

Service Information Letter 1_2011

1 Changes of Adjustment Limits of MAS-100 CG Ex

Instruments affected: all MAS-100 CG

Change level:

- optional
- recommend by MBV
- mandatory
- for information only

2 Reason

Up to now the precision of the MAS-100 CG Ex mass flow was specified with a symmetrical tolerance band of +/- 5%.

The result interpretation of most of our customers however is asymmetric: a negative deviation (too little air sampled) is considered worse than a positive one (too much air sampled).

MBV AG decided to bring the adjustment limits in line with the result interpretation: the specification of the instrument precision will change to +10 / -0%.

3 How it is Done

During an adjustment cycle the instrument goes through several pressure steps to cover the full operating range of the instrument.

Steps at 100% flow

	Flow rate [l/min @ ambient]	Volume [l]
	150	100
	300	200
	450	300
	600	400
TOTAL		1000

Steps at 50% flow

	Flow rate [l/min @ ambient]	Volume [l]
	75	100
	150	200
	225	300
	300	400
TOTAL		1000

These steps remain the same but now an offset of 50l is added to a total target volume of 1050l.

Technically this leads to an instrument adjustment of 1050l +/- 5% (from 997l - 1102l) as the instrument did not change and still has a symmetrical tolerance band.

But the result can also be interpreted as 1000l +10 / -0% (from 1000 - 1100l). While mathematically it is not exactly the same we stayed with the same absolute deviation 50l to simplify things.

Summary:

	Specification	Range	Tolerance band
Old	1000l +/- 5%	950l – 1050l	100l
New	1000l +10/ -0%	1000l- 1100l	100l

The benefit is that now without changing the tolerance band the whole range lies within the “less severe” area of the result (biological) result interpretation.

4 Comparing the new Adjustment with old Adjustment

You will find that the instrument in general measures more air due to the introduced offset of 50l. How much more depends on where the instrument lied within the tolerance band and where it will be:



Stäfa, January 10th 2011

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