



Gaining space for man and technology



Messraum

Güteklasse III

gemäß VDI/VDE 2627

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Measuring room solutions – guaranteed temperature stabilized environments

When it comes to precision work, the temperature constancy of your environment is an important quality factor. Their efficiency and effectiveness always depends on the particular application. In order for the work process to function optimally, the needs of man and machine must be equally satisfied. Nerling Systemräume therefore offers you customised state-of-the-art technology developed in cooperation with glo-

bally leading manufacturers of precision machinery.

You will be involved at the planning stage so that we can design size and facilities precisely to your specifications. And most importantly for your peace of mind: Nerling will assume responsibility for the system – and will of course also carry out the functional acceptance test.



Precision measuring room



Measuring room with sliding roof and overhead travelling crane



Measuring room with sliding roof

Your requirement

Each measuring task in question is taken as a basis for the development of the measuring rooms. We make the necessary adjustments according to installation conditions and metrological requirements set by the measuring machine manufacturer.

Our solutions

- Air-conditioned measuring rooms up to top quality category as per VDI/VDE 2627-1 (Association of German Engineers code)
- Unhindered material flow through automatic doors, gates, roof openings, crane and handling technology
- Central room control via PLC

Measuring room quality category	1	2	3	4
Designation	Precision measuring room	Precision measuring room	Standard measuring room	Production-related measuring room
Typical measuring task	Calibration normal	Calibration tasks	Precision measuring	In-process measuring
Basic temperature	Standard reference temperature e.g. 20°C	According to specification	According to specification	According to specification
Permissible limit deviation	± 0,4 K	± 0,8 K	± 2,0 K	± 3,0 K
Temperature time control				
Per hour	0.2 K/h	0.4 K/h	1.0 K/h	2.0 K/h
Per day	0.4 K/d	0.8 K/d	2.0 K/d	3.0 K/d
Spatial temperature variations				
K/m	0.2 K/m	0.3 K/m	0.5 K/m	1.0 K/m

Quality category gradation as per excerpt from VDI/VDE2627-1

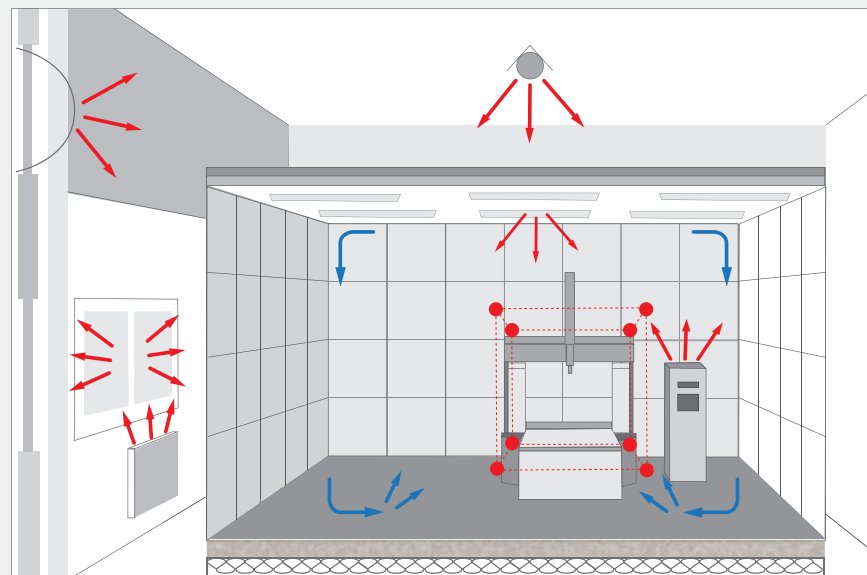


Man & material – indoor climate well in hand

Nerling measuring rooms help you meet your measuring responsibility and protect your investment. Carefully designed air-conditioning and patented air conduction allows you to achieve reproducible results.

