

NEWS BY HOLLAND HEATER

DUTCH A.R.S. (AMMONIA REDUCING SYSTEMS)
ADMISSION NUMBER BWL2009.14.V1

THE NEW IFH SERIES

New generation indirect fired shed heaters, the IFH series from Holland Heater, made of stainless steel and thoroughly protected against damp and dust. The exhaust gases, CO₂ and water vapour are removed and the incoming fresh outside air is heated by the exhaust gases.

SYSTEM DESCRIPTION

The Holland Heater IFH indirect fired heater is composed of a heat exchanger made of stainless steel tubes, which, as a result of its dimensions and shape, does not become dirty quickly and is easy to clean. The shed air is blown vertically through the main ventilator and heat exchanger. A four-sided plenum with horizontal and vertical slats ensures effective adjustment of the distribution of the air in the shed. Vertical temperature differences are reduced through the vertical air displacement; this could be enhanced further by extending the intake of the ventilator and taking the air from under the peak of the roof.

Removal of exhaust gases and CO₂

The exhaust gases and the CO₂ pass along a double-sided flue through the roof to the outside, whereby the exhaust gases warm the combustion air being sucked in, thus boosting the yield.

By means of a flexible connection to the flue, it is possible to hoist the IFH up for the purposes of catching animals and cleaning the shed. As no CO₂ or water vapour is emitted by the heater into the shed, less ventilation is necessary, which means a considerable savings in heating and ventilation costs. In addition, ammonia emissions will be lower.

Intake of combustion air

The combustion air that is sucked in from outside by means of a double-sided flue, is heated by the outgoing exhaust gases. This means that the IFH does not use oxygen from the shed, which works to the benefit of the animals. The burners are located in a completely sealed off, watertight housing, so that the shed dust cannot dirty the burners or the heat exchanger.

The IFH indirect fired heaters are hung in the middle at a height of around 1.5 m from the floor using a tackle system and a flexible flue connection, which means that it is possible to hoist the heater up, so that free passage is created for catching animals and cleaning the shed.



Dependent on the size of the shed, two, three or four IFH heaters are installed, available in two capacities: that is the IFH 75 (75 kW) and the IFH 100 (100 kW). The IFH heater is provided with a four-sided plenum for expelling the air with horizontal and vertical slats that can be adjusted so that optimal distribution of air and heat is achieved. The heaters can be controlled separately by means of the climate computer, whereby there is the possibility of allowing the ventilator to operate continuously, so that vertical temperature differences



are reduced. This effect can be enhanced further by extending the ventilator's intake by means of a flexible tube.

Drying and reduction of ammonia

By directing the warm air by means of the slats of the expulsion plenum in such a way that sufficient warm air passes over the floor, the straw or other floor litter will be dried, resulting in less ammonia forming.

Ventilator and noise reduction

The ventilator is provided with an intake ring to limit noise development and achieve optimal air distribution. Using an atmospheric burner and the ventilator and heat exchanger chosen for the IFH means much lower noise production.

YOUR ADVANTAGES

- Drier litter
- Lower formation of ammonia
- Lower costs for disposing of manure
- Lower electricity consumption through less ventilation
- Improved climate for the chickens
- Lower medication costs
- Improved air distribution in the shed
- Easy to clean with a high-pressure cleaner

QUALITY

Heat exchanger, burner and housing

The new IFH heaters are made of stainless steel of a quality that is resistant to the environment prevailing in sheds. Damp, dust and ammonia pose no problem. The components of the burner and the heat exchanger are made of heat-resistant stainless steel.

Gas block burner controls

The gas block and the burner controls are mounted in the space sealed off from the shed air where the heated outside air is fed into the burner.

RELIABILITY

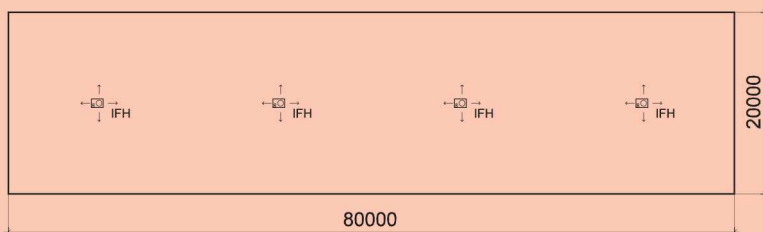
Placing the burner and important components in a space sealed off from dust and damp means the chance of break-down is small. Good protection ensures a problem-free restart after cleaning the shed and heaters with water. The new IFH indirect fired heaters are CE approved and comply with the latest EN standard, EN 298.

Easy to Service

All gas and electrical components are easy accessible by means of a watertight inspection hatch.

