>1-2</b> Freeze alarm <b>1-4</b> Normal operational mode	

## M Throttle servomotors

The servomotors whose task is to set the air throttle in the required position and to protect water heaters against freezing are used to control external air throttles. Depending on a throttle control method we use the servomotors of the following type:

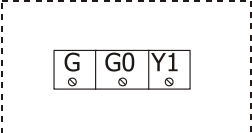

- » open/close "on-off"
- » with continuous operation 0...10V. The setup of the throttle in the specified position is achieved by applying the control voltage from the throttle ZW position controller of the value 0...10V.

<b>Servomotor type</b>	on/off	continuous signal	
<b>Supply voltage</b>	230V AC	24V AC	
<b>Closing / opening time</b>	150 s	150 s	
<b>Protection rating</b>	IP54	IP54	

<p>Fig. 8. M throttle servomotor [on-off]</p> <div style="border: 1px dashed black; padding: 10px; text-align: center;">  </div> <p> <b>N</b> Neutral 230V AC  <b>Y1</b> Control signal: open 230V  <b>Y2</b> Control signal: close 230V         </p>	<p>Fig. 9. M Throttle servomotor - continuous signal</p> <div style="border: 1px dashed black; padding: 10px; text-align: center;">  </div> <p> <b>Y</b> Input control signal 0...10V DC  <b>G0</b> System zero  <b>G</b> Phase, 24V AC         </p>
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## Temperature Controller

The indoor Temperature Controller shown in is used to preset room temperature within range from 8°C up to 30°C. The controller compares the indoor temperature (measured by an integrated sensor) with the preset value. In case of irregularities, the Controller generates a controlling signal (constant: 0...10V DC) sent to the actuator of the heating valve.

<b>Supply voltage</b>	24V AC	 G-G0 supply voltage 24V AC Y1 valve control signal output, 0...10V DC	
<b>Measurement range</b>	8...+30°C		
<b>Output signal</b>	0...10V DC		
<b>Protection level</b>	IP42		

## 13. DEVICE STARTUP

Before start-up following should be done:

- » check condition of the unit mounting,
- » check water or steam connections tightness,
- » check electrical power supply according to electrical board,
- » check additional fan and unit casing protection,
- » check correct connections to the motor,
- » check fan direction of rotations.

To switch on the unit:

- » open heat medium valves (steam supply valve should be opened gradually).
- » switch on the power supply to the motor,
- » adjust the direction and blown air range with use of the inlet grid blades,

To switch off the unit:

- » restrict heat medium flow to the unit water heater (or cut off supply of the steam),
- » switch off the power supply to the fan motor,



After a long period of standstill or in case of break in heat network operation the heaters should be dewatered and the shut-off valves eventually closed.

## 14. REPAIR, MAINTENANCE AND WITHDRAWAL FROM SERVICE

The applied rolling bearings of the fan do not require a periodical lubrication. However, it is recommended to check periodically a condition of the motor bearings (the rotor of the fan should rotate freely without excessive backlashes and knocks).

When the noise level of the unit operation is increased it is necessary to check up the correctness of fastenings of the fan and the whole unit (including the elements of additional equipment).

The rotor blades should be cleaned with a damp cloth after removing the protective net not to allow unbalancing the rotor.

In case of any disturbances in the unit operation it is necessary to contact with the installer or the service.



All maintenance and repair work should be done with disconnected power supply. The unit should also be protected against accidental switching on by other persons.



The heater contamination state should be checked up periodically. The contaminated heater should be blown through with compressed air.



The heater contamination reduces the air efficiency and heating power of the unit.

Depending on the air pollution degree the filter contamination state in the intake box should be checked up periodically. The contaminated filter should be cleaned (possible triple filtrating fabric washing) or replaced with the G3 class fabric.



The contaminated filter reduces the air efficiency and heating power of the unit.

After withdrawal from service the unit should be passed over to the specialized collection point of recyclable materials.