Features of Nerling measuring room

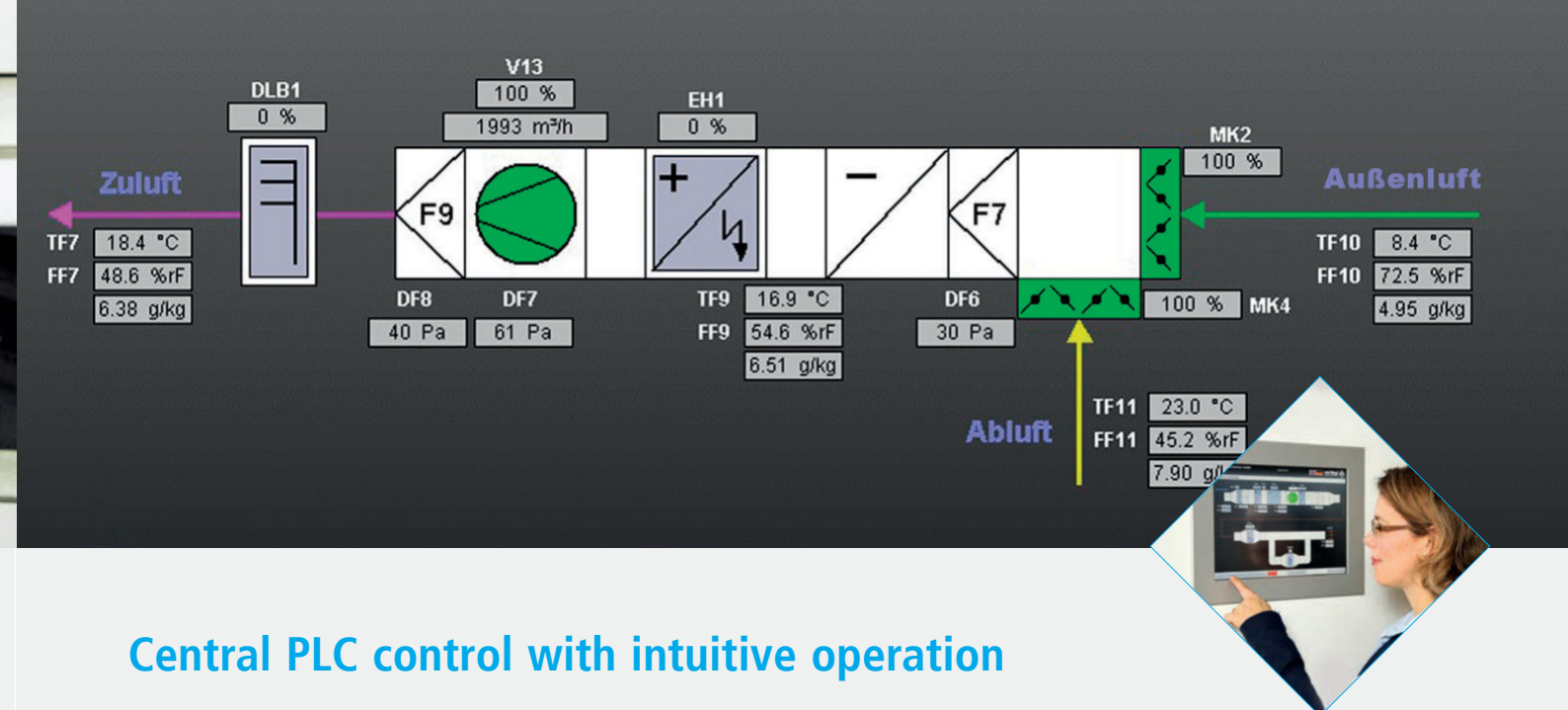
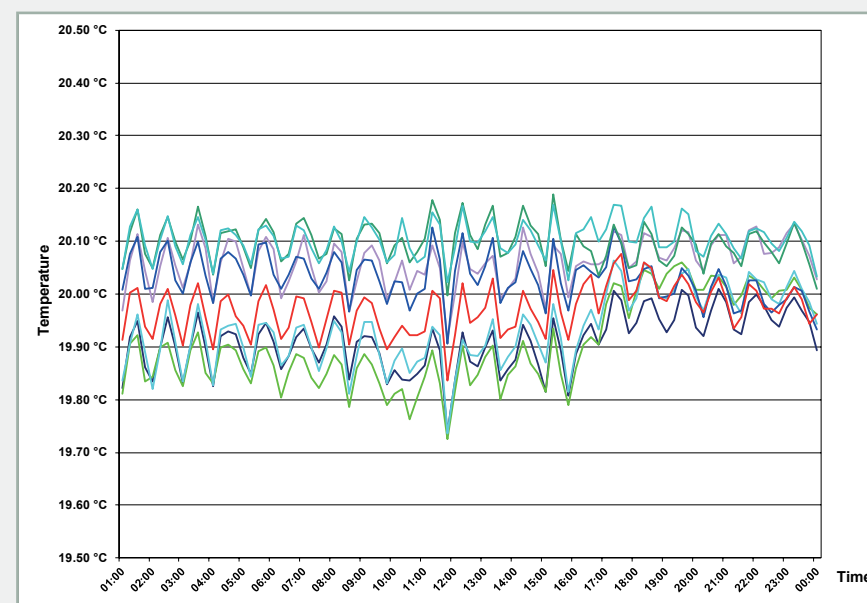
- Air conduction low in draught and flow
- Patented air conduction ceiling
- Horizontal and vertical temperature constancy
- Intuitive operation
- Safe operation of measuring machine without climatic interference
- Controlled air humidity
- Demand-regulated dust protection
- Logging and visual display of all relevant climatic data
- Optimal lighting
- Energy efficient and quiet
- Modular extensible
- Redundant device technology on request



