



Big Dutchman®



Heating systems

for ideal temperatures in
your poultry house

Heating systems – ideal house temperatures enhance performance

Ideal house temperatures have a substantial influence on bird health and performance. Therefore adequate heating systems are required in many climate zones. The overall goal is to maximise the thermal yield and transfer it to the birds in the best possible way to

keep energy costs to a minimum.

Big Dutchman offers several different heating systems based on gas, oil or warm-water heaters. Let our experts advise you to find the ideal heating system for your house!

JET MASTER and gas heaters – heaters with 100 % thermal yield

1. Gas-powered JET MASTER

JET MASTER is available for operation with natural gas or propane. It is controlled by means of a thermostat and is flame-proof. If for some reason the device does not ignite or the flame is extinguished, the gas supply is immediately shut down so that no unburnt gas escapes. The built-in fan provides a wide working range and an ideal distribution of warm air.

In addition, fans may be installed to recirculate and evenly distribute the warm air, especially in very long buildings. These fans are installed at a distance of approximately 20 to 30 m from the JET MASTER.



JET MASTER GP 70

JET MASTER NG-L 80

| Typ | GP 14 | GP 40 | GP 70 | NG-L 80 | GP 95 | NG-L 100 | GP 120 |
|-----------------------------------|------------|-------------|-------------|-------------------|-------------|-------------------|-------------|
| power (kW) | 14 | 40 | 70 | 80 | 95 | 100 | 120 |
| gas consumption: | | | | | | | |
| - natural gas (m ³ /h) | 1,5 | 3,9 | 6,8 | 7,7 | 9,2 | 9,7 | 11,7 |
| - propane gas (kg/h) | 1,1 | 2,9 | 5,0 | 5,7 | 6,8 | 7,2 | 8,6 |
| gas supply | Rp 1/2" | Rp 1/2" | Rp 3/4" | Rp 3/4" | Rp 3/4" | Rp 3/4" | Rp 3/4" |
| flow rate (m ³ /h) | 1200 | 3900 | 4500 | 4100 | 6500 | 7500 | 8000 |
| air pressure surveillance | - | microswitch | microswitch | manometric switch | microswitch | manometric switch | microswitch |
| flameguard | ionization | ionization | ionization | photocell | ionization | photocell | ionization |
| working range (m) | 15 | 40 | 50 | 50 | 40 | 60 | 40 |
| weight (kg) | 13 | 24 | 27 | 49 | 37 | 56 | 45 |

connexion values: 230 V, 50 Hz for all models;

inlet pressure: 20 mbar for natural gas and 50 mbar for propane gas

2. Fuel oil-powered JET MASTER

| Typ | P 40 | P 60 | P 80 | P 100 | P 120 |
|-------------------------------|------|------|------|-------|-------|
| power (kW) | 40 | 60 | 80 | 100 | 120 |
| fuel consumption (l/h) | 4 | 6 | 8 | 10 | 12 |
| flow rate (m ³ /h) | 4400 | 6200 | 7700 | 7700 | 7700 |
| working range (m) | 30 | 40 | 50 | 50 | 50 |
| weight (kg) | 48 | 51 | 55 | 55 | 65 |

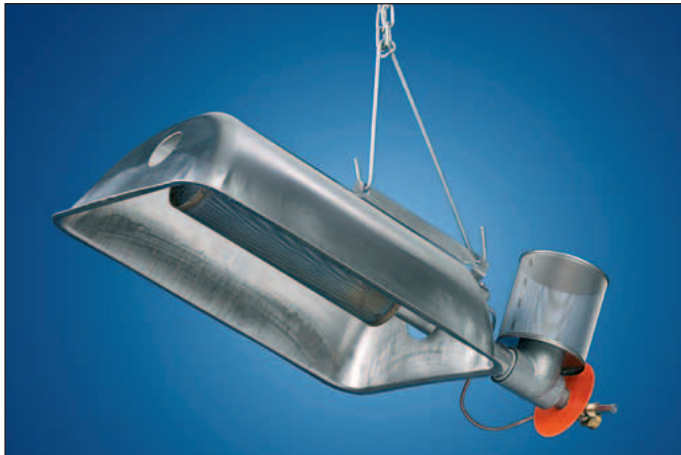
connexion values: 230 V, 50 Hz for all models;

photocell flameguard



JET MASTER P 100

3. Gas radiators – for localised heating



Gas radiator type M8



Gas radiator type G12

Gas radiators are especially well-suited if it is necessary to supply birds in a restricted area with intensive heat for a defined amount of time, such as turkeys, ducks, broilers or pullets during the rearing phase.

