

Correction curves for Setters



To be applied when using anti-icers and corrosion inhibitors

Instructions for use of the correction curves

Anti-icers and corrosion inhibitors are inhibitors based on propylene glycol which are mixed with water. This prevents undesirable reactions such as corrosion or the freezing of hydraulic systems.

These mixtures give rise to other physical material values than those occurring in the case of pure water. These material values depend on the one hand on the mixture ratio in %, and on the other on the temperature of the mixture.

The mixture ratio depends on the desired properties, for example frostproofness.

Flow

As a result of the changed material values, the flow indicated on the taconova Setter varies. The reason for this is the higher viscosity and density of the water mixture compared with pure water.

The **kinematic viscosity** of the water mixture is the critical factor in determining the correction value. This value is derived from diagrams and product documentation published by the manufacturers of inhibitors. The diagram set out in *Fig. 1*, which was provided by Messrs. Clariant, is the basis for the specimen calculation with Antifrogen L.

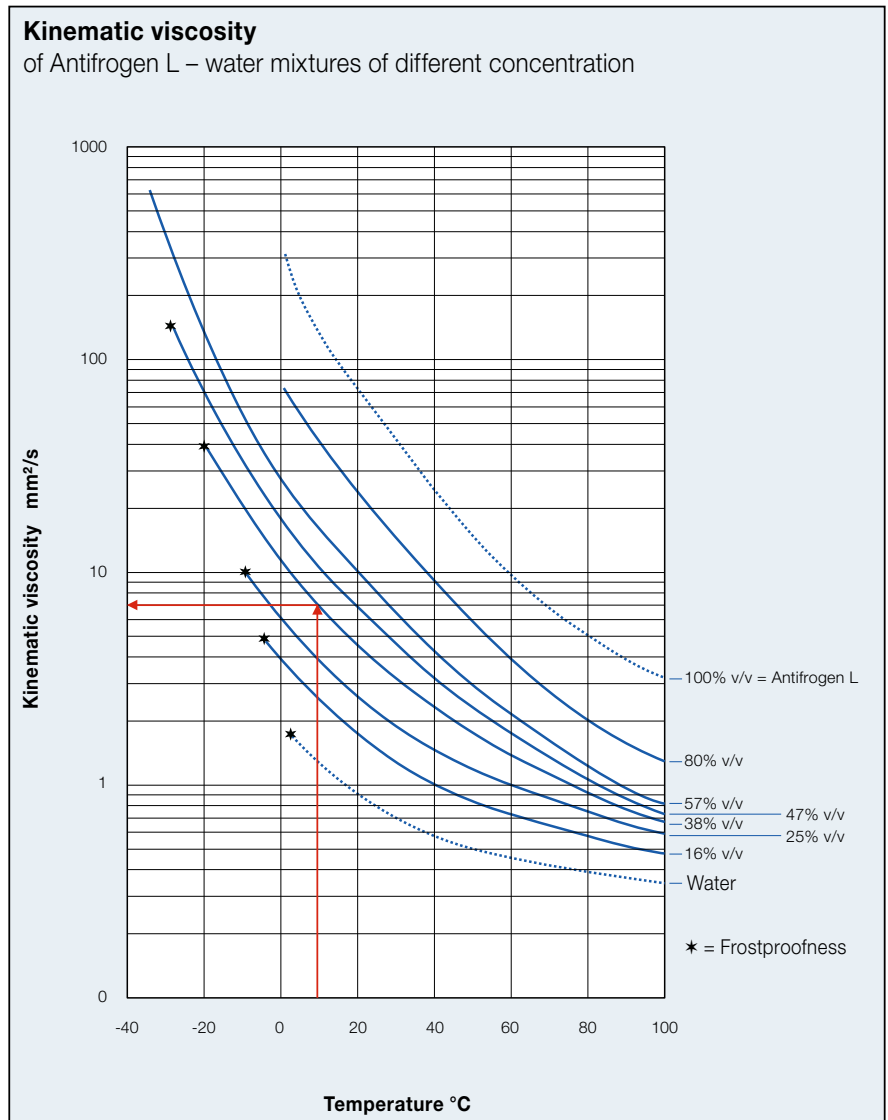


Fig. 1 Source: Clariant GmbH, Divisions Chemicals, D-65840 Sulzbach

Correction curves

There is a separate diagram with nine correction curves for each taconova Setter and its flow range.