System depiction of measuring room showing exterior influencing factors and monitoring volume of acceptance measurement (using 8 temperature sensors)

Environmental impact on measuring room

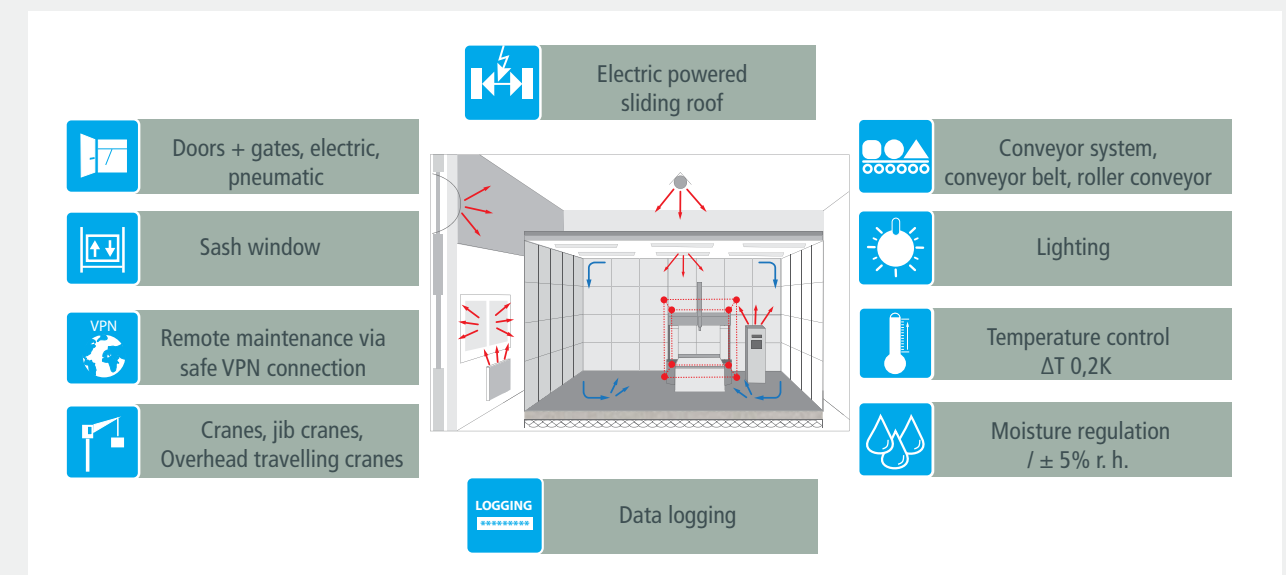
- Heat sources
- Air conduction
- Measuring sensor



