



CLIMATE DESIGNERS

## DBE (Dynamic Boost Effect)

The DBE system is a booster system suitable for mounting on Low-H<sup>2</sup>O units.

It is a patented system that uses microelectronics to control the “activators”. An activator is another word for a ventilator. Jaga calls it an activator because the concept is designed to “activate” the heat.

Combined with Low-H<sup>2</sup>O heat exchangers, DBE offers the user numerous advantages. Low-H<sup>2</sup>O units enhanced with the DBE system give super high-performance from small dimensions.

The components of the DBE system are easily clipped onto the Low-H<sup>2</sup>O units with tension springs. In terms of installation the system is very simple – hydraulically, nothing about the heating installation changes. You do have to take account of the increased output of the Low-H<sup>2</sup>O heating units when sizing the installation. Apart from that, only a local 220 VAC supply needs to be provided. The connection can be internal within the housing so that it is invisible once the Low-H<sup>2</sup>O unit has been assembled (this does depend on the space available in the Low-H<sup>2</sup>O unit). With freestanding units, the power supply is provided through the feet of the unit.

With the Dynamic Boost Effect, Jaga is introducing a new generation of intelligent radiators that think for themselves and can react to circumstances independently.

Thus the DBE system cuts warm-up times considerably by putting heat into the room in a very efficient way. The improved heat distribution in the room is also an important element of a comfortable indoor environment.

A radiator with DBE can generate up to 250% more output.

The radiator can now operate in both static and dynamic mode. This is controlled entirely automatically by a microprocessor. The microprocessor measures the room temperature and the average water temperature in the Low-H<sup>2</sup>O heat exchanger. These measurements are processed and, depending on the intended comfort temperature, the microprocessor determines the correct modulated speed of the activators. Thus the activators will run faster if you are a long way off the desired temperature. The speed drops as the temperature rises, stopping completely when the desired temperature is reached, at which time the system is operating entirely statically. This automatic operation is the “comfort” mode.

You can always get extra heat by turning on the manual “boost” function. The system will then run at maximum power for a set time provided that the heat exchanger is well supplied with hot water.

The faster warm-up of the room results in a substantial energy saving.

One important improvement inherent in the DBE system is its beneficial effect on the radiator coefficient. As a result of the forced operation of the system, this becomes 1, which results in a significant improvement in output at lower boiler temperatures.

### **Ease of use**

An ingenious system with super-convenient operation. The system has been developed to be as simple as possible for both the end-user and the installer.

Assembly of the system is distinguished by everything simply being clipped to the heat exchanger.

Only a single button is needed to operate the DBE system.

### **Intelligent radiator**

Jaga completely pre-programs the microprocessor. You simply set the maximum room temperature once – by simply setting a switch on the microprocessor circuit board to the desired maximum room temperature.

From then on the radiator does everything for itself. The microprocessor continuously measures and processes the temperature of the room and the water in the radiator. Thus it recognises the switchover from night to day programme itself. Extra heat whenever it is needed – completely automatically.

### **One press of the button.**

Want to use an unheated room unexpectedly? A simple press of the boost button and the radiator puts out oodles of boost-heat. Use the same button to put the radiator in stand-by or in comfort mode.

In boost mode the sound pressure of the system remains below 32 dBA per DBE unit (manual mode/internal noise)

In comfort mode, it remains below 26 dBA per DBE unit (automatic mode/internal noise).

### **Programming**

Want to create your own user profile? You can, using an optional CD-ROM and connecting cable.

### **Parts list.**

#### **Clip-on DBE-unit** by type of Low-H<sup>2</sup>O heat exchanger

Type 06:

Electricity consumption:

2.700 Watt/unit in Boost mode (3 activators/unit)

Type 10-11

Electricity consumption:

2.900 Watt/unit in Boost mode (3 activators/unit)

Type 15-16-20-21

Electricity consumption:

2.200 Watt/unit in Boost mode (2 activators/unit)

The number of DBE units depends on the length of the Low-H<sup>2</sup>O heat exchanger with a maximum of 6 DBE units connected in series. The type of housing also has an effect on the possible number of DBE units (see the manufacturer's tables for this).

Life of the DBE units: as a result of using high quality ball bearings, the life of the DBE units is 50,000 operating hours at a temperature from 40°C.

The activators are protected against stalling through being blocked up. However, any blockage by e.g. an external object must be avoided at all costs because it may cause damage to the activator blades.

Avoid denting the activator housings.

**Interconnection cable:** This connects the DBE units to one another or to the microprocessor board.

**Microprocessor board** including the temperature sensors. This control must be clipped onto the copper bend of the heat exchanger. The MAXIMUM desired temperature can be set on the board using a multi-position switch. Every position (from 0 to 9) corresponds to a desired maximum value. A table of the values also appears on the board. Position 6 is the default factory setting. This corresponds to a value of 22°C.

Electricity consumption: 0.0516 Watt.

**Control panel** with a single boost button and 3 LEDs indicating:

- Standby
- Comfort
- Boost

**Power supply** 12VDC 24 Watt.

UP to 6 DBE units may be connected to the supply.

### **Optional**

#### **PC link + communication software**

The DBE microprocessor board has a serial communication port (RS 232 type).

Using this port, the DBE system can be configured from a PC on which the communication software has been installed. This involves adjustment of the standard parameters. The operation of the software is explained by a help function.

#### **Selection:**

Is done using the tables provided by the manufacturer. The tables should preferably be used with the data for the DBE in comfort mode.

#### **Carrying out the installation**

The installer proposes heating elements with DBE, taking the following requirements into account:

- a heat loss calculation according to the standard;
- heat emission and dimension tables according to the tables and DBE installation conditions given by the manufacturer.

Electrical connection in accordance with applicable national standards.