These correction curves cover a kinematic viscosity range from 1 mm²/s to 53 mm²/s.

In the table shown in *Fig. 2*, these curves are assigned to the kinematic viscosity read off from *Fig. 1*.

Kinematic viscosity	Correction curve no.
53,0 mm ² /s	1
30,0 mm ² /s	2
17,0 mm ² /s	3
6,7 mm ² /s	4
4,7 mm ² /s	5
3,5 mm ² /s	6
2,2 mm ² /s	7
1,7 mm ² /s	8
1,0 mm ² /s	9

Fig. 2

Correction curves for Setters



Specimen calculation

Given:

- Antifrogen L concentration: 38%
- Mix temperature: 10 °C
- Indicated flow: 3,5 l/min

Sought:

Effective flow in l/min when using a Setter Inline (Art.: 223.1204.000)

Solution:

On the basis of the manufacturer's diagram Fig 1, a kinematic viscosity of **7 mm²/s** is arrived at

According to table Fig. 2, **6.7 mm²/s** indicates correction curve No. 4

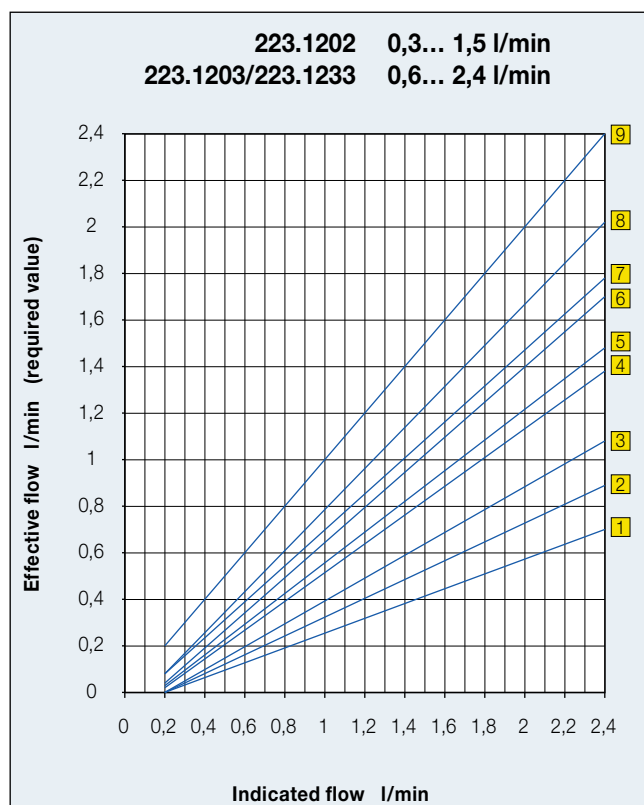
An effective flow of 2.6 l/min can be determined from the indicated 3.5 l/min, using the diagram for this Setter Inline and curve **No. 4**

Conclusion:

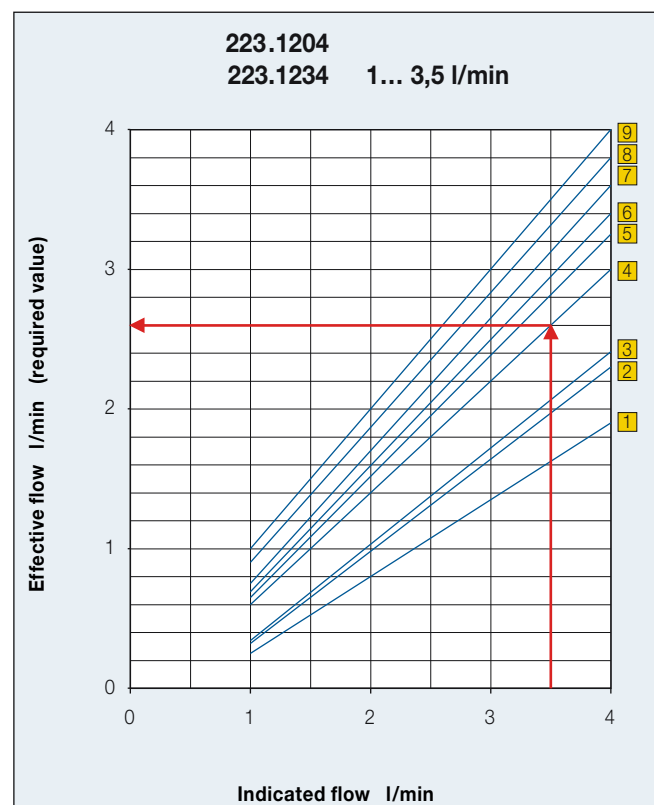
Given an Antifrogen L concentration of 38% and a mix temperature of 10 °C, the effective flow diverges from the indicated flow by -26%.

