

Elastocon®

Fogging tester

for testing of windscreen fogging, EB 03C

Windscreen fogging test is a procedure used to determine the amount of windscreen fogging in vehicles. Fogging contains the remnants of chemicals which are discharged from the interior materials in the vehicle and often get deposited on the interior glass of the vehicle.

All type of materials inside the vehicle is tested, from textiles, leather, plastic, rubber and other materials. The accumulated fogging needs to be kept to a minimum in order to ensure driving safely and to allow drivers to clearly see through the windscreen.

The reason fogging mainly occur on the front windscreen is due to the position of the glass. It is facing upwards toward the sky and that causes the windscreen to be colder compared to other glass surfaces in the vehicle, thus causing the evaporated material to condensate in a relatively high concentration on the front windscreen.

In addition to international standards (ISO and SAE, for example) several vehicle manufacturers follow their own standards.

One important feature to get a reliable test result from fogging test is to ensure that the temperature inside the beakers are uniform. Both the uniform temperature of the liquid in the bath as well as the speed when it moves around the beakers will have influence of the temperature inside the beakers where the samples are. Which means that even a uniform temperature in the bath could cause different temperatures inside the test beakers causing different results depending on placement of the beakers.

Elastocon's EB 03C has uniform temperature also inside the beakers. It has a compact design with the heating bath and cooling bath integrated in one casing.

For cooling of the water bath, the instrument is equipped with a cooling system with Peltier cooling element.



- The equipment consists of a heating bath and a water bath, built as one unit.
- Temperature sensor in the cooling water return.
- Meets the requirements for fogging tests, according to ISO 6452, SAE J1756 and several other standards, we also have some company specific accessories to meet those standards.
- The baths are made of stainless steel and the casing of powder painted steel.
- Water cooling system with Peltier elements.
- Several accessories and consumables can be supplied upon request.



Technical specifications – Fogging tester, EB 03C

Temperature range, °C:	
heating bath, °C:	+40 to +130
cooling bath, °C:	+20 to +80
Accuracy, °C:	
heating bath, °C:	±0,5
cooling bath, °C:	±0,5
Dimensions w × h × d, mm:	955 × 530 × 585
Weight, approx, kg:	67
Beakers:	6
Voltage, V:	220–240/1/50
Power, W:	2100
Colour:	bluegreen
Peltier cooling elements, W:	200
Standards:	ISO 6452. SAE J1756

The EB 03C fogging tester includes the following (can also be purchased as spare parts)

- 2 temperature controllers, with 0,1 °C setpoint, and alarm
- 2 solid state relays for safe control
- 1 temperature sensor selector switch
- 6 beakers according to ISO and DIN (EB 03.03)
- 6 sealing rings of silicone rubber (EB 03.01)
- 6 cooling plates (EB 03.06)
- 2 sets of test glass (7 × 2) (EB 03.04) including 1 stand (EB 03.05)
- 6 stainless steel rings for loading the samples (EB 03.07)
- 6 aluminium rings for holding the beakers (EB 03.08)
- 1 stainless steel stand for the beakers (in the hot bath)
- 1 spirit level
- 10 aluminium foil discs for gravimetric tests (EB 03.09)
- 1 spacer of plastic film (EB 03.11)
- 10 filter papers (EB 03.10)

Optional accessories

- Stove bath fluid (modified, aliphatic alcohol) (EB 03.12)
- DIDP reference liquid (EB 03.13)
- Glass panes of borosilicate glass, very durable but non-standard (EB 03.15)
- Sealing rings of fluoro rubber (EB 03.16)
- Cutting die for cutting fogging specimens with a cutting press (EP 04-dia 80)
- High precision analytical balance (KEABT 220-5DNM)
- Gloss meter, 20°/60°/85° (HACS-380)
- Haze meter (HATH-100)



A suitable balance for gravimetric tests with 0,00001 g resolution.



Glossmeter, 20°/60°/85° (HACS-380), battery operated.

ELASTOCON reserve the right to modify these specifications in part or in whole.

Additions to EB 03C

for testing according to Toyota TSM 0503G and Mitsubishi PES 1360 1097

Toyota



EB 03.17 Glass beaker Toyota standard.

EB 03.18 Panes of glass 47 × 47 mm with Tin side identified.

EB 03.19 Stand for Toyota beakers. Replacing the standard stand.

Mitsubishi

Type C,
oil bath
method



EB 03.20 Glass beaker Mitsubishi glass beaker.

EB 03.21 Stand for Mitsubishi glass beaker. Additional stand used together with EB 03 standard stand, to obtain the correct liquid level.

Hazemeter (HATH-100)
measuring the light transmission
and diffusion according to, for example,
Toyota, Honda and Mitsubishi standards.



Important recommendations for all instruments!

For the best performance of the instrument, we recommend the following working environment:

- Standard laboratory temperature of either $23\text{ °C} \pm 2^\circ$ or $27\text{ °C} \pm 2^\circ$.
- Humidity not more than 90 % RH – non condensing.
- For long term logging instruments secure the power to the computer with a double converting UPS, for reducing electrical disturbances and power failure (ask Elastocon for recommendations or quotation).
- Other environmental aspects: Pollution degree 2 – Laboratory environment

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