



SCHILLING ENGINEERING

Cleanroom Systems

SCHILLING
ENGINEER
Industrial Handling
Cleanroom Systems

Cleanroom Systems

The cleanroom systems from SCHILLING ENGINEERING are custom-adapted optimally to a wide variety of application areas and space conditions. Our cleanroom solutions are always based on the latest technology and use exclusively high-quality, tested materials. Thanks to the interplay of innovative air circulation technology, high-quality seals, and an user-controlled regulation, these systems have extremely high energy efficiency. That lets them meet ever-stricter requirements on product quality, reliability and cost-effectiveness at any time.



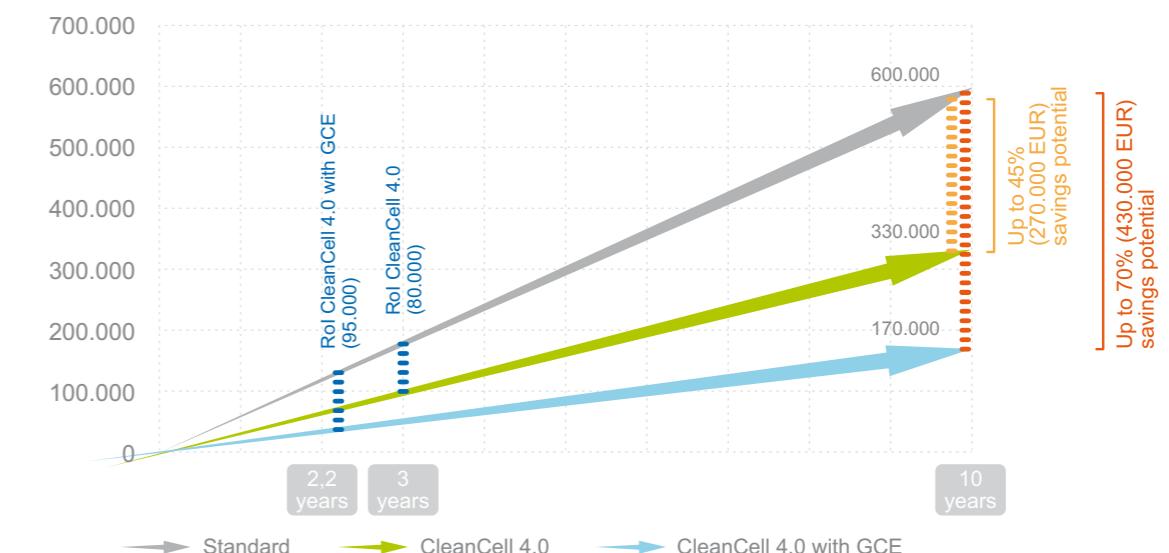
SCHILLING ENGINEERING – innovative, economical, modular



Compare energy and maintenance costs

Between standard cleanroom, CleanCell4.0, CleanCell4.0 with Energy-Management-System (GCE)
Example of 100m², ISO class 7, including air conditioning system

Operating Costs (EUR)



CleanCell cleanroom systems have significantly lower energy and maintenance costs than conventional cleanroom systems. The savings potential is up to 45%, with GreenCleanroom Energy-Management-System it can be as high as 70%. A higher initial investment pays for itself after 3 years of operation, but with GCE after 2.2 years of operation (Rol).

Our service – your benefits

- Technically mature, innovative system solutions
- Flexible modular design, simple expansion options
- Self-supporting base structure, easy integration
- Compact structure using plenum technology
- Optimum cleanroom design using fully integrated air circulation walls
- Whisper-quiet laminarflow modules in ULPA class U15; low maintenance, long service life
- Even air circulation, high rates of air replacement
- Central control system, integrated control system, permanent monitoring
- High-quality materials, latest technology
- First-class quality standard, highest level of reliability
- High energy efficiency, high availability and high power reserves
- Networking of clean room technology, Lock technology, air conditioning technology, energy management and customer process facility
- Mobile, location-independent monitoring and control
- Process and user controlled clean air supply and lighting



CleanCell 4.0 cleanroom system

ISO cleanroom class 6, assembly of optical components

SCHILLING ENGINEERING – low-particulate production



Microchip production



Food production



Industrial laundry for cleanroom clothing



Semiconductor production



Production of electronic components



Micro-assembly

Cleanroom System CleanCell 4.0

CleanCell 4.0 cleanroom systems are used wherever even the slightest contamination can put production quality at risk. For example, they apply to the production and packaging of sensitive goods such as those in micro- and nanotechnology or in sensitive fabrication areas in the optical, laser and semiconductor industries.