Correction curves

Setter Inline DN15



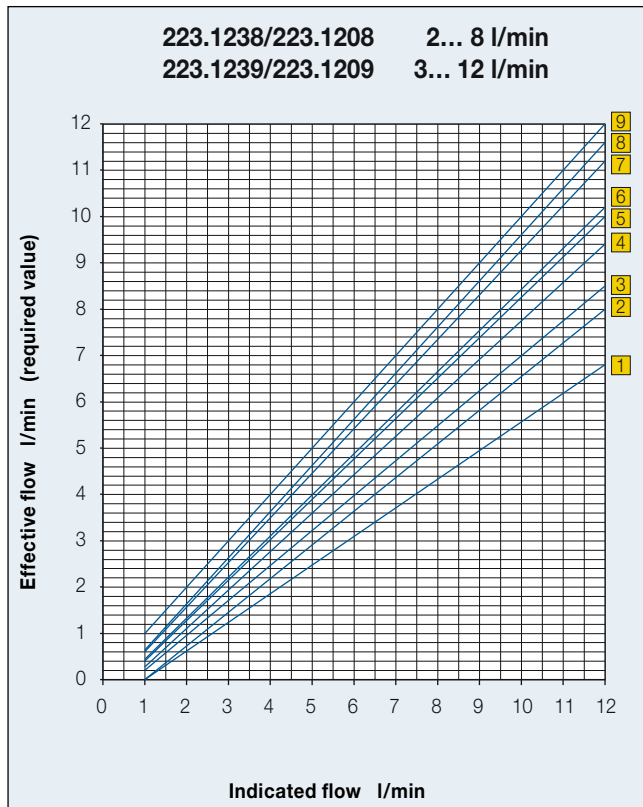
Setter Inline DN15



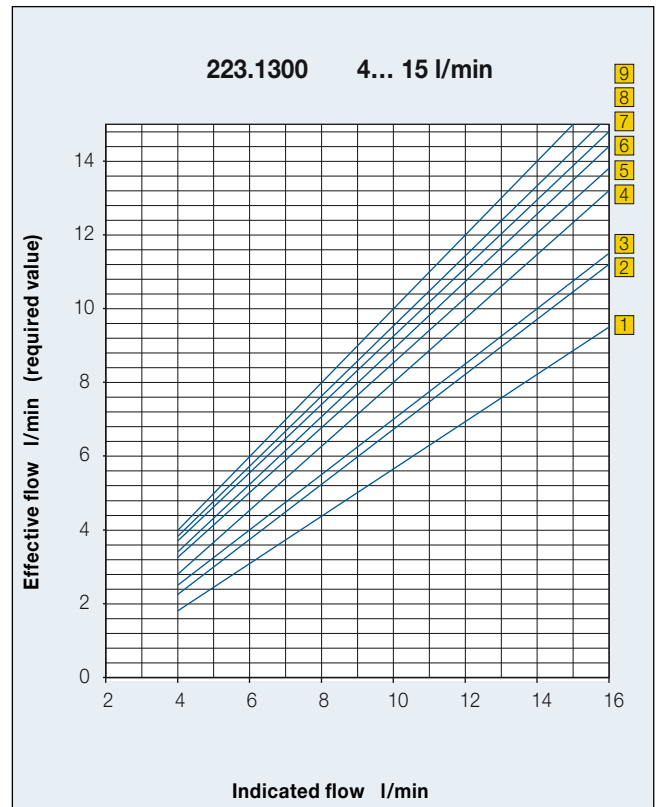
Correction curves for Setters



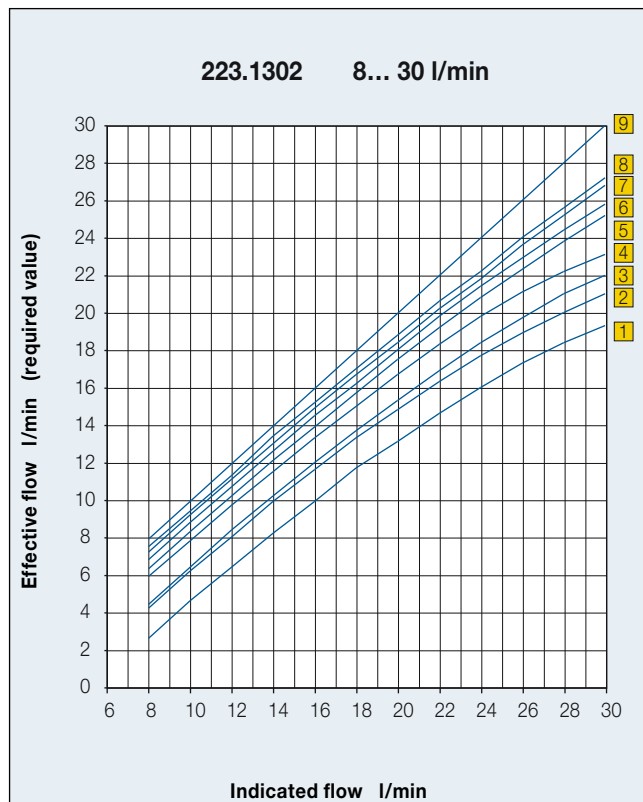
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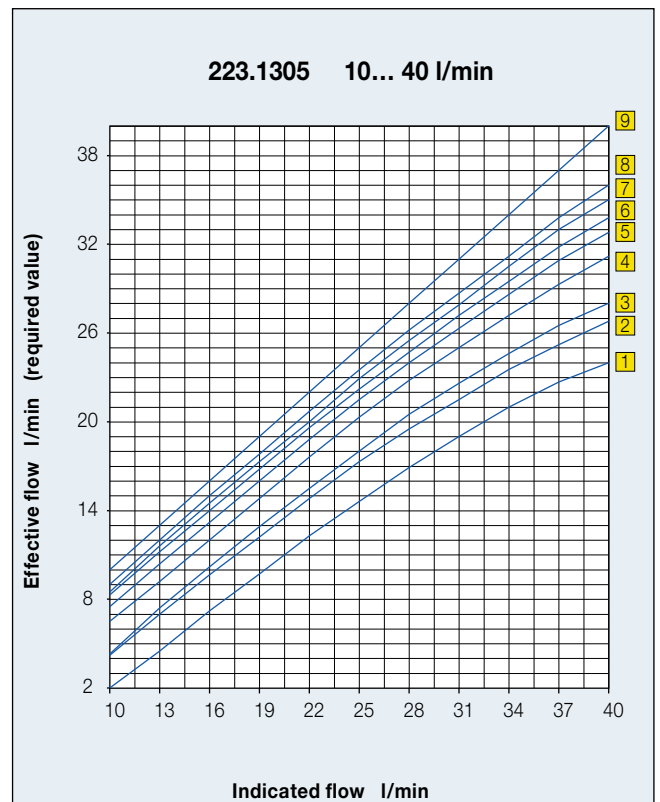
Setter Inline DN20



