

Software for sanitary taps tests

AQ2TB-NOISE

Measure device:

- Test plant with pipes whose sections and dimensions in compliance with NF EN ISO 3822 Standards.
- Measurement tube mounted on sliding supports that can be shifted in height.
- 2 test inlets (1/2") in stainless steel with 150 mm pitch, construction according to international standards with inlet for pressure transducer and inlet for hydrophone.
- Microphone specifically designed to be used for noise measurements in fluids.
- Analogical acoustic noise meter, with A weighting, selector for slow & fast functions, max error in operating range $\pm 0,7$ dB.
- Card for supply and signal conditioning through dedicated software.
- Pressure transducer with $\pm 0,05\%$ accuracy.
- Flow-rate transducers with accuracy $\pm 0,2\%$ of reading value.
- KIT tubular hydraulic resistances of class A/B/C/D according NF EN ISO 3822-4 Standards.
- Sample noise generator (45 dB) according to NF EN ISO 3822-1 Standards.

Third octave or octave histogramm of the noise level according to NF EN ISO 3822-1 Standard, with A-weighting and corrected by calibration matrix

Noise / time chart

Instantaneous noise level evaluated according to NF EN ISO 3822-1 Standards

Instantaneous noise level, calibrated

Flow rate

Pressure

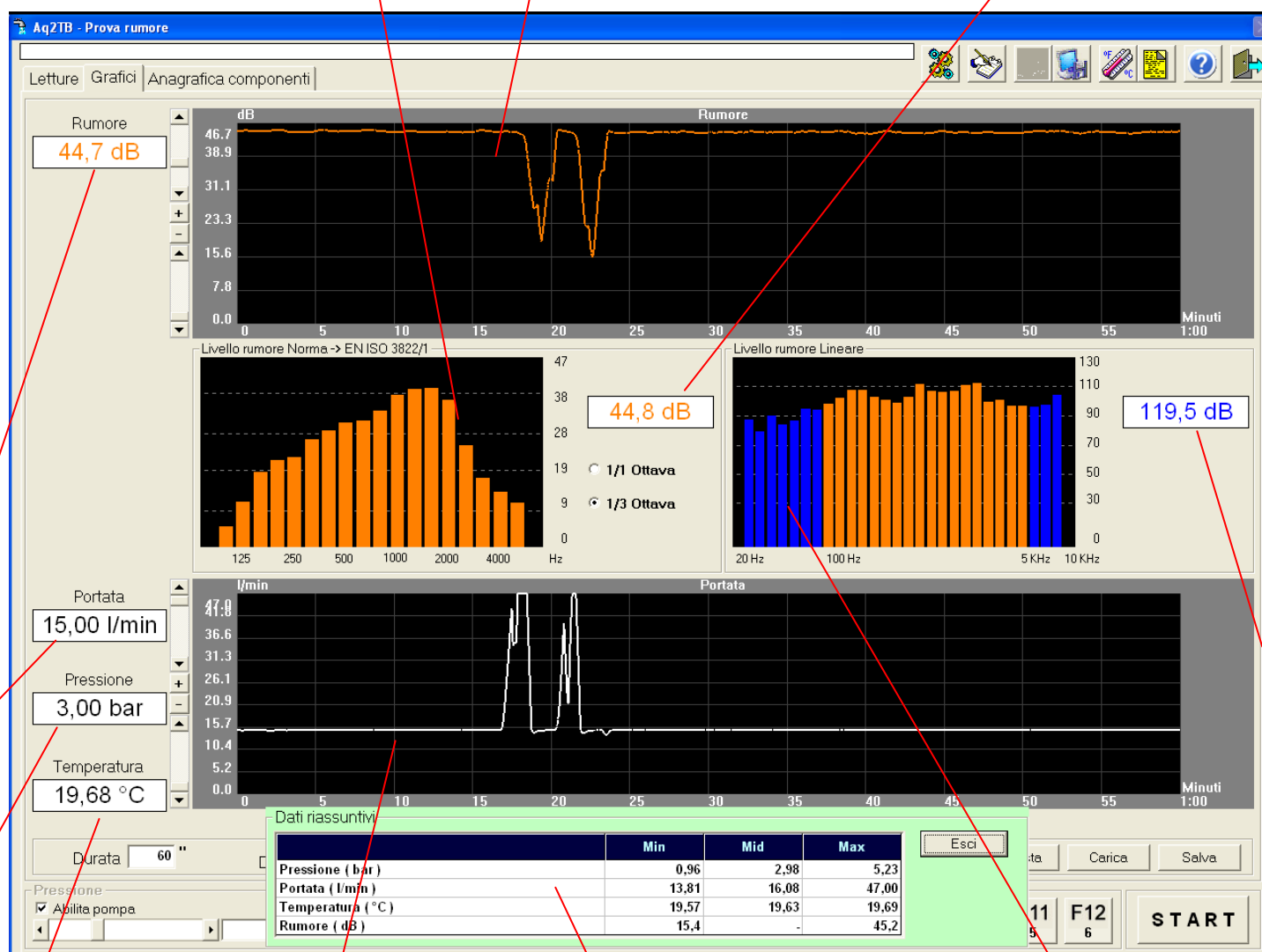
Temperature

Flow-rate / time chart

Instantaneous noise level measured by phonometer (dB)

Summary of the minimum, maximum and medium values acquired

Third octave histogram of noise level in the range 10÷10000 Hz, generated by the device under test, without A-weighting and without calibration matrix correction



Test method:

The measurement device is supplied with water from a closed-circuit internal pump. A microphone mounted on the hydraulic plant measures the noise produced by the water flowing through the component under test. Noise analysis is carried out by the computer using a dedicated software: the monitor displays the values of pressure, temperature and flow-rate related to the noise level, showing the total spectrum in octaves and elaborating the data to calculate the global noise level (in dB). The overall noise produced by the component under test is represented by the histogram on the right, the total value is indicated at the side and expressed in dB. Only values within the range 100 to 5000 Hz, measured in third octave, contribute to determine the noise level searched (orange bars). The values should be corrected by the A-weighting according to EN 60651 Standards and by the calibration matrix, calculated during the calibration of the bench, by means of the noise sample. The global noise level, after the data processing procedure as described above, is shown by the chart on the left. It is possible to choose a representation of noise frequency range in octaves or third octaves. The chart on the top shows the noise level generated by the device as a function of the time. The summary table shows the medium, minimum and maximum values of pressure, flow-rate, temperature and noise.

Example of test report:

SUMMARY OF COMPONENT DATA

SUMMARY OF TEST DATA

NOISE AND FLOW-RATE CHART SUMMARY

FREQUENCY RANGE OF THE MAXIMUM NOISE LEVEL MEASURED

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