CleanCell 4.0[®]



CleanMediCell cleanroom system

ISO cleanroom class 7, injection moulding of medical devices

Cleanroom System

In the area of medical technology, special cleanroom systems from the CleanMediCell product line ensure the absolute safety of products.

Thanks to the use of special seals and very high filter performance, the quality of cleanroom air can now be maintained consistently. This permits them to meet the requirements for ISO cleanroom classes with ease.

CleanMediCell®

Cleanroom Systems CleanCell 4.0 and CleanMediCell Cleanrooms in ISO cleanroom classes 4-9

- Self-standing, modular, extensible cleanroom system
- Composite panel wall filling
- Large cleanroom windows
- Safety glass doors with LED visualisation
- Patented silicone-free sealing clip system
- U15 ULPA high-performance filter fan module
- Flush-mounted LED cleanroom lighting
- Cleanroom laminar air flow grates near the floor
- Circulation and return air pipes in the cleanroom walls (optimum cleanroom flushing)
- Integration of personnel locks, material locks and process facilities
- Fully integrated control system
- Optional:
 - Fully integrated media supply
 - Fully integrated local hood exhaust
 - Plenum upper ceiling
 - Compact cleanroom air conditioner
 - Touchscreen operation
 - Monitoring systems
 - Usage-controlled regulation
 - Contamination-controlled regulation
 - Energy management system with heat recovery/heat pump

SCHILLING ENGINEERING – Safety in medical technology



Cleanroom System

In the particularly demanding areas of pharmaceutical processing, laboratories and pharmacies, the requirements for cleanrooms are particularly high. The CleanSteriCell systems guarantee compliance with the strict legal regulations for product and personal safety. The use of high performance filters and microbiologically tested workbenches ensures a germ-free environment.

The CleanSteriCell cleanroom system and the equipment meet the requirements of the GMP standards perfectly.

CleanSteriCell®



SCHILLING ENGINEERING – Pharmacy and laboratories



Cleanroom System CleanSteriCell Cleanrooms in GMP cleanroom classes B, C, D, E

- Self-standing, modular, extensible cleanroom system
- Composite panel wall filling
- Large cleanroom windows
- Safety glass doors with LED visualisation
- Patented silicone-free GMP sealing clip system
- U15 ULPA high-performance filter fan module
- Flush-mounted GMP-compliant LED cleanroom lighting
- Cleanroom laminar air flow grates near the floor
- Circulation and return air pipes in the cleanroom walls (optimum cleanroom flushing)
- Integration of personnel locks, material locks and process facilities
- Fully integrated control system
- Optional
- Fully integrated media supply
- Fully integrated local exhaust hoods, optionally in Ex variant
- Plenum upper ceiling
- Compact cleanroom air conditioner
- GMP-compliant filter leak test equipment
- Fully integrated laboratory workplaces
- Touchscreen operation
- Fully integrated, permanent monitoring
- Usage-controlled regulation combined with fully automatic re-qualification
- Energy management system with heat recovery/heat pump



System components

- Patented silicon-free sealing clip system
- Composite panel wall filling
- Fully integrated circulation and return air channels in the cleanroom walls
- Optimally adjusted laminar flow
- High-quality laminar flow modules in ULPA class U15 (filter efficiency > 99.9995%)
- Central operating panel
- Fully integrated media supply
- Fully integrated LED cleanroom lighting
- Wall modules selectable in every RAL colour

Doors, windows, locks

- Large cleanroom windows
- Safety glass doors with LED visualization
- Fully automatic roller gates
- Easy-to-use sliding doors
- Operator-free sensor technology in the door handles
- Flexible lock sizes
- Material locks with automatic transport systems
- Doors and locks with mutual interlock control
- Easy-to-clean, high-quality materials