Setter Inline DN20



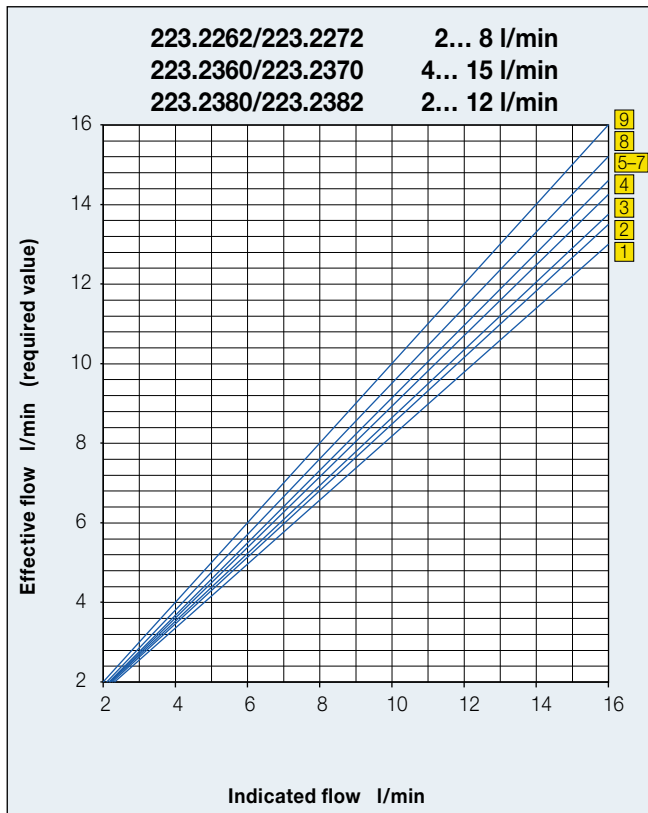
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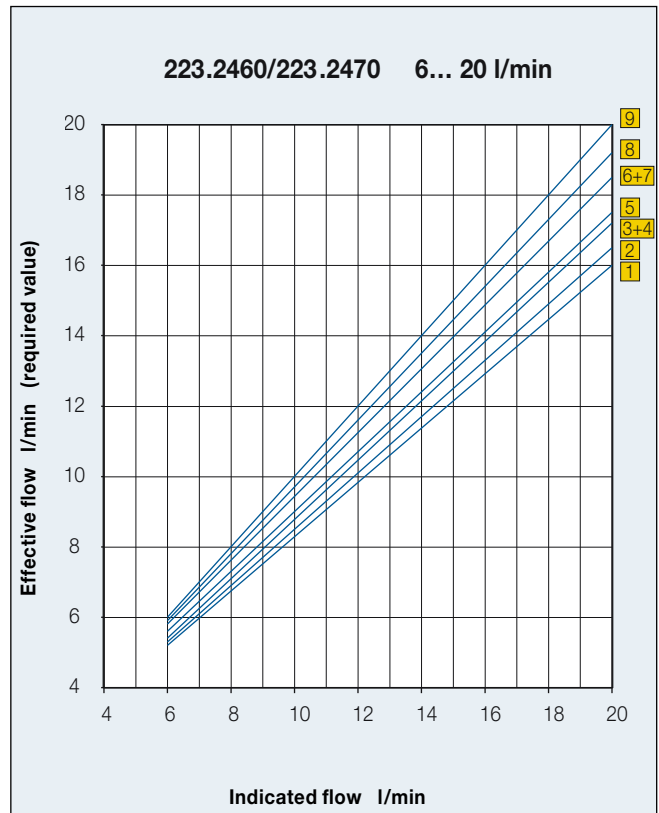
Correction curves for Setters



