

# Antifreeze Tester

## Instructions for Use



### Antifreeze Determination of TYFOCOR® Water Mixtures

#### General

This tester is suitable for all ethylene glycol water mixtures. Mixtures with propylene glycol cannot be measured.

#### Measuring procedure

1. Fit the hose to the rotary valve nipple. The valve must be open, so that the symbol  $\phi$  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 can 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  $\ominus$  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 antifreeze is 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 degree of protection in degrees Celsius below zero. The coolant is protected against freezing down to this temperature.

7. To empty the sample, open the valve and press the bulb hard several times. Clean the tester from time to time by flushing with warm water.

TYFOCOR®		
Density at 20 °C	TYFOCOR® Concentrate [% v/v]	Freezing point
1.029	20	- 9.0 ° C
1.037	25	- 12.3 ° C
1.044	30	- 16.1 ° C
1.052	35	- 20.4 ° C
1.059	40	- 25.2 ° C
1.066	55	- 30.8 ° C
1.073	50	- 37.6 ° C
1.125	100 (concentrate)	- 18.0 ° C

Freezing point: initial formation of ice crystals occur at this temperature.

**In order to prevent the cooling system from corrosion, a minimum concentration of 20 % v/v must be observed for aqueous TYFOCOR® solutions.**



TYFOROP Chemie GmbH

Anton-Rée-Weg 7 D-20537 Hamburg Tel. ++49 (0)40 -20 94 97-0 Fax: -61 52 99 e-mail: info@tyfo.de 2/04