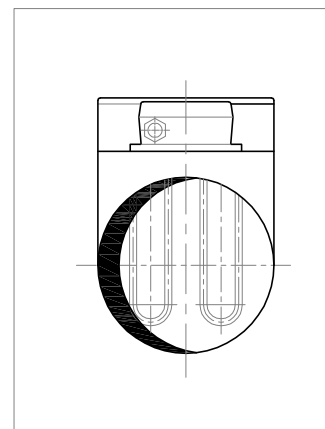
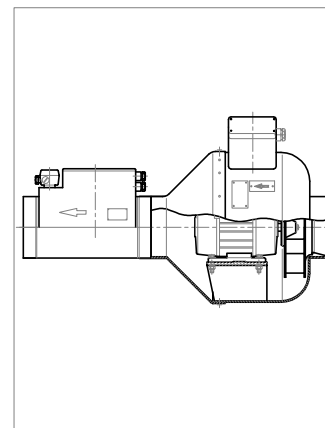


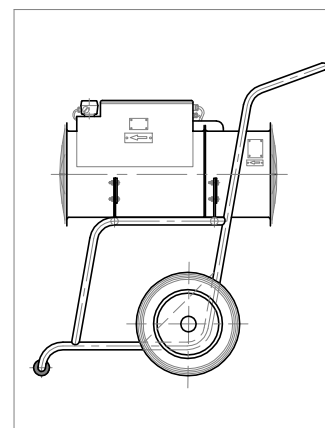
**Rectangular heaters NEK**



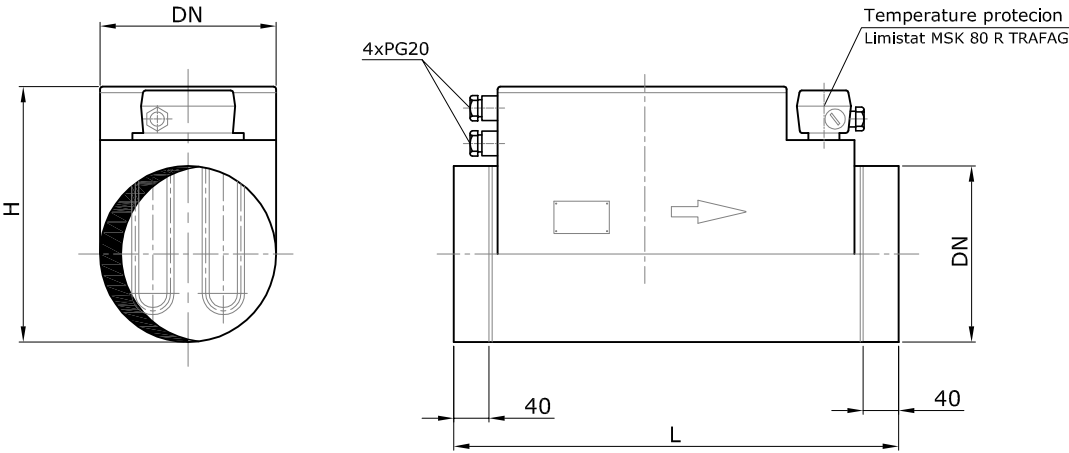
**Tubular heaters NER**



**Ventilation-heating device WUG**



**Movable fan heater MFH**



**1. DESTINATION**

Electric air heaters NER are designed for installation in ventilation systems of seagoing ships of unrestricted cruising area. They can be fitted on spiral ducting supplied air to ship's compartments (galleys, workshops, accommodation spaces, wheelhouse windows defroster systems etc.

