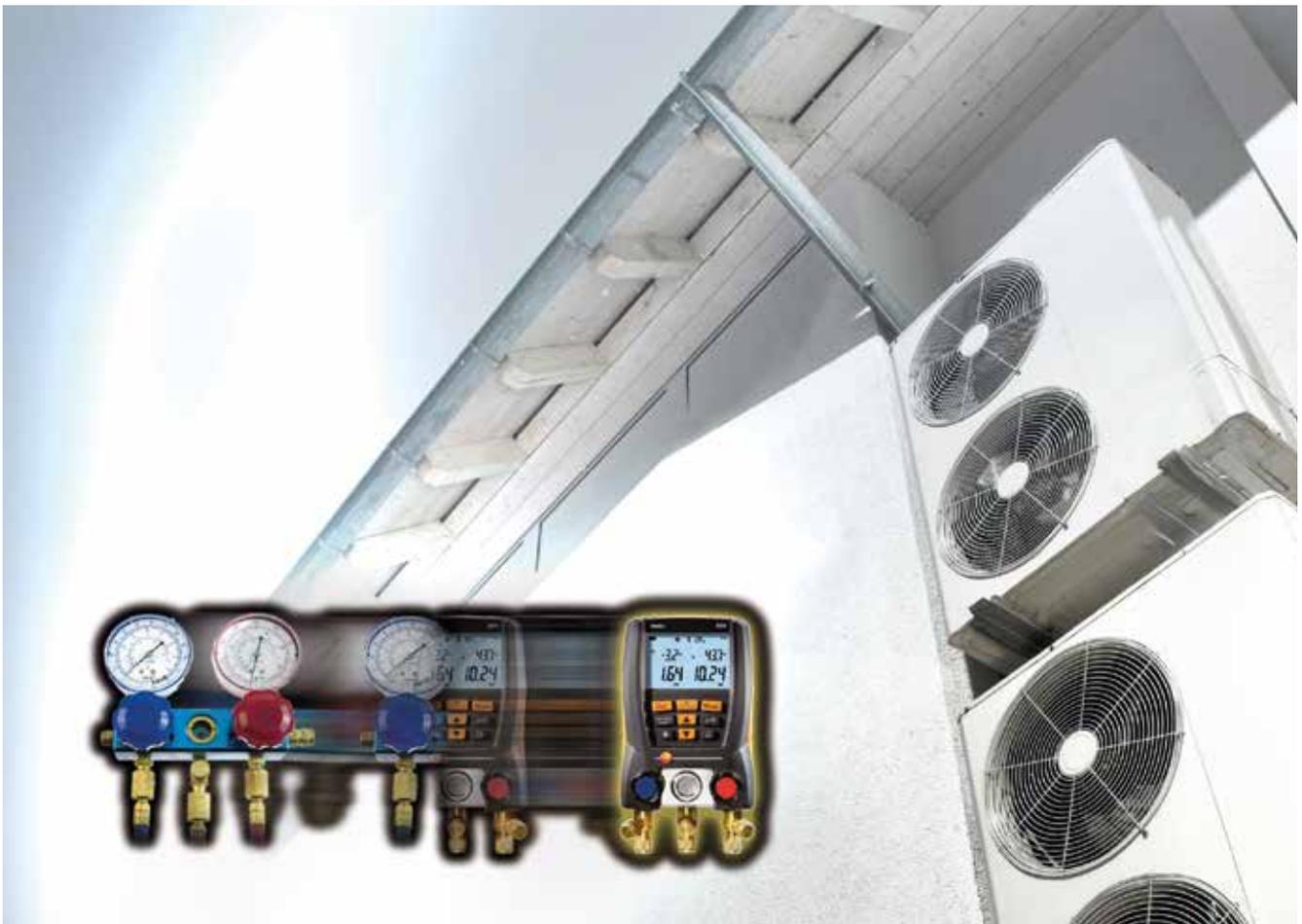


## More efficient maintenance of refrigeration systems with digital manifolds from Testo.



Digital technology is now found in all areas of life, often simplifying our daily routine. The refrigeration trade is no exception. And yet analog manifolds are still very widespread in refrigeration technology. This is a worrying development, because according to a number of studies, up

to 74% of all refrigeration systems are incorrectly adjusted using the analog measurement method\*. Not because of the qualification of the refrigeration technicians, but as a result of the insufficient accuracy and possibilities provided by analog manifolds.

\* Source: e.g. Energie Star study, [www.energystar.gov](http://www.energystar.gov)



### The challenge.

The jobs involved in the construction of refrigeration systems are extremely diverse, reaching from project planning via installation and commissioning to maintenance and servicing of refrigeration and air conditioning systems or heat pumps. In order to ensure that a system is functional, the technician must always address the question of the respective pressures and temperatures of the refrigerant, and in particular the superheating and subcooling of the system. From these parameters, the operational status of the system can be determined, and information on its safety and efficiency obtained. The limits of what a technician can do are soon reached using an analog manifold for these wide-ranging activities, because these manifolds record only the high and low pressure of a refrigeration system. For every other measurement, for instance of temperature, an additional measuring instrument is needed. The complicated handling, the time needed for a measurement and the excessive room for interpretation in the recording of the measurement results do the rest. The consequences: inefficiently adjusted systems and additional costs for the customer.

### The solution.

Modern manifolds such as the testo 570 do justice to the daily requirements in the refrigeration trade. They record various operating parameters with only one instrument. This means that pressure as well as temperature values can be measured quickly and easily. Two temperature inputs as a rule also ensure the simultaneous calculation of the superheating and subcooling of the system. Many digital manifolds furthermore support the evacuation of the system with the help of an integrated vacuum measurement. It is also possible to conduct a temperature-compensated tightness test. In addition to this, almost all common refrigerants are stored in the instrument as standard. More modern instru-

ments even allow data storage and analysis on a PC using special software, or the printout of the measurement protocol direct on site with the customer. The multi-functionality of digital manifolds thus creates considerable handling advantages, allowing fast and efficient work on site.

### Benefits for the customer.

Against the background of the current discussion on the optimization of energy efficiency in technical systems, as well as the reduction of CO<sub>2</sub> emissions, the accuracy of measurement results is of ever increasing significance. So it is time to replace the analog manifold with a digital one, because a manometer block can never provide a comprehensive picture of the status of a refrigeration system. However, the more precise the measurement results, the more reliably the working points, and thus the energy efficiency of a system can be determined. The possible potential for energy cost savings can be up to 12%\*. The refrigeration technician saves time and costs not only for the customer, but also for himself. And as a bonus, he can be absolutely sure of the quality of his work.

### More information.

Detailed information and answers to your questions on digital manifolds at [www.testo.com/refrigeration](http://www.testo.com/refrigeration)

\* Source: e.g. Energie Star study, [www.energystar.gov](http://www.energystar.gov)