Central PLC control with intuitive operation

The PLC control of Nerling Systemräume combines all-in-one measuring room control on one and the same display. Coordinating mantraps and air-conditioning systems; controlling room temperature and humidity –

Nerling Systemräume GmbH, a specialist for the construction of measuring rooms, clean rooms and controlled zones, now, for the first time, has developed an all-in-one solution, a quantum leap in control technology for



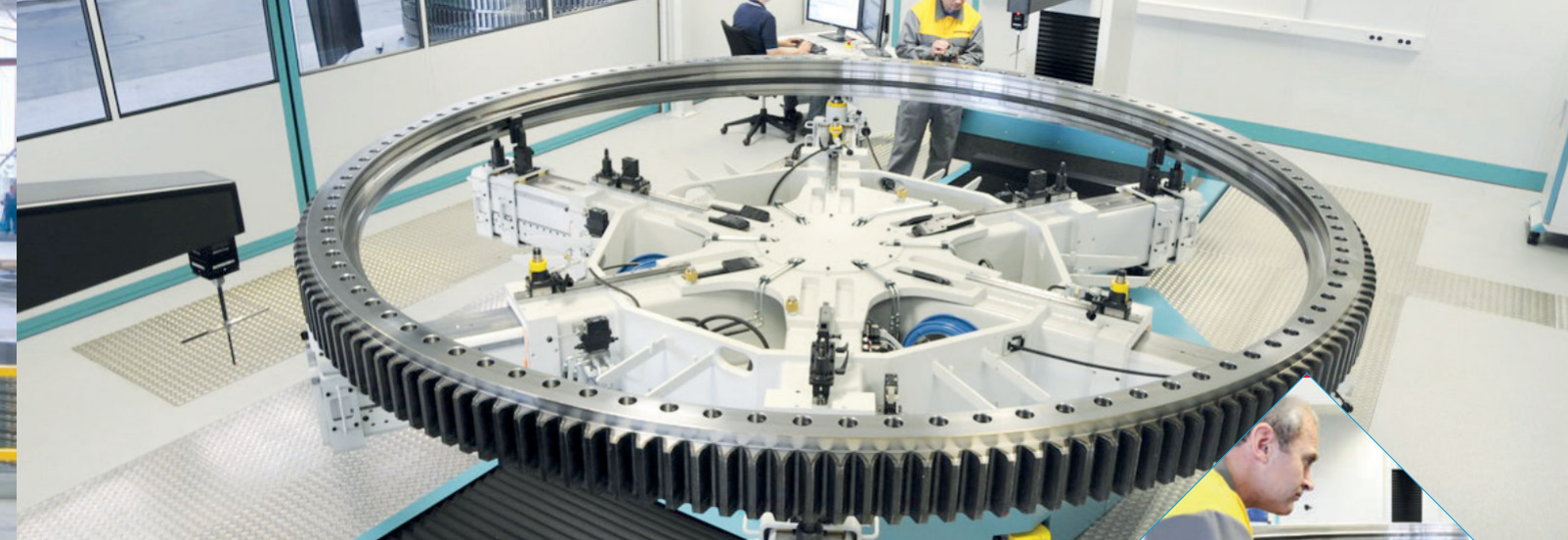
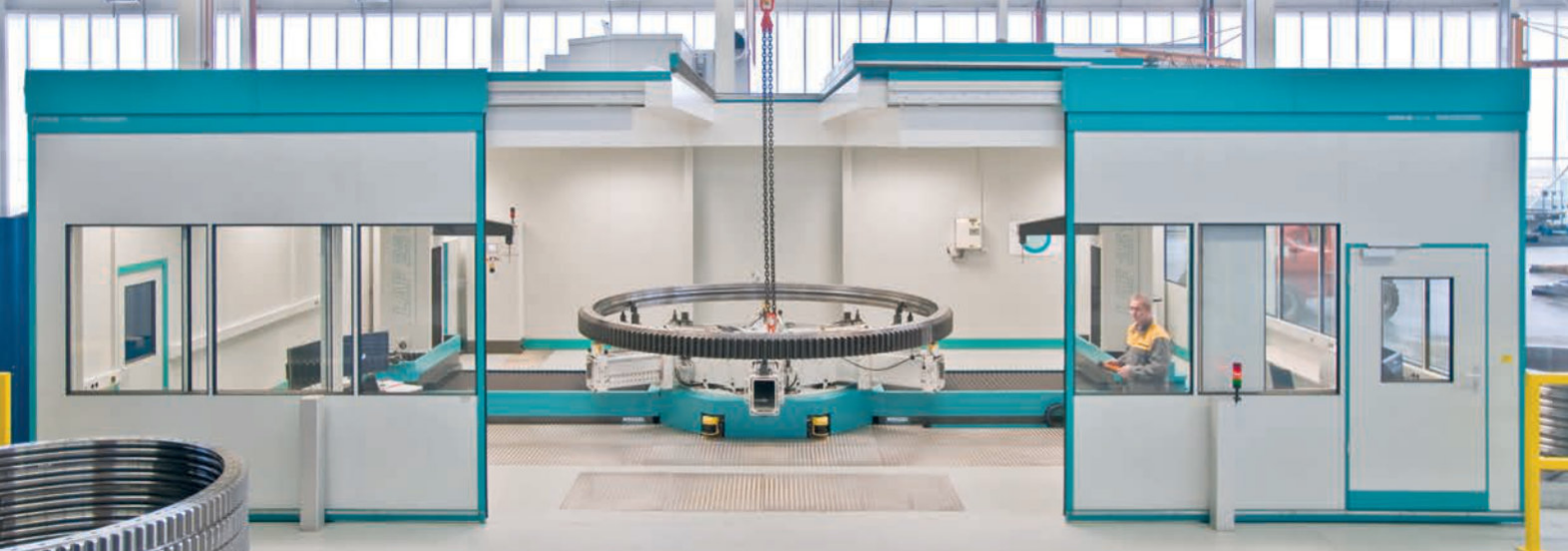
controlling measuring rooms is a complex issue. Hitherto switch cabinets have been constructed using huge numbers of controls. The operation of individual components was even restricted to experts. This system hit the wall in particular when different functions had to be adjusted among themselves, for instance for air-conditioning and heating control.