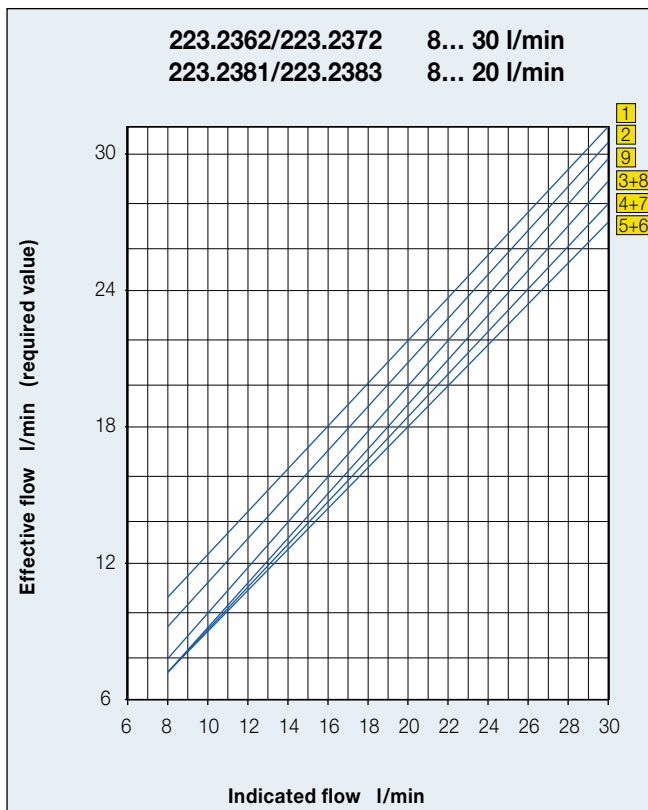
Setter Bypass DN20/DN15



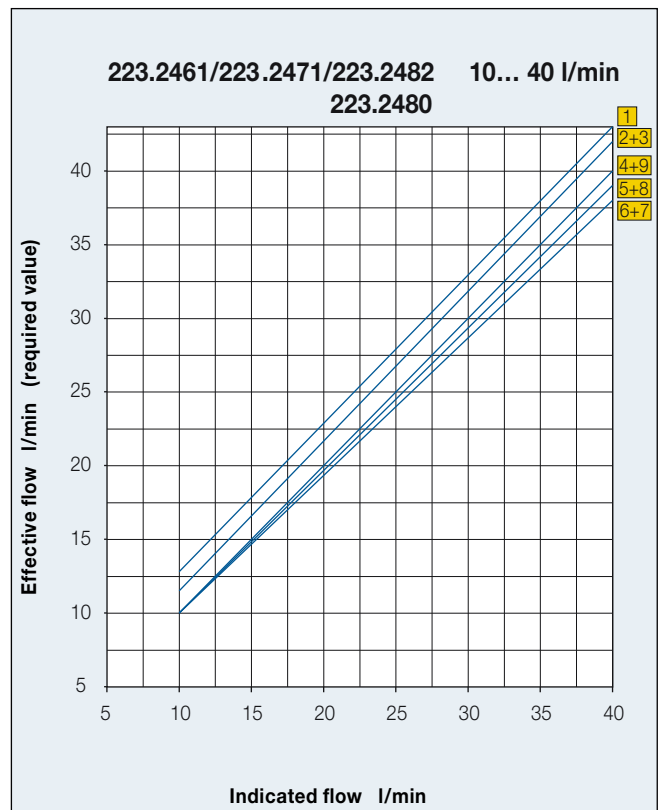
Setter Bypass DN25



Setter Bypass DN20



Setter Bypass DN25



Subject to modification. A-KG 07/2010 pdf e