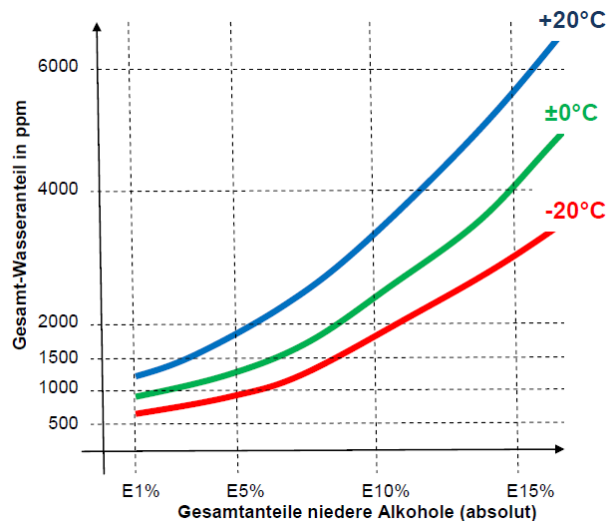


Audited measurement methods



The saturation curves (W. esters) for the water absorption of alcohol-gasoline mixtures are the basis for the detection of water-binding up to -20 °C OAT or FL130 standard atmosphere. Its done by choosing a calibrated ampoule of a desired outdoor temperature OAT and adding to a sample of 60 ml of fuel at normal temperature. If no colour turn happens, the existing water content is less than the possible solubility with the tested fuel (yes / no decision).

MAUL & Co.

Development and manufacture of testing equipment and tank construction for the flight and Automotive Engineering

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Application

Aviation fuels can bind strongly temperature-dependent a share of water with itself. Any additional amount of water presented there will become dis-emulsified and a separate phase as pure water.

Non-dissolved water can be removed by draining it under static storage conditions caused by the density difference of the fuels. In motion, this separation is not possible.

In the presence of hygroscopic Ethanol - Gasoline mixtures E5, E10, E15 - the dissolved amount of water is greatly expanded. A review or control by Draining it is no longer possible.

The objectives of the Fuel-Water Tester is to check the overall proportion of water in the respective aviation fuel, which remains dissolved in the fuel surly at - 20 °C and at ± 0 °C OAT.

Thus, the risk of phase separation of water as a cause of disturbances in fuel supply in case of falling external temperatures (OAT) is excluded in the flight up to FL 130 and OAT < M20 under conditions of Central Europe in summer and winter.

A second measurement range ± 0 °C is provided because most of the leisure- and sports flying takes place above the 0 °C - boundary and here a higher water content also in E5, E10 and E15 fuels, happens which becomes otherwise no longer controllable by draining it.

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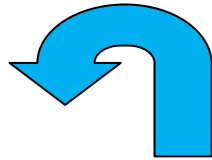


Fuel – Water Tester

Measuring ranges: Y / N up to -20 °C
Y / N up to ± 0 °C

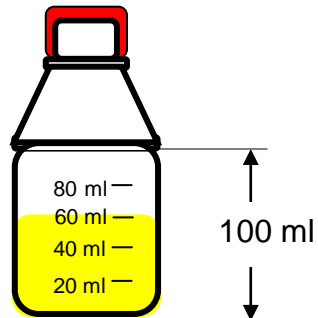
Test case for proof of the solubility of remaining water with automotive fuels according to EN 228 / E10 / E15 for approved flight purposes

And so easy to do it!



Filling up test bottle with 60ml fuel.

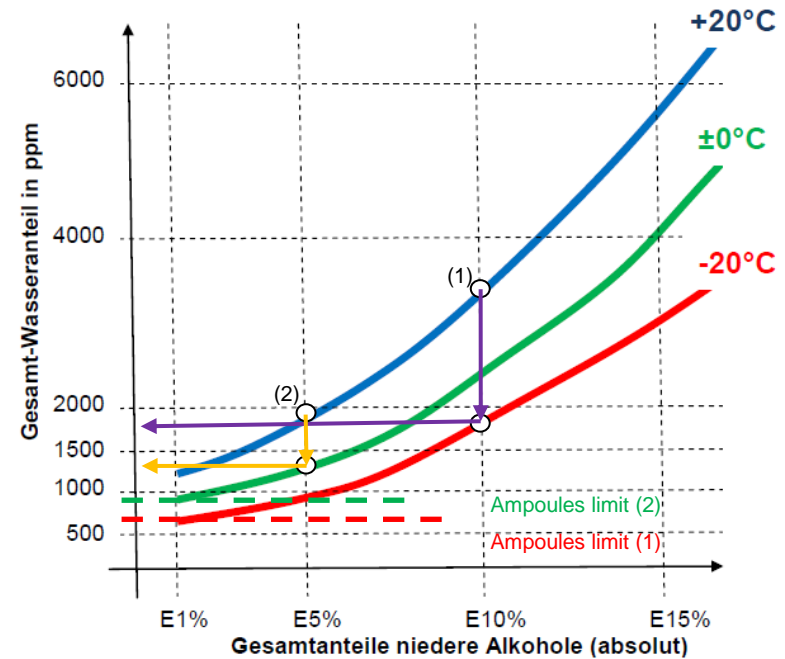
Test ampoule M20 for OAT to -20 °C or ± 0 °C for OAT-Freezing, cheap break, fill and mix.



If no discolouration of the test liquid takes place after about 30 sec then the allowed water in the fuel in place remains stable dissolved.

Please collect the ampoule as special waste and dispose it accordingly.

The complete set consists of 1 test bottle 100 ml, 5 x Test ampoules M20, 5 x Test ampoules ±0, ampoules cheap, disposal containers, testing attestation and shock-proof aluminium case. A test report about the measurement accuracy for the test is included for any verification reasons. Replacement vials of 10 or more each can be supplied.



2 scenarios (1) and (2):

I drained and no water were found. I want to fly (1) E10 to -20 °C or (2) with E5 up to the freezing level and measure at +20 °C (on blue saturation curve). The projection on the OAT (1) or M20 (2) ± 0 °C to below shows the maximum binding capacity for water.

Both figures are above the ampoules limits, so no colour change and a positive result of the sample.