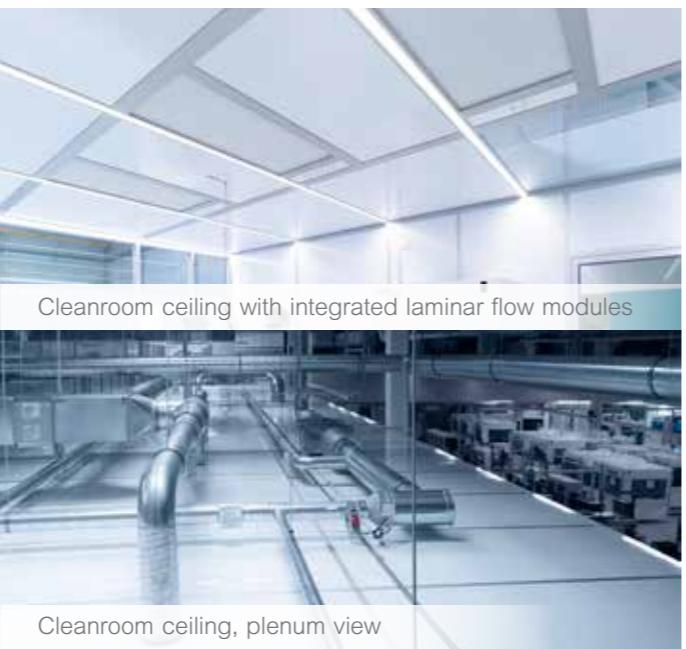


SCHILLING ENGINEERING – Systems at highest level



Cleanroom technology, air conditioning and ventilation technology

- Innovative air circulation systems
- High rates of air replacement
- Whisper-quiet laminar flow modules
- Pleasant, precise room climate
- Even air circulation
- Precise cleanroom flushing
- Short control paths
- Simple maintenance
- Low power and maintenance costs
- Energy-Management-System with heat recovery/heat pump



SCHILLING ENGINEERING – intelligent, efficient, sustainable



Control system CRControl® 4.0



Our innovative control and monitoring system CR Control® 4.0 features user-friendly and clear operation via a central monitor with touch screen.

- Control, regulation, monitoring and recording of all functions:
 - Cleanroom technology
 - Lock systems
 - Air-conditioning technology
 - Energy-Management-System
 - Monitoring
- Siemens 15" and 7" touchscreen
- Visual display of all operating states
- Remote service
- Measurement and monitoring (particles, humidity, pressure, temperature, filters)
- Intuitive user guidance, clear warning messages
- Integration of air conditioning systems and the customer's other process systems
- Location-independent operation by tablet and smart phone



Qualification

We handle all necessary qualification steps for our customers. All components of the cleanroom are adjusted perfectly through our control system.

Final tests guarantee the turnkey handover of the cleanroom systems.

