<table>
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<tr>
<th>Camfil Farr</th>
<th>Segment brochure</th>
</tr>
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<tbody>
<tr>
<td>Health care facilities</td>
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<tr>
<td>Camfil Farr – clean air solutions</td>
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</tr>
</tbody>
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Camfil Farr is a world leader in clean air technology and air filter production. The Group is represented through subsidiaries and distributors throughout Europe, the United States and Asia. We are the first choice for health care facilities who have critical requirements for the quality within their processes. During this decade, we have supplied over 500,000 m² of clean room area with a performance exceeding ISO Class 5. (ISO Class 5 corresponds to M 3.5 according to US Fed. 209E).

As an international air filtration company, Camfil Farr offers our customers a security of long term partnership that is backed by a documented capability to analyse needs and supply total air filtration solutions. Our product range can meet your every need – from standard ventilation filters to highly specialised filters for surgery theatre extremely sensitive to air pollution.

We provide the best possible clean air solutions according to the different standards health care facilities all over the world.

Standards and recommendations in health care facilities

EU: International Standard ISO/DIS 14644-3: Cleanrooms and associated controlled environments (Part 3: Metrology and test methods) + others specific standards

Belgium: NFS90-351

Danemark: DS/EN ISO 14644-1, DS/EN ISO 14644-2, DS/EN ISO 14644-4
These standards are for laminar airflow

France: NFS90-351

Finland: No specific standard for health care facilities.

Germany: DIN 1946-4 + VDI 2167-1

Ireland: Health Technical Memorandum (HTM) 2025

Italy: D.p.r. 14 gennaio 1997 - ‘istituto superiore per la previsione e la sicurezza del lavoro (i.s.p.e.s.l.) dipartimento igiene del lavoro: ’ linee guida per la definizione degli standard di sicurezza ambientale dei reparti operatori’
uni 10339

Netherland: No specific standard for health care facilities. Recommendations according to ‘Beheersplan luchtbehandeling voor de operatieafdeling, versie maart 2005’

Republic of China: Architectural technical code for Hospital Clean Operating Theater, GB50333-2002

Spain: UNE 100713:2005

Sweden: No specific standard for health care facilities.

Switzerland: SWKI/SICC/SITC 99-3 & other european standards

United Kingdom: Health Technical Memorandum (HTM) 2025

For other countries not listed above – contact your nearest Camfil Farr office
risk level according to the areas and the air quality

The contamination control requirements vary in health care facilities according to the medical procedures carried out in the areas allocated to these activities. In response to these requirements, it is necessary to first of all perform a risk assessment to define the particulate cleanliness classification appropriate to the specific needs of each area. Having completed this procedure, we can then determine the required performance efficiency for the facility and select the most appropriate equipment in line with the surgical procedures carried out there.

<table>
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<th>Example of procedure</th>
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**Level of risk 4: Very high**

Orthopedic neonatal units, aseptic operating theatre suites, burn units, immuno deficient patients, grafts, oncology and haematology-oncology units, high-security microbiology laboratories. Paediatric, intensive care, resuscitation, medical, rad

**Level of risk 3: High**

Paediatric, intensive care, resuscitation, medical, radiology, cancer chemo-therapy, haemodialysis, function testing, clinical haematology and chemotherapy units, labour rooms, septic operating theatre suites, obstetric suites, clean side of central sterilization units and microbiology laboratories.

**Level of risk 2: Medium**

Physiotherapy units, medium and long term hospitalisation units psychiatric, maternity and washing areas of central sterilization units, laboratories and laundry

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Score of 4: high risk
Score of 3: high risk
Score of 2: medium risk
Score of 1: low risk

Score of 12–16: zone 4 (very high risk zone)
Score of 6–9: zone 3 (high risk zone)
Score of 2–4: zone 2 (moderate risk zone)
Score of 1: zone 1 (low risk zone)

From risk 4 (the highest) to risk 1 (non-specific areas), each risk area will be classified and linked with a target technical efficiency level.

After the risk evaluation and mapping, each area will receive an adapted air filtration solution.
camfil farr solutions for health care facilities

1. Hi-Flo
2. Cam-Flo G
3. Opakfil Green
4. Camfil Farr Casings
   For a personalised selection service please contact us.
5. Sofilair Green
6. Camsafe
7. Ecopleat Green

Risk zones 2 – 3 (class 100,000 – 10,000)

1, 2, 11
3, 12
4, 5
6, 11, 12
9, 10
9, 11

- Unidirectional flow page 6  - Non-unidirectional
Camfil Farr designs, tests and manufactures air filtration solutions in compliance with the requirements for extremely high-risk areas. At Camfil Farr, safety is a priority. We are committed to rigorously testing all the air filtration systems we recommend, according to European standards. This pledge to delivery quality is your guarantee of total traceability. From risk level 1 to 4, you stand to benefit from Camfil Farr’s knowledge as the world leader in this area by consulting our projects and installations units.