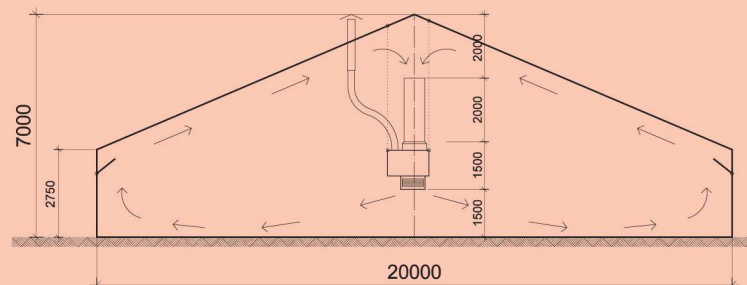
TECHNICAL SPECIFICATIONS

TYPE IFH		45	60	75	100
Nominal load	kW	45	60	70	100
Gas consumpt. (nat. G25)	m ³ /u	6,03	8,12	9,74	13,01
Gas consumpt. (prop.)	kg/u	3,8	5,2	6,2	8,3
Air distribution	m ³ /u	5500	7000	8670	10800
Motor power	Watt	380	430	600	1400
Mains voltage	Volt	230	230	230	230
Current required	Amp.	1,90	1,95	2,70	6,00
Ventilator speed	RPM	1365	900	900	1320
Weight	kg	108	125	138	195
Length	cm	97	130	130	130
Width	cm	85	85	85	95
Height	cm	130	130	130	145



MAP BROILER HOUSE

With 4 IFH mix air heaters from Holland-Heater



GROSS SECTION BROILER HOUSE

With IFH mix air heaters from Holland-Heater





A new generation of direct-fired shed heaters from Holland Heater in stainless steel with protection class IP64.

Holland Heater has developed a new serie of direct-fired heaters especially for agricultural applications such as poultry sheds and piggeries with four different capacities: 40 kW, 70 kW, 100 kW and 120 kW. In order to make the appliances suitable for these applications a lot of time has been invested in the quality, reliability, operational safety, protection class IP64, safety, working life and easy service by using simple, affordable components.

QUALITY

Casing/burner chamber/burner

The new HH appliances are manufactured in stainless steel of a quality that is able to resist the environment present in sheds. Damp, ammonia and dust are not a problem. The burner and burner chamber parts are manufactured from heat resistant stainless steel.

Switch box

The burner control system is built into a well-sealed switch box (IP64) and the gas block is also protected against dust and damp by a protective box.

Ventilator

The ventilator is fitted with an inflow ring to limit the development of noise and achieve maximum air production which gives a large range with a minimum noise level.

RELIABILITY

By using components that have proven themselves in practise, in combination with the correct choice and position, there is a minimum chance of malfunction in the appliance.

By providing good protection (IP64) for the components in the switch box against water, dust and damp and using a burner control that is fitted with three restarts, restarting after cleaning won't be a problem.



The burner control that complies with the latest EN 298 norm has a flashing function that can be read from the outside without having to open the cabinet. This makes it possible to diagnose any malfunction! It is also possible to diagnose the cause of a malfunction via an interface.

OPERATIONAL SAFETY/PROTECTION CLASS IP64

The use of a protective box for the gas block and a switch box sealed to IP64 standards means there is very little chance of malfunction due to dust or damp. A lot of attention has been given to the lead-throughs and cabling. The burner controls can be read without opening the switch box which means that no damp or dust can enter the unit.

Easy service

The appliance is fitted with a large inspection hatch that gives easy access to the burner, ignition rod and ionisation electrode for inspection and cleaning. The rear side of the burner chamber, with the air opening to the burner, has good access which makes it easy to remove any dust that may collect here. No baffle plate is needed due to the very low flame which means that the ignition and the ionisation electrode can be directly accessed for cleaning.

Loose components have been chosen for the burner controls instead of an electronic print. This saves time and expense when carrying out service because of the use of loose components that have already been proven in practise. The automatic burner (Siemens LME39) complies with the latest EN 298 norm and has already proven itself in other applications.

The flame is monitored by an ionisation electrode.

Other automatic features include:

- Undervoltage monitoring;
- Monitoring the air pressure with a vane switch during starting and operation;
- Displaying error and status reports in a number of colours;
- Three start requests (three restarts);
- Limiting the number of start repetitions;
- Precise control sequence thanks to digital signal processing;
- Controlled intermittent operation after 24 hours continuous use;
- Interface diagnosis is possible.

TECHNICAL SPECIFICATION

TYPE HHB		40	70	100	120
Nominal load	kW	40	70	100	120
	K. cal.	34.300	60.200	86.000	103.200
	Btu	136.136	238.910	341.300	409.560
Gas consumpt. (nat.)	m ³ /u	4,3	7,5	10,8	13,0
Gas consumpt (prop.)	kg/u	2,9	5,4	6,5	8,1
Luchtverplaatsing	m ³ /u	3800	5000	6500	6500
Motor power	Watt	265	375	620	620
Mains Voltage	Volt	230	230	230	230
Current required	Amp.	1,3	1,8	2,75	2,75
Ventilator speed	rpm	1330	1400	1400	1400
Weight	kg	32	42	48	48

**Do you want to know more about Holland Heater products?
Then please don't hesitate to contact us.**

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