	DN	H	L	Weight
	mm			kg
NER 125	125	250	400	6,5
NER 160	160	290	400	7,0
NER 200	200	330	500	10,5

**2. CONSTRUCTION**

Housing of heater is made of aluminium sheets PA2. heating elements of acid-proof steel 1H18N9T. Construction of heating elements meets the requirements of standard PN-72/E-77021. Protection degree acc. to class I as per standard PN-92/E-05031. Enclosure IP54, electrical supply 50 or 60Hz. Heater is provided with built-in temperature protection that switches-off the supply at increase of preset temperature of outlet air (factory set 70 deg.C). Heating capacity to be defined by the Buyer taking into consideration the operation limitations specified in point 3. Installation. On request the housing of heater may be made of galvanised steel or brass. Heaters may be supplied with room temperature controller/sensor or on/off or pulser type.

**3. INSTALLATION**

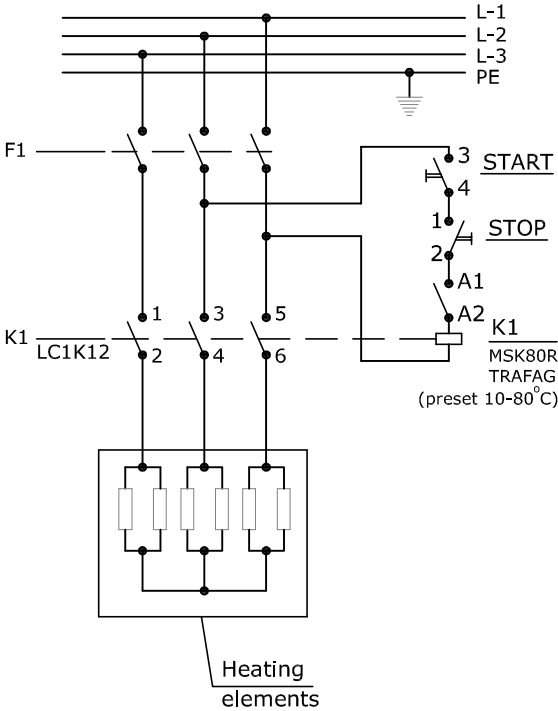
NER air heaters are to be mounted directly on standardized spiral pipes. Minimum velocity of air through heater is 1,5 m/s, maximum air temperature on heater's outlet is 45 deg.C.

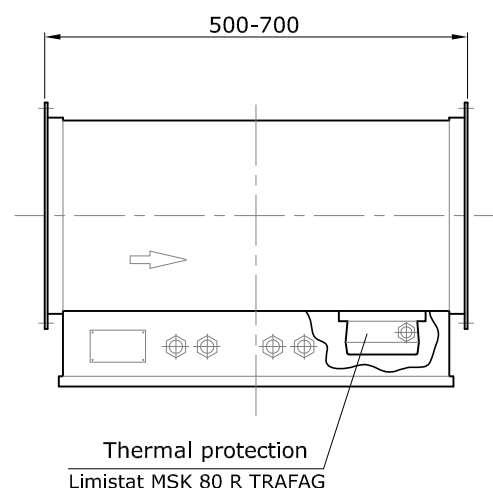
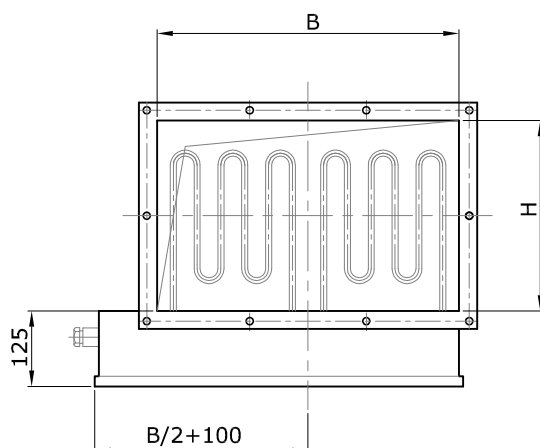
**4. MARKING**

of electric air heater of nominal diameter 160 mm and heating capacity 3 kW:

AIR HEATER NER 160/3,0

**5. DIAGRAM OF SUPPLY AND CONTROLS**





## 1. DESTINATION

Electric air heaters NEK are designed for installation in ventilation systems of seagoing ships of unrestricted cruising area.

