

GETINGE

**GETINGE SYSTEMS
FOR DISINFECTION ROOMS
IN WARDS AND CLINICS**





HOSPITAL INFECTION

A WORLDWIDE PROBLEM

Despite today's modern hospitals and medical advances, hospital-acquired infections are on the increase throughout the world. And the result is not just a great deal of suffering for affected patients. It also entails legal and practical problems, as well as increased costs for extended hospital stays. This, in turn, reduces overall healthcare capacity.

Well-thought-out hygiene routines and the right disinfection equipment can greatly reduce these costs/strains. And when the importance of infection control is considered at the earliest possible stage, many of these problems can be stopped before they arise.

What is a "hospital-acquired infection"?

Hospital-acquired infections (HAI) include all infections contracted by patients during the time spent at a hospital or clinic. They may come from incidental contact with contaminated surfaces, as a result of treatment, or from the patient him-/herself.

Hospital-acquired infections, also known as nosocomial disease, can also affect healthcare personnel as a result of their work.

5–10% of patients affected

Illness and injury make people more vulnerable to infection, especially the young and the old, who have weaker immune systems to start with. So hospital patients face that extra risk.

Other factors that can affect the spread of HAI are:

- poor hand hygiene
- hard-to-clean equipment

The hard truth is that 5–10%¹ of all hospital patients develop a HAI – a fact that makes the hospital a risk zone, unless proper measures are taken to prevent the spread of infection.

Multi-resistant bacteria – a serious threat

Multi-resistant bacteria – such as MRSA (Methicillin Resistant Staphylococcus Aureus) – are the fastest growing threat. Without well-functioning hygiene routines, hospital personnel can spread potentially deadly MRSA bacteria to patients via their hands. About 5% of the patients infected with these bacteria die.

An outbreak of multi-resistant bacteria is both dangerous and costly – to the hospital and to society – and generally requires the establishment of isolation wards.

The right disinfection equipment and systems, combined with well-thought-out hygiene routines, can minimize both risks and costs.

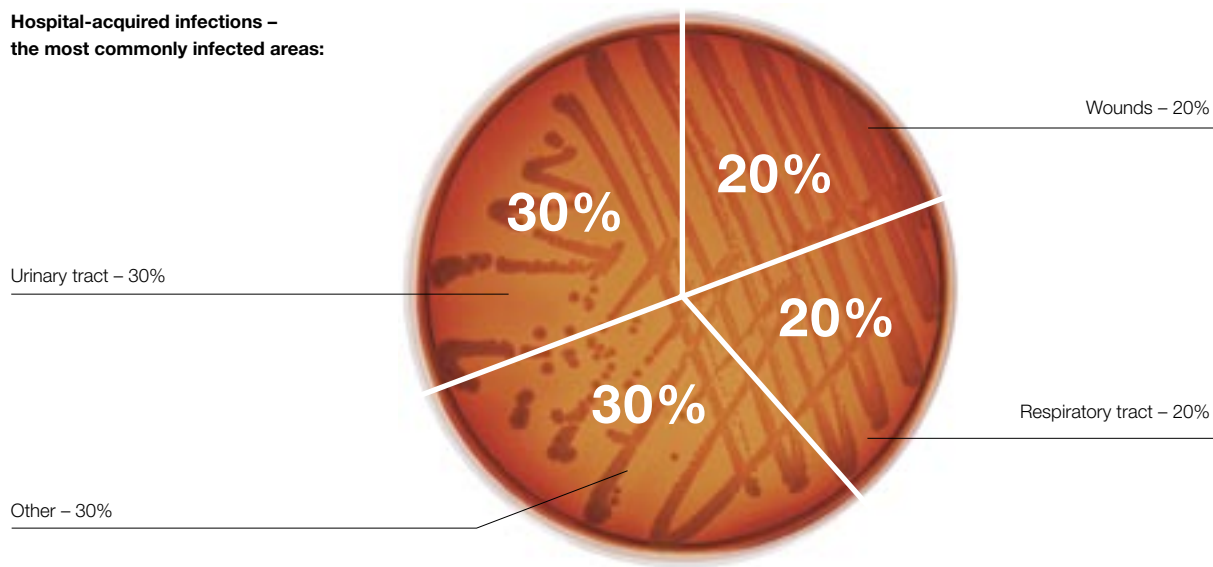
1) According to a recent survey – performed and published by the PHLS (Public Health Laboratory Service) in the UK – 10% of patients develop a HAI. The survey included more than one million patients at 61 different hospitals.

This survey also showed that healthcare costs triple for each patient suffering from a HAI. In figures, this means an extra cost of £3,000 (>US\$4,200) and an average of 11 extra days in the hospital!

2) Outbreaks of infections caused by MRSA have increased during the last decade. During the last five years, the increase has been dramatic. An exaggerated reliance on antibiotics has facilitated the growth of MRSA. A single outbreak of MRSA at an English hospital cost an estimated £500,000 (>US\$700,000)!



**Hospital-acquired infections –
the most commonly infected areas:**



INFECTION CONTROL VIA HYGIENE, CLEANING & DISINFECTION

Most infections are spread from one patient to another by direct or indirect contact – via wash basins, bedpans, urine bottles etc. In other words, the items used in routine patient care.

