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# DEBUGGER – ecological heat treatment

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| DEBUGGER                                    | DB 09                         | DB 18             | SC 6000                   | Power distribution |
|---|-------------------------------|-------------------|---------------------------|--------------------|
| <b>Fan</b>                                  |                               |                   |                           |                    |
| Volume flow rate [m <sup>3</sup> /h]        | 800                           | 5.400             | 6.000                     |                    |
| Heat output [kW]                            | 4,5 / 9                       | 9 / 18            | –                         |                    |
| <b>Electrical data</b>                      |                               |                   |                           |                    |
| Power [kW]                                  | 9,1                           | 19,1              | 1,1                       |                    |
| Max. current consumption [A]                |                               | 30                | 3                         | various sockets    |
| Electrical connected load <sup>1)</sup> [A] | 16                            | 32                | 16                        |                    |
| <b>Dimensions</b> [L x W x H in mm]         | 490 x 430 x 620 <sup>3)</sup> | 710 x 570 x 1.250 | 620 x 600 x 1.350 - 2.150 | 850 x 500 x 1.350  |
| <b>Weight</b> <sup>2)</sup> [kg]            | 26                            | 85                | 45                        | 150                |

#### Technical features of the DEBUGGER:

- Connecting cable with CEE plug
- Room thermostat
- Temperature controller and safety temperature limiter
- Fan protection grill
- Air deflector
- Cable holder DB 18
- Transport pallet DB 18
- Eyelets DB 18
- Power distribution
- Extension cable
- Infrared thermometer
- wheels
- extraction hose DB 09
- pivot frame DB 09

All specifications are valid for 400 V-3 Ph-50 Hz

<sup>1)</sup> CEE compliant

<sup>2)</sup> Including cables and plugs

<sup>3)</sup> Without telescopic pipe and air-hose

Subject to technical change without notice.



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## Heat treatment using the DEBUGGER method

Companies that process and sell foodstuffs, such as mills and bakeries, must work according to an HACCP system – which presents great challenges to such companies.

HACCP stands for "Hazard Analysis Critical Control Points" and is a risk analysis of all stages of the manufacturing process: from the preparation, processing and production to the packing, storage, transport, distribution, handling and sales of foodstuffs. The HACCP system defines all details that are potentially critical for food safety. Accordingly, the company must establish, implement, maintain, monitor and document appropriate safety measures.

In order to maintain these standards, a systematic monitoring and, where necessary, control of pests is required. For this purpose, a technically appropriate and natural pest control method for the containment of beetle populations has proved to be effective in many companies: heat treatment.

#### The DEBUGGER method from FrigorTec:

Heat treatment makes use of the fact that, at air temperatures greater than 45 °C, insects will die as a result of protein coagulation. The DEBUGGER method kills not only the adult insects, but also their egg depositions and larvae. At the same time, the method also ensures that the room temperature never exceeds 60 °C in order to prevent damage to the building or furnishings and equipment. Not only the temperature, but also the duration of exposure significantly influences the effectiveness.

After heat treatment, dust and deposits are easily removed due to the drying effect, which considerably reduces the potential for mould growth. Depending on the local conditions or regulations, it may be necessary to employ heat treatment equipment with ATEX certification.

#### Treatment management:

Not only the frequency of treatment is important. It can also be advantageous to carry out treatment in sections (by room, by floor, etc.). In the case of the DEBUGGER method, good air circulation is important, as all rooms that are to be treated must reach the necessary temperature for a positive result to be achieved. It may make sense to treat critical areas separately.

#### Cost-effectiveness:

For every operating company, the operating costs of insect eradication are a considerable financial factor. In order to meet these financial requirements, air recirculation methods and/or heat pumps with optimum performance coefficients are used. Fans with suitably adapted characteristic curves are also advantageous.

**FrigorTec GmbH is certified according to DIN EN ISO 9001 : 2008.**

**The company is a member of:**

- Society for the Support of the German Milling School Braunschweig e.V., Bonn / Germany
- Rationalisation Curatorship for Agriculture, Rendsburg / Germany
- School providing vocational education in Agribusiness Burg Warberg e.V., Warberg / Germany
- ALB, Stuttgart / Germany
- AGF, Detmold / Germany



#### Advantages of the DEBUGGER method:

- No chemical substances required
- Cost-effective, particularly with suitably adapted treatment management
- Easy to perform
- Guaranteed removal of insects in all stages of development

#### Potential applications:

Insect eradication is carried out in a wide variety of business operations. These include: mills, bakeries, grain stores, pasta production, herb processing, coffee processing, the tobacco industry, associated control rooms and cereal stores. However, the method is also being increasingly used for debugging mattresses, in hotels, for example.

The modular setup of the DEBUGGER method provides a high degree of flexibility for accommodating the structural characteristics of buildings, and permits rapid deployment (assembly and disassembly).



We pass on only what we have produced  
by our own hands – Made in Germany.



In the parent plant in Amtzell, Germany all products made by FrigorTec GmbH are developed, constructed and produced. Every device passes a quality inspection with test runs before delivery. We sell the FrigorTec solutions in over 80 countries through our worldwide distribution network.

**SERVICE**  
(24/365)



Our service keeps the units maintained and ensures the spare parts supply - worldwide.  
[service@frigortec.de](mailto:service@frigortec.de)

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**CRANEFRIGOR™**

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