They can be fitted on rectangular ducting supplied air to ship's compartments (galley, workshops, accommodation spaces, wheelhouse windows defroster systems etc.

## 2. CONSTRUCTION

Housing of heater is made of galvanised steel sheets, heating elements of acid-proof steel 1H18N9T. Housing is provided with drilled flanges as per standard BN-79/3723-13.

Construction of heating elements meets the requirements of standard PN-72/E-77021. Protection degree acc. to class I as per standard PN-92/E-05031.

Enclosure IP54, electrical supply 50 or 60Hz.

Heater is provided with built-in temperature protection that switches-off the supply at increase of preset temperature of outlet air (factory set 70 deg.C). Heating capacity to be defined by the Buyer taking into consideration the operation limitations specified in point 3. Installation.

On request the housing of heater may be made of aluminium or brass.

Heaters may be supplied with room temperature controller/sensor or on/off or pulser type.

## 3. INSTALLATION

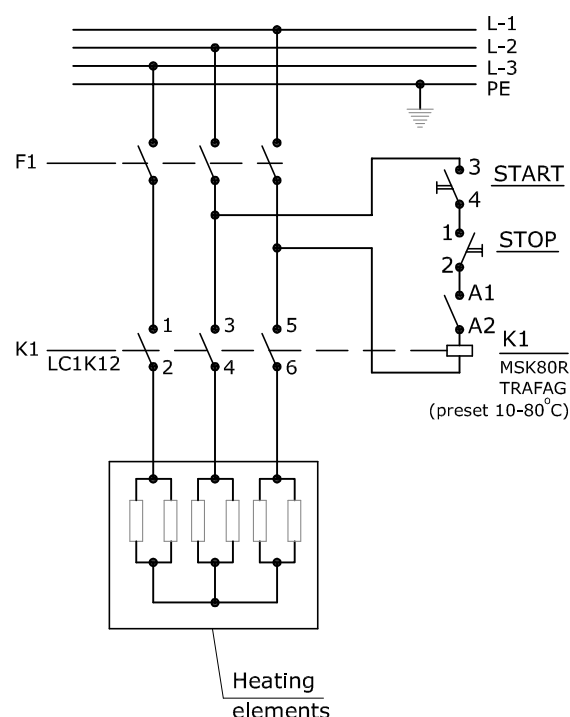
NEK air heaters are to be connected to flanged rectangular duct. Minimum velocity of air through heater is 1,5 m/s, maximum air temperature on heater's outlet is 45 deg.C.

## 4. MARKING

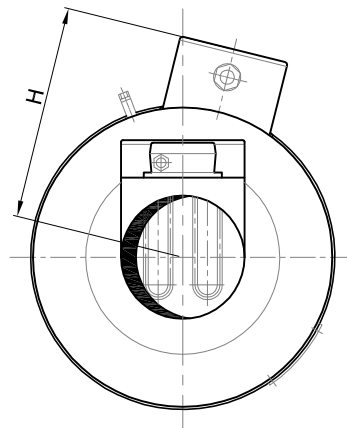
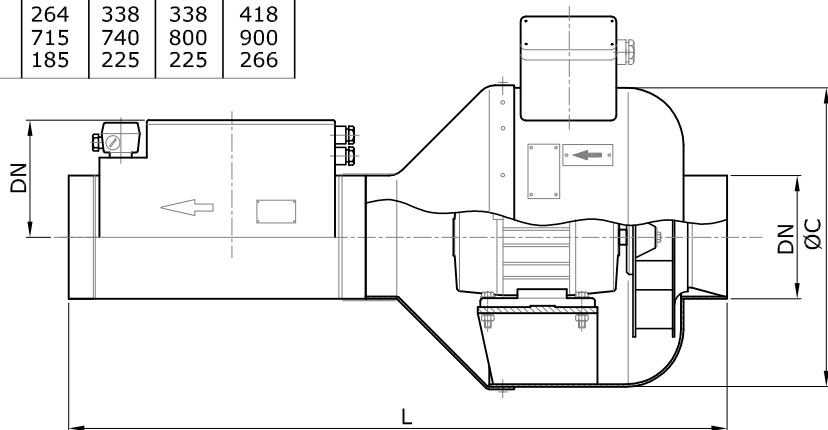
of electric air heater of flanges dimensions B=500 and H=250 mm and heating capacity 10 kW:

AIR HEATER NEK 500x250/10,0

## 5. DIAGRAM OF SUPPLY AND CONTROLS



WUG	125/L	160/L	200/M	200/L
DN	125	160	200	200
C	264	338	338	418
L	715	740	800	900
H	185	225	225	266



### 1. DESTINATION

Marine ventilation-heating device WUG is destined for heating of air supplied by spiral ducting to ship's compartments (galleys, workshops, accommodation spaces, wheelhouse windows defroster systems etc.

### 2. CONSTRUCTION

Marine ventilation-heating device WUG consists of the following components:

- marine pipe fan WMR (see ALWO/D4-01)
- electric air heater NER (see ALWO/E2-00)
- control switchboard TSZ

### 3. CONTROL SWITCHBOARD TSZ

consists of box comprising Start-Stop push buttons, thermal/short-circuit protections, contactor, connecting strip and cable glands.

### 4. INSTALLATION

The NER air heater to be fitted directly on suitably clamped spiral pipework. Heater shall be always installed after the WMR fan.

### 5. OPERATING DATA

Device	Heater	Fan	Supply	Heating capac.
			V/Hz	kW
WUG 125/L/2,0	NER 125/2,0	WMR 125/L	3x380 50	2,0
WUG 160/L/2,5	NER 160/2,5	WMR 160/L		2,5
WUG 200/M/6,0	NER 200/6,0	WMR 200/M		6,0
WUG 200/L/9,0	NER 200/9,0	WMR 200/L		9,0

On request device can be delivered with other rated voltage and heating capacity, agreed with the maker.

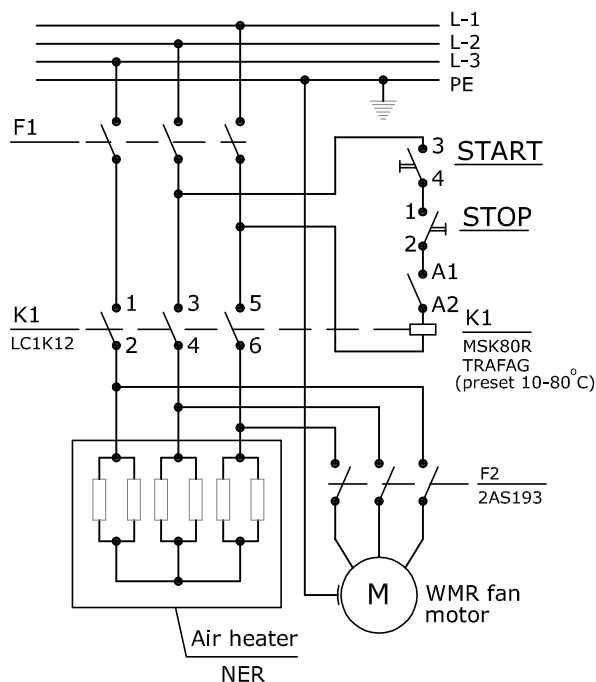
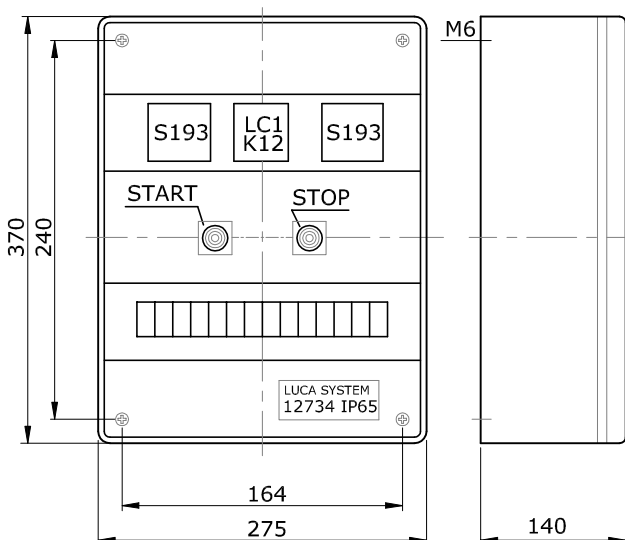
### 6. MARKING

