

## **PAO Oil 68 from Behr Hella Service tried and tested under real-world conditions for more than 10 years**

**Schwäbisch Hall, March 25, 2014.** PAO Oil 68 has proven itself in day-to-day practical use for more than 10 years and contributes to increased air conditioning performance in vehicles. It has no damaging effects whatsoever on components of the air conditioning circuit. The same applies when used in air conditioning service stations. Because it can be used as an alternative to the various PAG oils, which are on offer for R134a (except in the case of electric compressors), garages in most cases only need the one type of oil, instead of having to stock up on three different PAG oils.

The oil is available without an added contrast agent (PAO Oil 68) or with it included (PAO Oil 68 Plus UV). When these two types of oil are used in compressors from Behr Hella Service, full warranty is always applicable. The effects produced by both oils are the same: molecules of the PAO Oil 68 or those of PAO Oil 68 Plus UV adhere to all surfaces in the system, displace other molecules and remain as a thin layer on the inner surface of the system components. As the molecules do not combine, this oil layer is just one molecule "thick". Therefore, in contrast to many other oils, there is no risk of oil collecting in the evaporator and the resulting loss of cooling output when PAO Oil 68 is used.

Due to the fact that PAO Oil 68 only slightly connects to the refrigerant, just a small part of the oil circulates through the system. The rest stays where the oil is actually needed – in the compressor.

An oil film over the components improves the seal and, furthermore, the friction between the moving parts in the compressor is reduced. In this way the operating temperature is similarly reduced and also the wear. All this plays an important role in the operating safety and reduction of noise and also ensures that compressor run-times are shorter, thus reducing energy consumption. The PAO Oil 68 Plus UV is additionally enhanced with a concentrated, highly effective contrast agent that enables UV leak detection to be carried out. The advantage of the low Vol % concentration of the

contrast agent is that all the properties of the oil are retained and there are no negative effects on system components or service units whatsoever. And 10 Vol % of the system oil quantity is already sufficient to carry out effective troubleshooting. So, for example, in a full system quantity of 180 milliliter this would amount to only 18 milliliter of PAO Oil Plus UV. It is also, of course, possible for PAO Oil 68 Plus UV to be the only oil used to fill the whole system without any negative effects developing.

PAO Oil 68 can similarly be used in combination with many other lubricants and refrigerants without any problems arising and, thus, it lends itself to either topping up or even replacing the entire quantity of oil in the system. Because of its special molecular structure and density, PAO Oil 68 only mixes with other oils to a certain extent and then separates from them again when it "comes to rest." This guarantees that the necessary viscosity of the oils is maintained and there is no change in the overall viscosity. Thanks to its unique combination of highly refined, synthetic oil and special performance-enhancing additives, PAO Oil 68 has a very high operating range (–68 to 315°C).

PAO Oil 68 is not hygroscopic, i.e. unlike other oils it does not absorb moisture from the ambient air. This means that by simply using PAO Oil 68, humidity problems, such as, for example, components icing up or acids being formed, can be counteracted. The application possibilities and also the storage ability of PAO Oil 68 are much better than those of conventional oils.

PAO Oil 68 Plus UV has been tested by the manufacturer and by independent institutes. Thus, for example, chemical stability was tested in connection with the refrigerant and the various O-ring materials on the basis of the so-called "sealed tube test", in accordance with the standard ASHRAE 97.

All the tests showed a positive result, confirming that negative effects on components in the vehicle air conditioning system or the air conditioning service station can be excluded. Results which prove that PAO Oil 68 Plus UV can be filled directly into a

component, e.g. the compressor, or via the air-conditioning service station into the refrigerant circuit.

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**Behr Hella Service GmbH, Schwäbisch Hall:** The joint venture between automotive parts suppliers Behr (specialist for vehicle air conditioning and engine cooling) and Hella (specialist for components and systems for lighting technology and electronics) serves the global independent aftermarket for vehicle air conditioning and engine cooling parts. The joint venture combines Behr Service's activities on the independent aftermarket and the air-conditioning business of the Hella aftermarket organisation. Behr and Hella each have a 50% share in the joint venture. The combination of Hella's global sales organization with Behr's product know-how and the linking of activities in the field of vehicle air conditioning and engine cooling for the parts business is the logical further development of the previous cooperation between Behr and Hella in the field of climate control and front-end modules.

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