## 15. TROUBLESHOOTING

Trouble description	Possible trouble cause	Troubleshooting
heat exchanger leakage	mechanical damage of heat exchanger (it may appear when the unit is connected to the installation without taking care)	use a locking spanner to mount with the installation definitely
	exceedance of admissible heating medium parameters	connect the unit with the heating installation protected against the excessive pressure and temperature growth
	heat exchanger freeze	use an antifreeze thermostat, antifreeze heating fluids or remove water from the unit within the period of standstill and freeze risk
	use of the unit in the aggressive environment	
too load operation of the unit	minimum distance from the wall or ceiling is not maintained	use distances recommended in the instruction manual
	improper revolution direction	execute a proper electric connection
	improper parameters of the mains	use the unit only when the parameters of the mains and the unit are compliant
	air outlet is blocked by outlet grid louvres	avoid a significant closing of outlet grid louvres at high speed ratios
	fan vibrations, the blades rub against fixed elements not centric fastening of the fan in its bearing plate	check up the correctness of the fan and fastening reliability of other elements of the unit
fan does not work	incorrect or unreliable electric connections	check up or correct:
	improper parameters of the mains (lack of three phases in three-phase motors)	1) compliance of electric connections according to the diagrams specified in the instruction manual
	fan motor is damaged	2) reliability of connections on electric terminals
	fan operation control elements are damaged	3) parameters of the mains
Servomotor does not open the valve	correctness of thermostat operation (characteristic "tick" when switching)	check up or correct: 1) compliance of electric connections according to the diagrams specified in the instruction manual 2) reliability of connections on electric terminals 3) parameters of the mains 4) whether the servomotor reacts to an electric pulse. If the servomotor damage is stated, the damaged element should be claimed.
Room thermostat does not apply the signal	more than one unit is connected directly to the thermostat (larger number means the thermostat overload)	check up or correct: 1) compliance of electric connections according to the diagrams specified in the instruction manual 2) reliability of connections on electric terminals 3) parameters of the mains
	mounting place of the thermostat in the room	4) if there is no characteristic "tick", the thermostat is mechanically damaged and should be claimed.

## 16. INFORMATION

As to all issues concerning the TERM heating and ventilation units please contact JUWENT Production Plant or Representatives

### III. WARRANTY TERMS AND CONDITIONS

1. JUWENT Szymański, Nowakowski General Partnership, headquartered in Ryki at 31 Lubelska Str., hereinafter referred to as the Warrantor, grants the Customer a warranty of proper operation of the unit with reservation of the requirement of its use in accordance with the conditions determined in the instruction manual and the terms and conditions specified below.
2. The warranty has been granted for a period of 24 months from the purchase date demonstrated in this warranty document with a possibility of its special extension according to a separate agreement and specified in the Special Warranty Terms and Conditions.
3. The warranty covers the removal of technical defects of the unit arisen as a result of its use in accordance with the instruction manual, revealed within the warranty period. The warranty provisions are valid in the territory of the Republic of Poland.
4. By virtue of the granted warranty the Warrantor is not liable for the loss of expected profits and costs resulting from a periodical impossibility of the use of the unit incurred by the Customer.
5. To realize the Customer's rights resulting from the warranty it is required to deliver the claimed unit with the warranty document to the Warrantor at his expense.
6. The claimer delivers the unit in an original factory packing, in case there is no factory packing the claimed unit should be delivered by the Customer for the repair in a way ensuring a safe transport. The risk of accidental damage of the unit during the transport burdens always the party that dispatches the parcel.
7. The defects revealed with the warranty period will be removed by the Warrantor free of charge. A method selection of the realization of obligations resulting from the warranty granted to the Customer belongs to the Warrantor that may remove a defect by the repair or the replacement of the damaged subassembly or by the replacement of the unit. The property of the unit withdrawn from service and / or defective subassemblies is transferred to the Warrantor.
8. The warranty is extended by a period for which the Customer has been deprived of a possibility to use the unit.
9. The Warrantor will make efforts that the repair is executed without further delay within the time-limit of up to 14 working days from the delivery date of the unit. In reasonable cases of which the Customer will be informed by the Warrantor, this time-limit may be extended, e.g. by the time of provision import or when there is a necessity to execute an expertise or laboratory tests in specialized institutions.
10. The Warrantor is liable exclusively for the defects inherent in the sold unit. The damages arisen after its sale for other reasons are not covered by the warranty, in particular:
  - a) mechanical damages (including also damages caused by microparticles occurring in the working environment of the unit), thermal damages, chemical damages and aleatory damages or damages caused by the atmospheric factors,
  - b) damages occurred as a result of non-observance of typical rules or the rules required by the instruction manual related to the operation and mounting of the unit or the use of the unit against the intended use and other damages caused by the Customer's activity or omission,
  - c) damages being a result of defective operation of the system in which the unit has been built or used,
  - d) damages occurred as a result of non-execution of the actions to which the Customer has been obliged in accordance with the instruction manual, e.g. periodical cleaning, maintenance, adjustment, etc.,
  - e) damages occurred due to the use of materials or parts subject to a normal operational wear other than the materials recommended by the Warrantor in the instruction manual,
  - f) damages being a result of use of power supply of the unit (of the system in which this unit functions) incompliant with the standard, and in case the unit is also supplied with water, damages being a result of use of water (supply water and / or boiler water) with parameters other than the parameters foreseen in the valid standard (PN-93/C-04607),
  - g) damages occurred as a result of operation and / or maintenance of the unit in a way incompliant with the instruction manual and / or executed by the unauthorized persons.
11. The warranty does not cover as well:
  - a) activities executed by the Customer in accordance with the recommendations included the instruction manual of the unit within the framework of normal maintenance and inspections,
  - b) travel and work costs of the Warrantor's service or an entity delegated by the Warrantor in case when a warrant call turns out to be groundless.
12. An annotation made by a trained employee in the Inspection and Maintenance Document of the unit is a confirmation of time-limit holding and range of activities foreseen for the maintenance of the unit.
13. The Warrantor is not liable for damages incurred by the Customer or third parties caused the run of the unit occurred in particular as a result of non-observance of the afore-mentioned terms and conditions by the Customer.
14. In case the service works are executed by the Warrantor at the place where the unit is mounted, the Customer will make available a free access to the rooms where the units are located to the Warrantor.
15. In case the units are mounted at the height making an access from the floor surface impossible, the Customer will ensure the scaffolding compliant with the OHS regulations or mobile lifting platforms and vertical transport equipment.
16. The equipment from the electric and / or hydraulic system is disassembled by the Customer.
17. The claims should be lodged at the Warrantor's address in writing / by fax / email using a service notification form.
18. The Warrantor refuses to execute the warranty activities (periodical service works or repair) in case the price for the unit or previous service work is not paid for the benefit of the Warrantor.