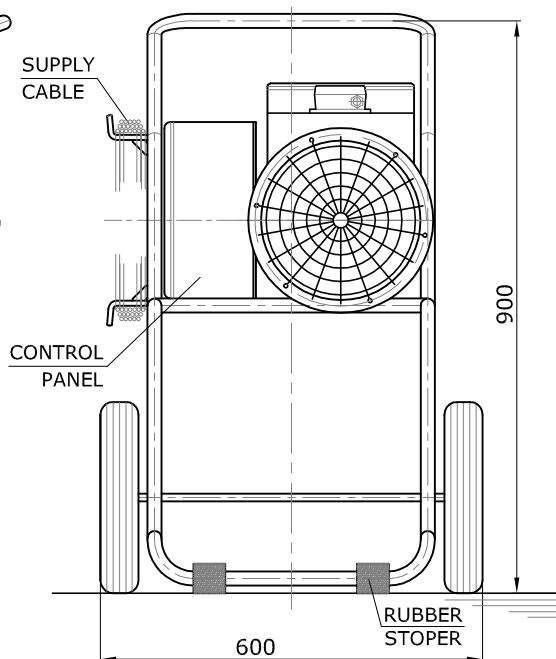
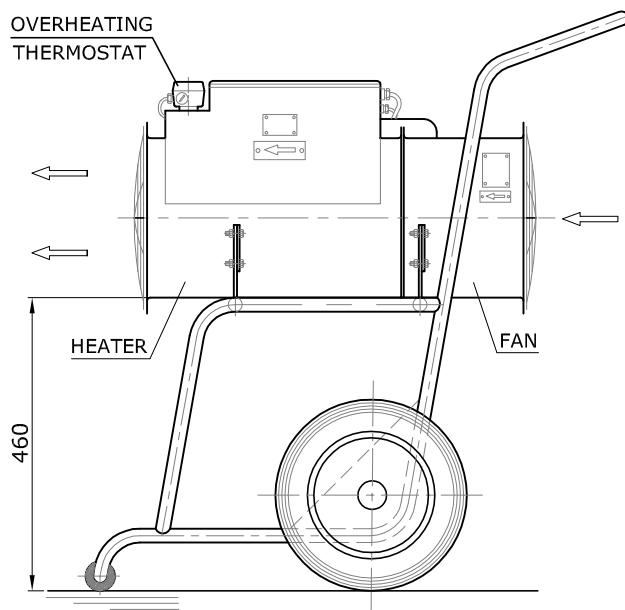
of WUG marine ventilation-heating device of nominal diameter 200 mm, with electric heater NER 200/6,0 of heating capacity 6,0 kW and with fan WMR 200/M:

MARINE VENTILATION-HEATING DEVICE  
WUG-200/M/6,0

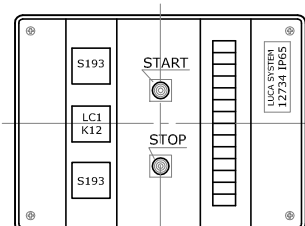
### DIAGRAM OF SUPPLY AND CONTROLS

#### CONTROL SWITCHBOARD TSZ

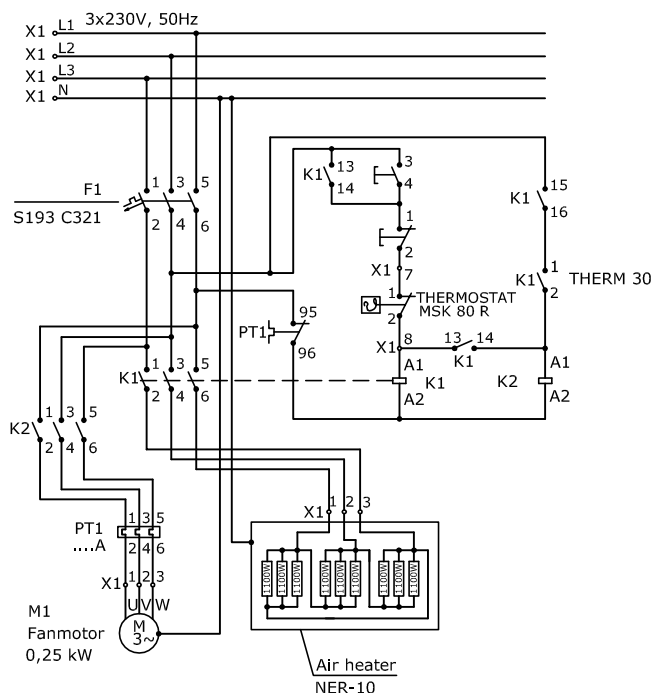


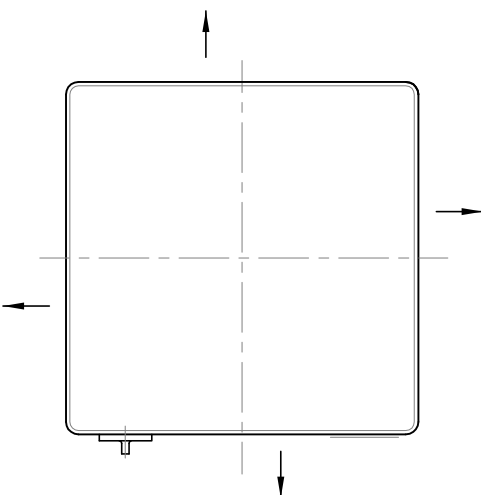
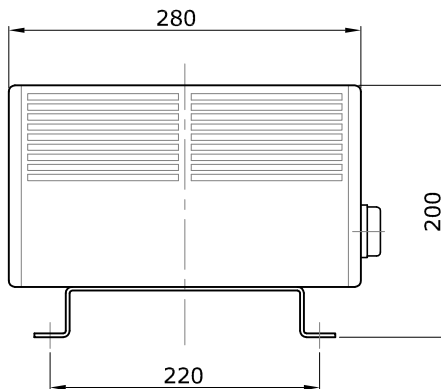
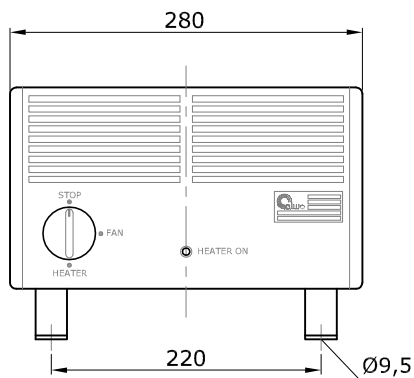


## CONTROL PANEL



## ELECTRICAL DIAGRAM





### 1. DESTINATION

The industrial fan heater for heating of storerooms, workshops, crane cabins, etc.  
The unit spreads warm air through four-way direction lateral blower outlets.