| Type | M 8 | G 12 |
|--------------------------------------|---------|---------|
| power (kW) | 5 | 12 |
| inlet pressure: - natural gas (mbar) | 20-50 | 28 |
| - propane gas (mbar) | 20-1400 | 28 |
| pilot flame | | x |
| installation height (cm) | 90-150 | 130-170 |
| weight (kg) | 1,5 | 7 |

connexion values for the gas radiator G 12: 230 V, 50 Hz



Implementation of gas radiators M8 in turkey production

RGA heating devices with flue gas exhaust and low energy consumption

RGA heating devices are powered by fuel oil or gas. They operate by a closed combustion process, which means the house air remains free of flue gas and pollution gas as these are guided towards the out-

side via a chimney. The built-in fan provides a wide working range and an ideal distribution of warm air in the house.

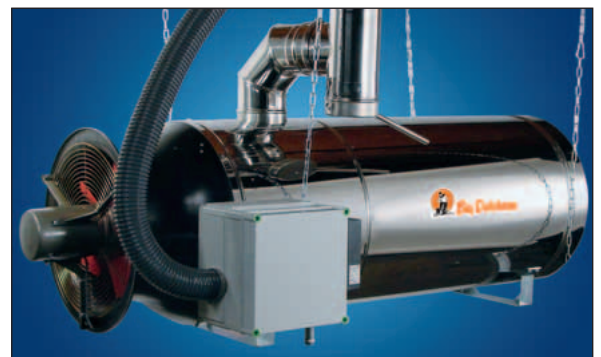


RGA 95 – oil-powered heating device with chimney for flue gas exhaust

| Type | RGA 60 | RGA 95 | RGA 100 |
|-------------------------------|----------|----------|---------------------|
| power (kW) | 60 | 95 | 100 |
| combustible | fuel oil | fuel oil | natural/propane gas |
| flow rate (m ³ /h) | 5600 | 7000 | 7000 |
| air pressure surveillance | - | - | manometric switch |
| working range (m) | 35 | 50 | 40 |
| weight (kg) | 82 | 132 | 110 |

connexion values: 230 V, 50 Hz; gas supply for RGA 100: Rp 3/4" photocell flameguard

In case of the RGA 100, fresh air for combustion is drawn in from the outside through a double-walled chimney, thus ensuring that the fresh air is already pre-heated = increased efficiency.



RGA 100 – gas-powered heating device with chimney for flue gas exhaust

Infrared heaters – radiant heat, comparable to solar radiation

Infrared heaters are a gas-powered heating system giving off radiant heat. This radiant heat can be compared with solar radiation as it passes through air without significant losses. That means the heat rays become active only where they hit a surface and are thus converted into sensible heat. In cooler ambient temperatures this leads to a very comfortable temperature sensation.

The essential fresh air for combustion is drawn in from the outside. Flue gas is removed to the outside by means of a chimney so that the house air remains free of flue gas and pollution gas.

If infrared heaters are used, energy costs may be reduced by up to 15 % compared to direct heating systems.



Implementation of infrared heaters in a broiler house

HEAT MASTER – convection heater using warm water

HEAT MASTER works on a warm-water basis. Warm water is supplied by an oil-fired or gas-fired boiler. It is an advantage to use the waste heat of a block-type thermal power station or a biogas plant. The HEAT MASTER consists of an iris damper, ventilator and distribution

device. Two different models are available. The **HEAT MASTER 40** is suspended centrally in the house approximately 1 m above the animal area. Air is drawn in from the upper part of the house and is then guided through the iris damper, in which the warm water flows.

The ventilator pushes the warm air towards the bird area. The hexagonal profile of the openings ensures an ideal distribution of warm air. It is also possible to adjust the lamellae of the distribution device separately. The **HEAT MASTER 50** is suspended horizontally. It draws in the air horizontally and distributes it in the same manner.



Implementation of HEAT MASTER 40 in a broiler house

| Type | HEAT MASTER 40 | HEAT MASTER 50 |
|-------------------------------------|----------------|----------------|
| power (kW)* | 40 | 50 |
| water flow rate (m ³ /h) | 1,7 | 1,7 |
| water connection | 1" OT | 1 1/4" OT |
| air flow rate (m ³ /h) | 7000 | 9000 |
| working range | 14 m/side | 40 m |
| weight (kg) | 100 | 110 |

* nominal value at 90 °C flow temperature and at 35°C air temperature.
 connexion values: 3 phase 400 V, 50 Hz; OT = outside thread



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