**DATE OF SALE**

**STAMP AND SIGNATURE**

Special Warranty Terms and Conditions:

Warranty period extension up to ..... months.

Other:

**STAMP AND SIGNATURE**

<b>TYPE OF UNIT:</b>	
<b>FACTORY NUMBER:</b>	
<b>YEAR OF PRODUCTION:</b>	

#### IV. UNIT STARTUP REPORT

<b>Date of startup</b>	<b>Executor of startup</b> stamp / name and signature	<b>Motor current</b> [A]	<b>User's representative</b> stamp / name and signature	<b>Remarks</b>

#### V. INSPECTION AND MAINTENANCE DOCUMENT

<b>Date of inspection</b>	<b>Executor of inspection</b> stamp / name and signature	<b>Service activity range</b>	<b>Remarks</b>

\* Inspection of the unit in accordance with the section "Repair and Maintenance" in the instruction manual

## VI. SERVICE NOTIFICATION

Date:

Notification type WARRANTY  POST-WARRANTY  PAID

<b>Unit's user (name)</b>	
<b>Contact person</b>	
<b>User's address</b>	
<b>Phone, fax, and email</b>	
<b>Type of unit</b>	
<b>Factory No.</b>	
<b>Year of production</b>	
<b>Startup executed by</b>	

Description of defect:

**NOTE: AFTER COPYING AND FILLING IN SEND THE NOTIFICATION BY FAX OR EMAIL TOGETHER WITH A COPY OF THE STARTUP REPORT.**

JUWENT Company accepts notifications filled legibly and completely.

When the lodged claim is not justified, the claimer will be burdened with service costs.

Date of warranty issue

Order No.

(company's stamp)

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## VII. LIST OF SUBASSEMBLIES INSTALLED IN THE UNIT

No.	Name of subassembly	*)
1	Fan with single-phase motor	
2	Fan with three-phase motor	
3	Bimetal II-row heat exchanger	
4	Bimetal III-row heat exchanger	
5	Steam heat exchanger (rib spacing 2,8mm)	
6	Steam heat exchanger (rib spacing 5,0mm)	

\*) - mark proper box corresponding with the equipment variant