### 2. CONSTRUCTION

WFH-2000 fan heater consists of low-noise radial fan and contact-protected heating elements, all inside the steel sheet housing.

The unit comprises two-step rotary switch for selection of:

- fan function (step 1)
- heating function (step 2)

further a signal lamp for indication of heater operation and overheating protective thermostat.

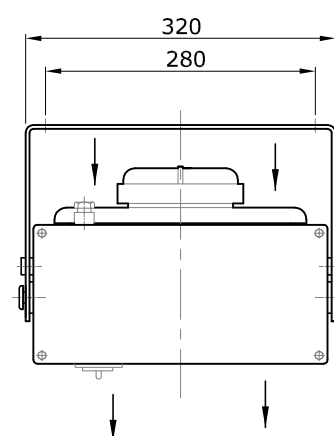
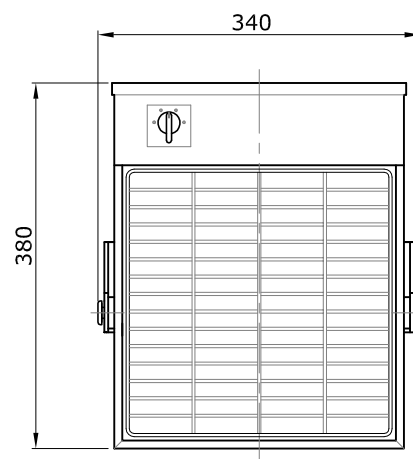
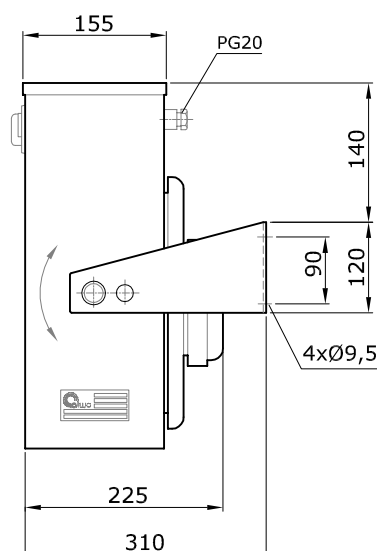
### 3. INSTALLATION

The unit to be installed for Customer made fastening framing to wall or ceiling.

### 4. TECHNICAL DATA

Heating capacity:	2000 watts
Airflow:	400 m <sup>3</sup> /h
Voltage / frequency:	230V/50Hz
Enclosure:	IP20
Weight:	4,5 kg
Noise level:	50 dB(A)

On request device can be delivered with other rated voltage and heating capacity, agreed with the maker.



## 1. DESTINATION

The industrial fan heater for heating of machinery spaces, technical rooms, workshops, store rooms, etc.

## 2. CONSTRUCTION

WBG fan heater consists of low-noise axial fan and contact-protected heating elements, all inside the steel sheet housing.

The unit comprises three-step rotary switch for selection of:

- fan function (step 1)
- heating function 50% capacity (step 2)
- heating function 100% capacity (step 3)

Heater includes built-in room temperature controller and overheating protective thermostat of factory set 85°C.

Heater housing is rotary connected to the fastening bracket enabling adjustment of air stream direction.

## 3. MATERIAL

Housing - galvanised steel sheet, white painted  
Heating elements - stainless steel  
fastening bracket - steel, white painted

## 4. INSTALLATION

The unit to be installed for Customer made fastening framing to the wall or ceiling.

## 5. TECHNICAL DATA

Heating capacity:	5 - 14 kW
Airflow:	1000 m <sup>3</sup> /h
Voltage / frequency:	3x380V/50Hz 3x440V/60Hz
Enclosure:	IP44
Weight:	12,2 kg
Noise level:	52 dB(A)

On request device can be delivered with other rated voltage and heating capacity, agreed with the maker.

## 6. MARKING

of electric fan heater of rated heating capacity 5 kW:

**FAN HEATER WBG-5,0**