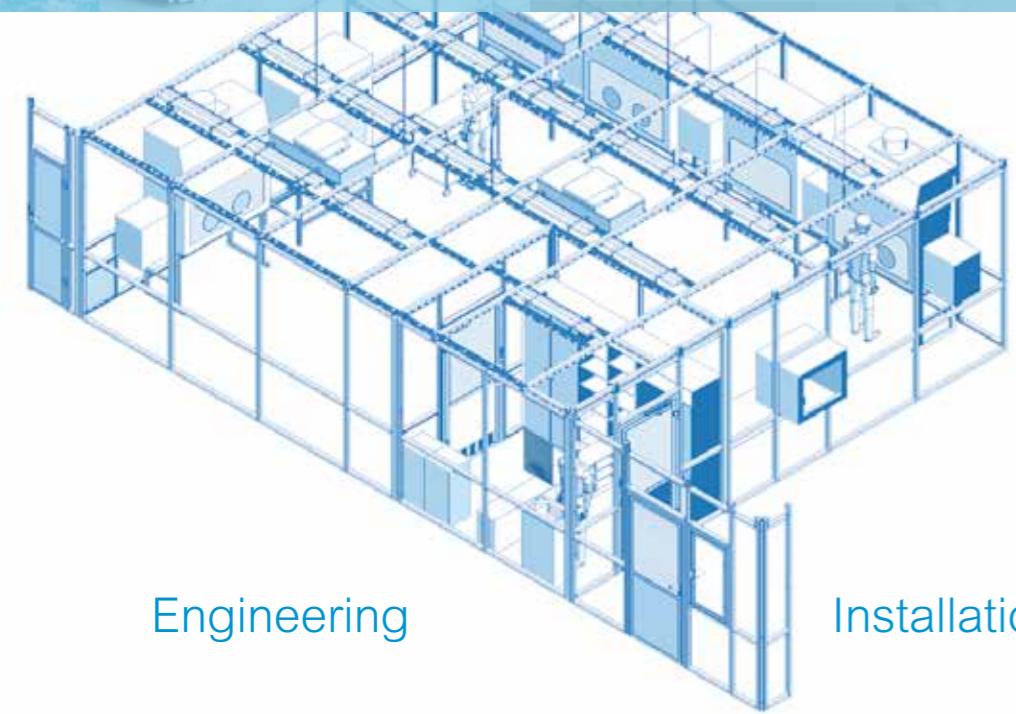
Service

We provide our cleanroom systems with a 3-year guarantee on all parts. Of course, we can also carry out requalifications and maintenance on-site.

We have also set up a free hotline so that our customers and service technicians can reach us at any time.

Full service the way you like it.

SCHILLING ENGINEERING – From planning to qualification



Engineering

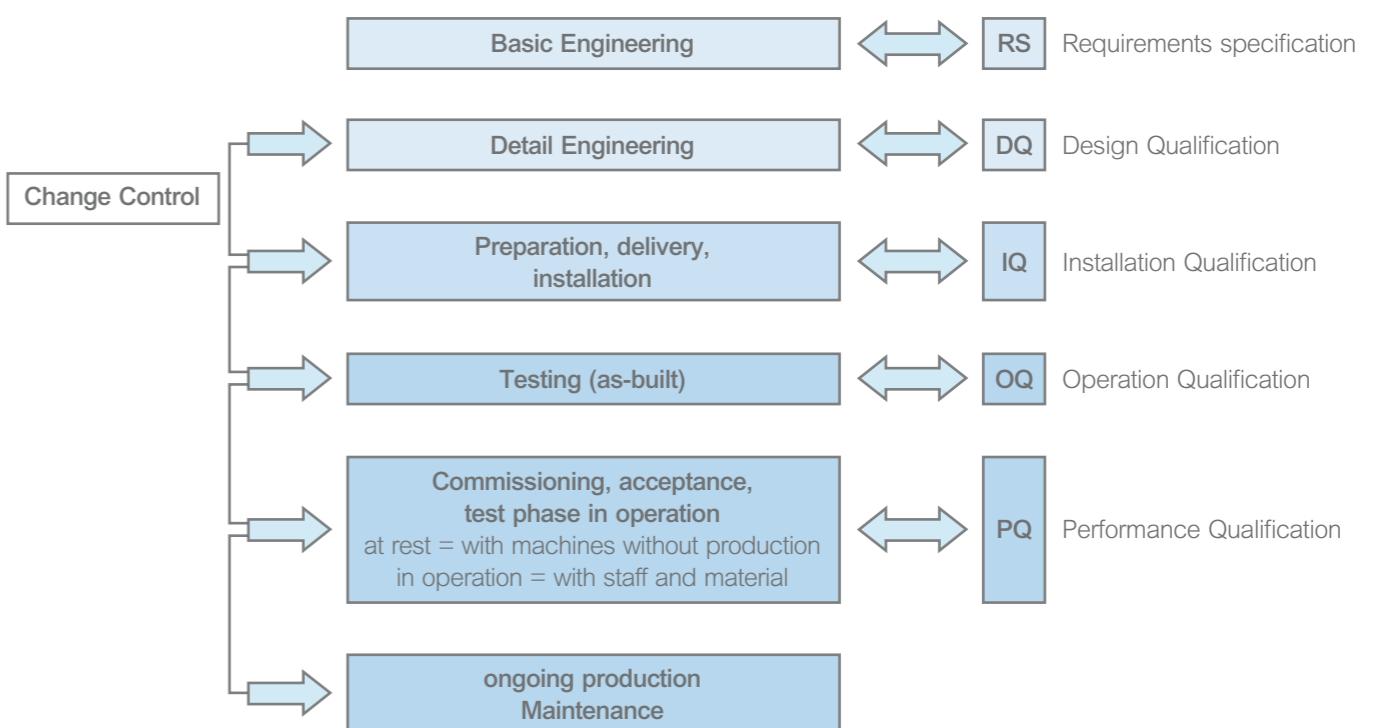
The planning of your cleanrooms is supported right from the start by our engineers. Individual design, customised to the different requirements and space conditions of the project.

