

## **BACKGROUND INFORMATION**

### **Webasto: Marine solutions for boats and yachts**

#### **The Global Comfort Solutions (GCS) business unit**

Webasto develops innovative solutions for comfort and safety for all different types of land vehicles and boats in its Global Comfort Solutions (GCS) business unit, concentrating on the wishes and needs of its customers when developing new products and services. This is how it can create trendsetting, market-specific solutions for both automotive manufacturers and shipyards. Webasto offers its products as both original equipment and for aftermarket retrofitting.

The business unit is divided into individual segments that provide the best possible customer orientation, allowing Webasto to transfer its high procedural knowledge and quality from the automotive industry into its other segments.

#### **Webasto offers comfort on board**

Webasto has been developing and producing innovative equipment for the marine industry for roughly 15 years. Today, the company provides its customers with complete climate solutions for heating and cooling, as well as roof systems all from one source – a unique selling point on the marine market. The development of its comprehensive product portfolio has given the company a decisive advantage over the competition. Webasto is represented in over 40 countries and works with many service partners, distribution partners, and subsidiaries worldwide.

Above all, the Webasto name stands for innovation. Its BlueComfort System was the first product to combine an air conditioner with an efficient, fuel-fired heater in one system, allowing heating or cooling at the touch of a button. BlueComfort-series clients include, for example, the Italian boat manufacturer Azimut and the English yacht builder Fairline. In 2006, Webasto presented the first sliding roof to be specially designed for the marine market. The roof is highly adaptable to customer specifications. The Webasto Marine Roof is the result of long-time experience in the automotive industry combined with the special demands of the marine industry – such as durability against salt water, extreme UV exposure, wind, and weather conditions.

#### **Joint Venture: Indel Webasto Marine**

At the beginning of 2008, Webasto formed an alliance for more comfort on board. The company acquired 50 percent of the shares in the Indel Marine company – the outcome was the joint venture Indel Webasto Marine. Its partner is Indel B, an Italian enterprise,

holding leadership position in the refrigeration business. Indel B was founded 40 years ago and has since counted as one of the leading manufacturers of 12 and 24-volt refrigerators and mini-bars.

Indel Webasto Marine is a specialist for all types of on-board cooling and tap-water heating. Its activities cover the smallest boats to the largest ships, ranging from single contracts for individually customized equipment to large-quantity supplies for entire production series. Its Isotherm and Isotemp brand names are well-known in the marine industry and offer refrigerators and boilers to customers all over the world. The German-Italian company has its headquarters and manufacturing plant in Sant Agata Feltria, 120 kilometers south of Bologna. Its US subsidiary operates out of Fort Lauderdale, Florida.

The partnership provides its customers with an extended distribution network for sales of its renowned brands all over the world. This includes BlueHeat, BlueCool, BlueComfort, Webasto Marine Roofs, Isotherm and Isotemp. Benefiting from synergies, the joint venture will offer customers an even larger selection of convenient products for outstanding well-being on board.

## **Webasto's marine product portfolio**

### *Heaters*

Webasto offers two different approaches to producing comfortable on-board heating: air and water heaters. The company looks back on decades of experience in both technologies gained in the demanding automotive industry.

### *Air heaters – product family BlueHeat Air*

Air heaters are especially well-suited for smaller boats. They are affordable, lightweight, easy and quick to install, and require little space. Warmth is distributed through the boat's air ducts. Five models are available: the Air Top 2000 ST, Air Top 3500 ST VP, Air Top Evo 3900, Air Top Evo 5500 and the HL 90. All of the air heaters use diesel as their energy source. Maximum heating capacity ranges from two to nine kilowatts. Four of the five models are available in both 12 and 24 volts; the compact Air Top 2000 ST is offered with 12 volts only. The heaters are controlled using intuitive controlling instruments. The Air Top Evo M, which is compatible with all Air Top Evo products, offers the highest level of comfort. It features an energy-saving Eco mode and a Plus mode that increases the heating capacity by ten percent. Its ventilation mode enables fresh, cool air to be fed into the interior cabin – a significant contribution to on-board comfort on hot days. A continuously variable heat adjuster rounds off its range of functions.

### *Water heaters – BlueHeat Water*

Water heaters provide the same level of comfort on-board as at home. Convectors and fan heaters are used to warm ship interiors. Yet the heaters operate independently of the electrical power supply – an important feature for boats because of their limited supply of electricity. All of Webasto's marine water heaters are diesel-powered. Most of

them are available in 12 and 24 volts. In addition all solutions are extremely efficient in their use of electricity and optimized for low noise.

Webasto's BlueHeat Water product line includes water heaters, water stations including the Thermo Top, Thermo, and DBW product series. Webasto water heaters even supply additional warm water for showering, rinsing, or washing.