measuring rooms.

A freely programmable logic control provides easy control for all the relevant functions via a single display.

Increased efficiency through remote maintenance

Fast and straightforward help in the case of faults is available via the fully-fledged remote maintenance access.



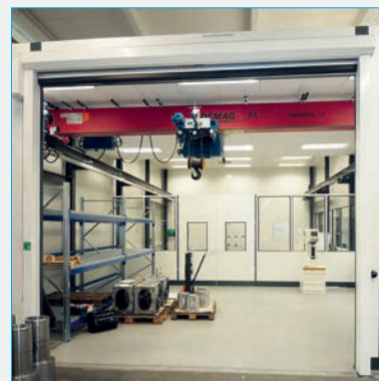
Unobstructed entrance – doors, sliding roof, crane technology

Short distances improve material flow and optimise the working process.

A special solution is the measuring crane's unobstructed entrance to the measuring room. That way even heavy weights can be transported with ease: simply open the sliding or swing door, raise the ceiling and the way is clear. No reloading, no waiting time. The process is controlled centrally from the measuring room. Thus enabling you to direct each workpiece reliably to the measuring table and back.

And still another new idea

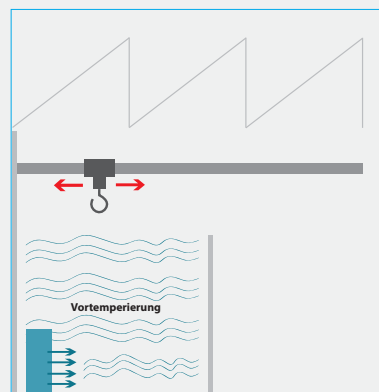
- Cantilever sliding gates of up to 6 metres width
- Sliding roof for hall crane use of up to 8 metres length
- Trouble-free transport
- Easy material handling inside measuring room due to combination of sliding roof, crane system and gate
- Integrated crane technology in measuring room due to jib crane, overhead travelling crane etc.
- Safety locking for crane in parking position
- Sliding doors and revolving folding doors / swing doors without lintel for free crane access



Fully-fledged hall crane use during pre-tempering provided by freezer effect



Separation of pre-tempering zone by partition and high-speed PVC gate



Schematic representation of freezer effect

No loss of climate control with heavy weights

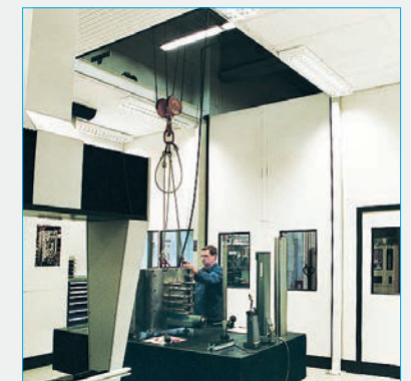
With heavy workpieces: Careful positioning is particularly vital in order to ensure reproducible results. This takes time – and while the door remains open the climate control in the measuring room is lost in no time.

Open to your ideas

Due to the separation of gate opening and sliding cover, the crane can be used inside the measuring room even with the gate closed. This allows you to position the heavy load with the crane.

Freezer effect

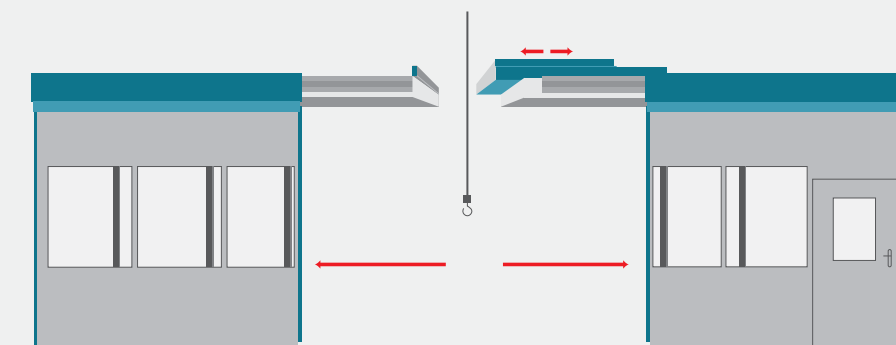
Our solution: A sliding cover that may remain open whilst the access gate is closed. The freezer effect brings about fast temperature stabilisation. This allows fine positioning of the work piece without time pressure.



Crane usage with the sliding roof open



Moving of parts on air cushion system



The sliding roof and gate may be opened and closed separately – freezer effect



All responsibility in the same hand

The specific room function is all-important

From the design to the realisation in our company: Our measuring room specialists have many years of planning and consulting expertise. This is complemented by the professional competence of the contracting company. Our target: Customised, and at the same time cost-effective solutions, for state-of-the-art measuring room technology.

Testing and development of all our products takes place at our development centre. That is the only way in which we can accept responsibility for the quality and operational safety of our measuring room solutions.

Tell us about your requirements.

Room design, air-conditioning technology, lighting – with us you can obtain everything ready to use from a single source – functionally sound, easy to use, cost-effective and always based solidly on decades of know-how in system engineering.

Not matter whether you are at the beginning or near the end of your space planning, a comprehensive conversation with one of our expert advisers or engineers will be worthwhile in each and every case. We're never far away: just give us a call and we'll arrange a no-obligation consultation on site.

We look forward to having you with us.

CE What's more: you can leave all the electrical installation work to our experts: air conditioning, ventilation, lighting and connection - including certification to Euro standard (CE).



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