

Antifreeze Tester

Instructions for Use



Antifreeze measurement of
TYFOCOR[®] L / water mixtures and TYFOCOR[®] LS ready-to-use

General

This tester is suitable for all propylene glycol / water mixtures. Aqueous solutions of ethylene glycol, however, cannot be measured.

Measurement procedure

1. Fit the hose to the rotary valve nipple. The valve must be open, so that the symbol ϕ is visible from the front.
2. Hold the unit vertically and squeeze the suction ball right in. Firstly, suck slowly until the chamber is about one third full, then, by means of releasing the suction ball, suction follows quickly. Quick, immediate suction may cause air bubbles.
3. After the chamber is filled the liquid runs over, through an inside channel, into the lower part of the suction ball. When the suction procedure is completely ended, that means when the chamber is absolutely full and the suction ball resumes its normal

shape, close the valve by a half turn so that the symbol Θ is visible from the front.

4. Tap against the chamber with the knuckles just as one knocks at a door. Should air bubbles have settled on the floating scale then they will be removed in this way. The bubbles could influence measurement accuracy.
5. When reading off the measurement the unit must be held vertically, the chamber completely filled and the floating scale must float freely.
6. The more propylene glycol is present in the sample, the higher the scale will rise. The swinging needle (which is held horizontal at all times by means of a counterweight) indicates the antifreeze (= freezing point) in degrees Celsius.
7. Open the valve and press the bulb hard several times to remove the fluid from the tester. Clean the tester from time to time by flushing with warm water.

TYFOCOR[®] L

TYFOCOR[®] LS ready-to-use, frost protection -28 °C

% vol.	Freezing point Reading	Frost protection	Pour point	% vol.	Freezing point Reading	Frost protection	Pour point
25	- 10.7 °C	- 11.5 °C	- 12.3 °C	100	- 23 °C	- 28 °C	- 31 °C
30	- 14.0 °C	- 15.0 °C	- 16.0 °C	Inadmissible dilution			
35	- 17.6 °C	- 19.0 °C	- 20.4 °C	95	- 21 °C	- 25 °C	- 27 °C
40	- 21.5 °C	- 23.7 °C	- 26.0 °C	90	- 19 °C	- 23 °C	- 25 °C
45	- 26.0 °C	- 29.6 °C	- 33.3 °C	85	- 16 °C	- 20 °C	- 22 °C
50	- 32.4 °C	- 38.2 °C	- 44.0 °C	80	- 14 °C	- 18 °C	- 20 °C
55	-40.4 °C	-48.5 °C	< -50 °C	75	- 12 °C	- 16 °C	- 18 °C
55	- 48.4 °C	< -50 °C	< - 50 °C	70	- 10 °C	- 14 °C	- 16 °C

Freezing point: temperature at which initial ice crystals begin to form when the fluid is cooled down. The resulting ice slurry does not possess any expansive force. Further reduction in temperature causes further thickening of the ice slurry until it solidifies at the **pour point**. Only below this temperature, there is danger of bursting for the installation. The arithmetic mean from freezing point and pour point is referred to as **frost protection**.

In order to maintain effective protection from frost and corrosion, a concentration of at least 40 volume percent of TYFOCOR[®] L Concentrate must be applied for use in Solar Thermal Systems. A minimum concentration of 25 volume percent must be used for other installations.

TYFOCOR[®] LS ready-to-use must not be diluted with water, and must never be mixed with other heat-transfer fluids.



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