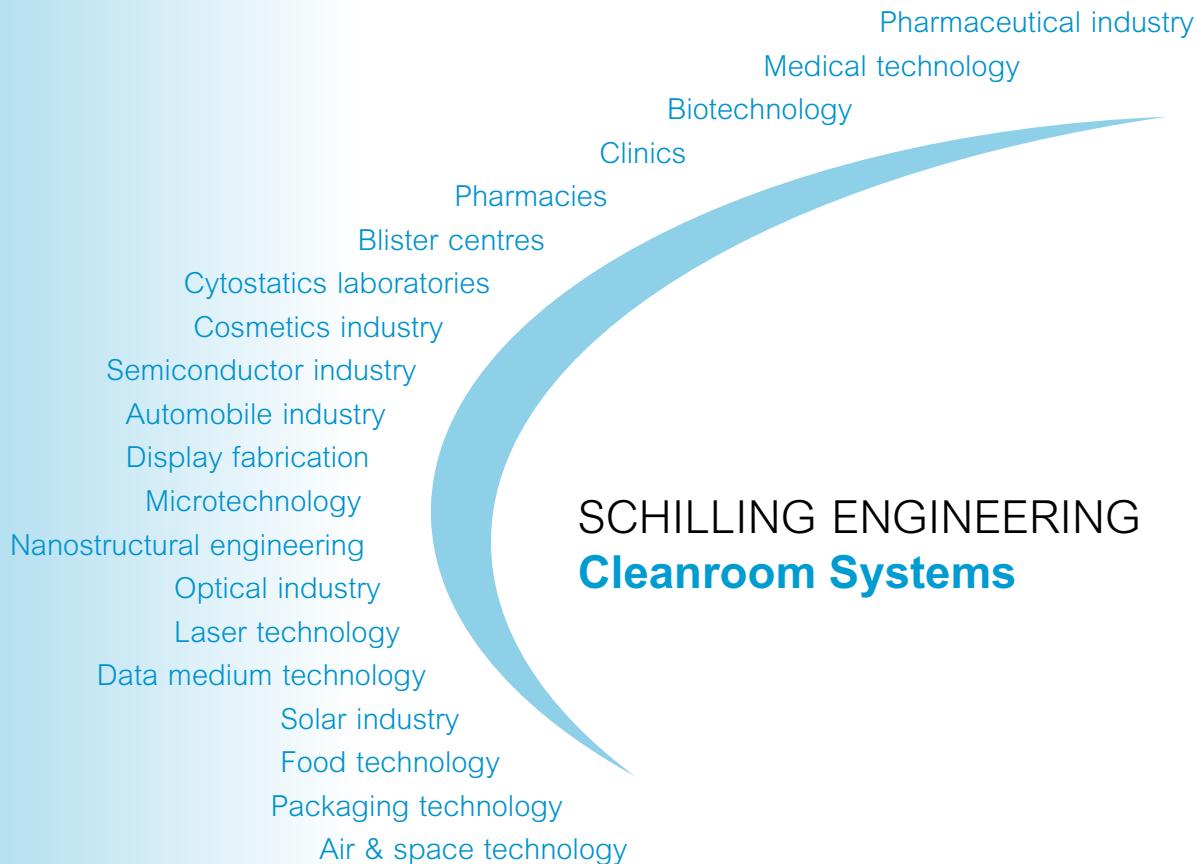
Modern furniture, latest state of the art, fast and reliable.

Installation

Our trained service technicians go on-site to ensure the smooth construction and operationally ready handover of our systems.

The qualification steps during a project





SCHILLING ENGINEERING Cleanroom Systems



SCHILLING ENGINEERING – Turnkey Solutions

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