The Thermo Top E Marine is the smallest water heater – it produces a maximum 4.2 kilowatts. Its highest-capacity heater is the Thermo 350 at up to 35 kilowatts, considerably more energy than a conventional boiler would produce in a single-family home. The Webasto Water Station product series provides a separate warm-water supply. It offers models that perform from 4.2 to 23 kilowatts.

#### *Air conditioners – product family BlueCool*

Webasto's air conditioners provide perfect climate control for hot days on board. The company offers three basic concepts under the BlueCool name. A wide range of practical control panels are available to operate Webasto's air conditioning solutions.

The BlueCool Classic series is comprised of stand-alone models. Each cabin receives its own self-contained air conditioner. Because they are so compact, however, it's not at the expense of available on-board space. The nine models have a cooling capacity between 5,000 and 30,000 BTU, or approximately 1,500 to 9,000 watts.

For central cooling of several cabins, Webasto offers its BlueCool Select Air Conditioners. Cool air is produced centrally and is then dispersed to individual vents through the air ducts. Three models featuring cooling capacities between 9,000 and 16,000 BTU (equal to approx. 2,600 to 4,700 watts) are available. Both of the systems operate with 230 volts alternating current, in some cases with 115 volts as well. They use sea water for heat removal and operate FCKW-free.

The BlueCool Premium air conditioning systems are designed for medium to large yachts. The series uses a water/glycol mixture that can be transferred through the boat's water circuit, which in turn cools the yacht's cabins with separate fan heat exchangers. Depending on performance requirements, one to four compressors create the desired cool temperature in the cabin. The devices themselves are installed in the boat's engine room and are cooled by using seawater. Webasto produces the air conditioners with capacities ranging from 12,000 to 572,000 BTU or 3.5 to 168 kilowatts. Power supplies are available in single-phase or three-phase alternating current.

Leveraging on this unique product portfolio, Webasto can easily combine water heaters with its air conditioning systems into its BlueComfort solutions. This is especially evident in terms of its convenient control panels: the most recent is the BlueComfort ControlPad. It provides central control of both heating and cooling on boats with several compartments. It features a touch-screen color display and provides comprehensive system information for problem diagnosis. The BlueComfort ControlPad also offers a large range of digital and analog ports for connections such as CAN-bus or Ethernet.

*Sliding roofs – product family Webasto Marine Roofs*

Webasto's great wealth of experience in the automotive industry has led to a selection of roofs that Webasto had been distributing under the name Hollandia. Under the new label Webasto Marine Roofs, they offer a high degree of operative convenience and the type of durability that is indispensable for use on the water. There are three different series within the Webasto Marine Roofs product portfolio: the 60 series, 80 series, and the 150 series. A new feature is the optional fixed element that can be installed between the guide rails of the Webasto Marine Roof. The additional option doubles the transparent surface of the boat's roof to up to three square meters, already in the smallest model, the 60 series. For pre-existing sliding roofs, Webasto offers conversion kits that provide the technology of the new models.

*Refrigerators and boilers – products Isotherm and Isotemp*

The Indel Webasto Marine joint venture offers numerous refrigerators and freezers in its product portfolio under the Isotherm name. They stand out for being extremely economical with electrical energy, which is such a rare commodity on board. Structural features prevent ice accumulation and therefore protect against increased energy consumption. All of the products have been specially designed for life on board and for the environmental conditions to which watercrafts are exposed. A distinctive, patented feature in some of the models is that they use seawater to dissipate heat. This reduces electricity consumption in comparison to using air, which is common for home air conditioners. And yet the Isotherm products save energy within this system too: Indel Webasto Marine uses the force of the water's current to pump the cooling water and uses the resulting movement for the exhaust.

Under the brand name Isotemp, Indel Webasto Marine produces hot water boilers of highest quality dedicated for the use in marine applications. These water boilers are made of stainless steel for extra robustness on board.

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**About Webasto's Marine Segment**

Webasto offers complete and integrated solutions for optimizing climatic comfort on-board ships and yachts in the Marine Segment of its Global Comfort Solutions (GCS) business unit.

[www.webasto-marine.com](http://www.webasto-marine.com)

**About Webasto:**

Webasto AG headquartered in Stockdorf near Munich has been a family-run business ever since the company was founded in 1901. It has about 7,000 employees at 58 international locations and is specialized in the Convertible, Roof & Body (CRB) and Global Comfort Solutions (GCS) business segments. With sales of around 1.8 billion euros (2007 business year) Webasto is one of the top 100 automotive suppliers worldwide. The company's core competencies include development and production of convertible, roof and body systems as well as heating, cooling and ventilation systems for passenger cars and commercial vehicles. You will find further information at: [www.webasto.com](http://www.webasto.com)

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