Use of paraffinic diesel fuel pursuant to DIN EN 15940
for heating units in the Thermo, Thermo E, Thermo E+, Thermo S and Thermo plus

Synthetic diesel fuels are created using synthesis or hydrogenation processes with various raw materials, such as:

- Natural gas (Gas-to-Liquid; **GTL**)  
- Coal (Coal-to-Liquid; **CTL**)  
- Biomass (Biomass-to-Liquid; **BTL**)  
- Plant-based oils (Hydrogenated / Hydrotreated Vegetable Oils; **HVO**)  

As fuel for use in diesel engines and motor vehicles, they are described in DIN EN 15940:2016-9 (fuels for motor vehicles – paraffinic diesel fuel from synthesis or hydrogenation). Valeo tested some of these fuels of the DIN EN 15940 standard which have high market shares.

Switching from conventional diesel and biodiesel to paraffinic fuels can result in gasket shrinkage within fuel-carrying parts. Partially different, clearly brighter flame colors can be seen during the combustion process.

Valeo hereby **approves** the fuels mentioned below according to DIN EN 15940: 2016-9:

- Shell GTL  
- Neste Renewable Diesel® (HVO; previously NExBTL®)  
- All HVO fuels that are either equivalent to Renewable Energy from Neste or derived from such, but are marketed under a different brand name and are further additized at most, such as:
  - Blauwe Diesel or SsynFuel+ ® (Future Fuels)  
  - C.A.R.E. Diesel® (ToolFuel)  
  - GoodFuels Renewable Diesel (GoodFuels)  
  - Green D (Green Biofuels, UK)  
  - Neste MY (Neste - Swea Energ - Energifabriken - Biofuel Express - Colabitoil - Ecobränsle, SE - FIN)

Consult the **Valeo Service Helpline** when using additional fuels.

The following heaters - including the corresponding Valeo fuel hoses and fuel filters - after the manufacturing date of 01/2017 may be used with the above types of fuel in compliance with the required conversions:

**Thermo** | **Thermo E** | **Thermo E+** | **Thermo S** | **Thermo plus**

**Conversions:**

1) The use of a dust protection tube is recommended for the above specified heaters. Also see the installation instructions "Dust Protection Kits 11137558A".
2) Because the software is optimized for the older Thermo heaters – only for this units - exchange the corresponding controller for this series only (see overview page 3).

3) For heaters, fuel filters and fuel hoses before 01/2017, it is necessary to convert the fuel hoses and filters when switching to the above fuels for the first time. All external attachment parts or components must be approved for these fuels. In order to identify the parts and components to be converted, Valeo must be informed of the material and serial number (see type plate) of the heaters used.

Please contact the Valeo Service Helpline at Valeo Service Helpline service-valeobus@valeo.com

Combustion with the above mentioned fuels is permitted in a range of fuel temperature from -20°C to +45°C. The operating temperature of the heater can be found in the respective installation instructions.

Specifications:

- The above fuels approved by Valeo must comply with EN 15940:2016-9
- The above-mentioned fuels approved by Valeo must meet the climatic requirements (CFPP classes)
- Mixed refuelling/mixed operation of the above-mentioned fuels approved by Valeo is permitted with diesel fuels according to DIN EN590 (and standards identical in content) in any mixing ratio.
- Mixed refuelling/mixed operation of the above-mentioned fuels approved by Valeo is not permitted with bio-diesel in accordance with DIN EN 14214 (and standards with identical contents).
- The use of a nozzle block preheater is mandatory from temperatures ≤ 0 degrees Celsius
- The use of a filter heater is mandatory from temperatures ≤ 0 degrees Celsius
- Fuel pump must be equipped with FKM ("Viton") seals; "NBR" is not permitted (see TI Fuel pump DOK70102)
- Fuel lines must be resistant to paraffinic fuels (according to DIN EN 15940) FKM ("Viton") is prescribed; 'NBR' is to be excluded
- Replace the fuel pump and fuel lines at least every four years
- Replace the fuel filter annually. In the case of alternating fuelling / alternating operation of permitted fuels, a six-monthly change is recommended.
- Observance of the maintenance work; Put the heater into operation at least every four weeks, also in summer
- The use of outdated fuel must be excluded
- The CO2 value must be checked during conversion and annual maintenance
Note:

- Operation of the heater in two-line operation (suction and return line) is recommended.
- The use of a non-standard fuel will result in smoke formation and combustion problems!

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Explanation: The terms "fuel" and "combustible" are used throughout this document as synonyms for each other.

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