MECON
FLOW CONTROL SYSTEMS

# temperature - correction - table for flowmeter according to the float principle / gas measurement

| operating temperature [°C] | calibration temperature [°C] | | | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | 0 | 10 | 20 | 30 | 40 | 50 | 60 | 70 | 80 | 90 | 100 | 110 | 120 | 140 | 160 | 180 | 200 |
| 0 | 1 | 1,018 | 1,035 | 1,052 | 1,070 | 1,088 | 1,103 | 1,120 | 1,135 | 1,152 | 1,169 | 1,183 | 1,198 | 1,230 | 1,258 | 1,287 | 1,315 |
| 10 | 0,983 | 1 | 1,018 | 1,035 | 1,051 | 1,068 | 1,084 | 1,100 | 1,116 | 1,131 | 1,149 | 1,163 | 1,180 | 1,210 | 1,240 | 1,266 | 1,292 |
| 20 | 0,965 | 0,983 | 1 | 1,015 | 1,032 | 1,050 | 1,065 | 1,080 | 1,096 | 1,111 | 1,126 | 1,142 | 1,157 | 1,187 | 1,215 | 1,242 | 1,270 |
| 30 | 0,948 | 0,966 | 0,983 | 1 | 1,015 | 1,031 | 1,047 | 1,062 | 1,080 | 1,093 | 1,110 | 1,124 | 1,138 | 1,165 | 1,194 | 1,221 | 1,249 |
| 40 | 0,933 | 0,950 | 0,967 | 0,984 | 1 | 1,015 | 1,031 | 1,046 | 1,061 | 1,075 | 1,090 | 1,105 | 1,120 | 1,149 | 1,175 | 1,201 | 1,230 |
| 50 | 0,920 | 0,936 | 0,953 | 0,968 | 0,984 | 1 | 1,015 | 1,030 | 1,045 | 1,060 | 1,074 | 1,090 | 1,102 | 1,131 | 1,159 | 1,184 | 1,210 |
| 60 | 0,905 | 0,922 | 0,938 | 0,953 | 0,968 | 0,985 | 1 | 1,015 | 1,030 | 1,045 | 1,058 | 1,072 | 1,085 | 1,112 | 1,140 | 1,165 | 1,190 |
| 70 | 0,892 | 0,907 | 0,924 | 0,940 | 0,955 | 0,970 | 0,985 | 1 | 1,014 | 1,026 | 1,041 | 1,055 | 1,070 | 1,095 | 1,121 | 1,148 | 1,172 |
| 80 | 0,880 | 0,895 | 0,912 | 0,927 | 0,943 | 0,965 | 0,971 | 0,987 | 1 | 1,014 | 1,027 | 1,041 | 1,055 | 1,082 | 1,109 | 1,133 | 1,160 |
| 90 | 0,868 | 0,883 | 0,898 | 0,913 | 0,923 | 0,943 | 0,958 | 0,972 | 0,987 | 1 | 1,013 | 1,026 | 1,040 | 1,065 | 1,091 | 1,117 | 1,140 |
| 100 | 0,856 | 0,870 | 0,886 | 0,902 | 0,917 | 0,931 | 0,940 | 0,960 | 0,973 | 0,986 | 1 | 1,013 | 1,027 | 1,053 | 1,079 | 1,103 | 1,127 |
| 110 | 0,845 | 0,858 | 0,875 | 0,888 | 0,903 | 0,916 | 0,930 | 0,945 | 0,958 | 0,974 | 0,985 | 1 | 1,011 | 1,038 | 1,061 | 1,085 | 1,110 |
| 120 | 0,833 | 0,848 | 0,863 | 0,878 | 0,892 | 0,906 | 0,920 | 0,933 | 0,948 | 0,960 | 0,973 | 0,987 | 1 | 1,025 | 1,049 | 1,072 | 1,095 |
| 140 | 0,814 | 0,828 | 0,843 | 0,856 | 0,870 | 0,884 | 0,898 | 0,911 | 0,925 | 0,938 | 0,950 | 0,963 | 0,975 | 1 | 1,024 | 1,048 | 1,070 |
| 160 | 0,795 | 0,808 | 0,823 | 0,836 | 0,850 | 0,963 | 0,877 | 0,890 | 0,903 | 0,915 | 0,928 | 0,940 | 0,953 | 0,977 | 1 | 1,024 | 1,045 |
| 180 | 0,775 | 0,790 | 0,803 | 0,817 | 0,830 | 0,843 | 0,856 | 0,869 | 0,883 | 0,895 | 0,907 | 0,919 | 0,930 | 0,955 | 0,977 | 1 | 1,021 |
| 200 | 0,760 | 0,774 | 0,787 | 0,801 | 0,813 | 0,827 | 0,838 | 0,852 | 0,865 | 0,876 | 0,888 | 0,900 | 0,911 | 0,935 | 0,957 | 0,980 | 1 |

**Attention: The values given are approximate.**

**The above table is used to correct the flow meter for gases displayed values if the temperature deviates from the used temperature during calibration.**

**Example: calibration temperature 20 ° C / 50 ° C operating temperature**

**Under Calibration temperature 20 ° C is read in line 6 below this temperature, the factor 0.953. The values displayed by the meter must be multiplied by this factor to determine the actual flow rate at an operating temperature of 50 ° C.**
**Attention: Temperature is entered in degrees Kelvin (0 ° C = 273.15 K).**

**The factor "F" is given by the formula:**

$$\sqrt{\frac{\text{calibration temp. K}}{\text{operating temp. K}}} = \sqrt{\frac{293{,}15\,\text{K}}{323{,}15\,\text{K}}} = 0{,}953$$

**Notice:**

**New operating pressure higher: factor under 1**
**New operating pressure lower: factor above 1**

**Intermediate values are interpolated!**

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