**Risk zones 3 – 4 (class 10,000 – 100)**

- **8,10**
- **6, 7.10**

**Flow page 7 – High safety return filtration page 7**

- **8 CamHosp**
  See page 6.

- **9 Camseal**
  Blowing or exhaust solution. See page 7.

- **10 Megalam**

- **11 30/30**

- **12 CityCarb**

- **CitySorb**

- **City-Flo**

- **Camcarb Green**
When you need a perfect unidirectional air flow – CamHosp is the product you need.

In general, CamHosp can be installed in two to three hours by two people. The plenum, structure and filters are provided with very detailed instructions. On request Camfil will assemble the unit and/or test it. Use Screentech and increase lifetime for filter by protecting them from splash.

The type 4 CamHosp ceiling has an operating area of approximately 10 m² in ISO classes 5 to 7. It is ideal for major operations (orthopaedic, cardio, etc.), as it offers the surgical team a large degree of ease (UNICLIMA recommendation in the Guide to air treatment in hospital environments). Used at a speed of 0.25 m/s – 0.30 m/s, this model produces an air change rate in the region of 60 to 70 vol/h for a 45 m² operating theatre suite.

Types 3 and 2 with blowing areas of 7 and 5 m² meet the needs for less major surgeries. A type 3 CamHosp, for example, ensures the minimum rate required by the NF S90-351 standard in zone 4 (50 vol/h) for a 40 m² operating theatre suite, operating at an average speed of 0.30 m/s.

In extremely sensitive departments (major burns, immunodeficient patients, etc.) CamHosp includes a format adapted to provide localised protection of a bed.
Advantages:

Design
Integrated terminal filtration diffusion solution featuring the use of aeraulic techniques and simplicity of implementation.

HEPA terminal filters at the blowing point
Blowing through the terminal filters for more reliable, simpler and safer risk control, because the air travel between the HEPA filtration and the usage point is minimised.

Guaranteed tightness
At the perfectly rectilinear and rigid bond line: guaranteed maximum leakage rate of less than 10.4 (0.01%) at the bond line, consistent with terminal filtration with a minimum efficiency of HEPA H13.

Safe fitting of filters
Through the use of Camfil’s clamping system with a compression limiter by fool proof stop which makes excessive compression of the seal impossible.

Perfect construction
Designed to hold a “100% tap” enabling an operator to measure the loss of pressure of the terminal filters and checks can be carried out periodically. Direct access to the terminal filters enables accurate checking of the integrity of the filters and the absence of assembly leakages. With a system of clamping “from underneath” it is very easy and quick to replace a faulty filter.

Non-unidirectional diffusion
Choose from three types of standard diffusion (grille egg-cratercore, 4 directions or helicoidal) to optimise the “mixture” of the filtered air.

CamSafe: High safety return filtration

The Camseal reloadable filtered diffuser is designed to hold the HEPA MEGALAM terminal filtration stage for zones 3 and 2 in non-unidirectional flows.

Application
Biological, chemical and radioactive risks, nuclear medicine, mortuaries, bacteriology, virology, and infectious disease risks, zones classified as P3 or P4 where it is compulsory to treat the exhaust air because of:

- micro-organisms or toxic particles: HEPA filtration with SOFILAIR
- toxic or radioactive emissions: ACTICARB activated carbon filtration

Advantages
CAMSAFE fulfills the criteria for:
Standardised tightness
- Class 3 = ISO 10648-2 at 5000Pa
- Class C = EUROVENT 2/2 at 5000Pa
- Class B = En 1886 at 5000Pa

Decontaminability
Full RAL 9010 white oven-baked epoxy paint
70μm thickness, smooth decontaminable surface.

Tightening of filters without tools
Rapid locking using a lifetime-set cam system with spring tab.
Camfil Farr is the leader in clean air technology and air filter production.

Camfil Farr has its own product development, R&D and worldwide local representation.

Our overall quality goal is to develop, produce and market products and services of such a quality that we aim to exceed our customers expectations.

We see our activities and products as an expression of our quality.

To reach a level of total quality it is necessary to establish an internal work environment where all Camfil Farr employees can succeed together.

This means an environment characterised by openness, confidence and good business understanding.

www.camfilfarr.com

FOR FURTHER INFORMATION PLEASE CONTACT YOUR NEAREST CAMFIL FARR OFFICE.
YOU WILL FIND THEM ON OUR WEBSITE.