It is not uncommon for the healthcare staff to unknowingly spread microorganisms from soiled items to clean items via hand contact.

Clean hands

Something as simple as hand hygiene is perhaps the most important routine in the fight against hospital-acquired infections. In fact, this routine alone – if practiced diligently by healthcare staffs – is enough to cut HAI by some 30%!

If disinfected goods are touched or handled by soiled hands, the goods become soiled again, thus raising the risk of spreading infection. Disinfected goods should therefore only be touched by clean hands.

Cleaning and disinfection

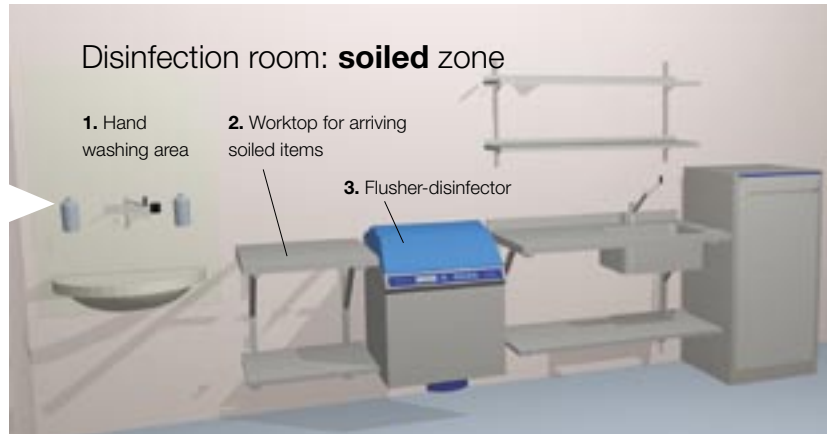
Every object that has or might have been in contact with an infected patient must be disinfected before it is used again for another patient.

Disinfection is defined as “the destruction of non-spore-producing and vegetative microorganisms”, and in hospital wards the most effective method is with steam or scalding water. This method has the added benefit of being environmentally sound.

A separate cleaning and disinfection unit is the best solution. Here the load can be rinsed clean with hot and cold water and then disinfected for at least 10 minutes at 80°C/176°F, or for 1 minute at 90°C/194°F.



Items that circulate in hospital wards and outpatient clinics ought to be cleaned and disinfected before being re-circulated to a new patient.



GETINGE'S DISINFECTION ROOM

Every day, enormous numbers of items are circulated and re-circulated in hospital wards throughout the world. The importance of infection control cannot be emphasised enough.

Getinge designs disinfection rooms for optimal infection control, complete with hand-hygiene facilities, as well as equipment for cleaning and disinfecting items that are not normally sterilized. The workflow in the room is based on simple, hygienic routines.

Getinge's disinfection room also includes equipment for handling laundry and waste, as well as storage surfaces for clean, disinfected items.

Soiled zone – clean zone

The entire concept of infection control is based on keeping soiled items separate from clean items – with no exceptions. Getinge achieves this by dividing the room into two zones: one for clean goods and one for soiled goods. Clean items are thus kept completely separate from all surfaces where soiled items are handled.

Four cornerstones

The design of a Getinge disinfection room is based on four crucial points:

1. Hand washing area

Well-thought-out routines for hand hygiene are important in attaining good infection control. Easy-to-use dispensers for liquid soap (A) and disinfectant (B) are essential, as is a mixing faucet (C) that can easily be operated with an arm or elbow. A paper towel holder (D) is also included.

2. Worktop for arriving soiled items

Space is needed to store soiled goods prior to cleaning and disinfection. The unit consists of a hygienic stainless steel worktop.

3. Flusher-disinfector

A flusher-disinfector is used for emptying, cleaning and

Disinfection room: **clean zone**

4. Storage area for clean items



▲ Floor plan for an ideal disinfection room. Scale 1:100

disinfecting bedpans, urine bottles and so on. Such items are continually circulated and re-circulated in hospital wards, and should be disinfected in a machine that features:

- Thermal disinfection
- Sealed chamber throughout the process
- Completely automated
- Completely unaffected by external conditions
- Built-in slop basin
- Microbiologically tested and approved equipment
- Cleaning result approved by the authorities
- Economics – water- and energy-efficient
- Ergonomics – easily operated by personnel
- Environmentally sound

All Getinge flusher-disinfectors have all of the above features (see pages 8–13).

4. Storage area for clean items

When the items are disinfected, they are stored in a hygienic stainless steel area. In addition to shelves of different types and sizes, we offer a wide range of storage lockers for this purpose.

Central or local placement?

Each ward usually has its own disinfection room. From the standpoint of microbiology, a central disinfection room serving several wards would be just as satisfactory. The main thing is that the work process is well thought through and that the necessary equipment is available.

It can, however, be more convenient to have a short distance from each ward to the disinfection room.

Well-defined routines

It can be difficult to understand and foresee the dire consequences – such as human suffering and extended hospital stays – of carelessness in the disinfection room. It is therefore crucial to establish clear, well-defined and strict routines for each separate task. Following these simple guidelines can mean major advances in infection control:

- Always use disposable gloves when handling and loading soiled items.
- Start the flusher-disinfector with the foot pedal, then remove the disposable gloves, then wash and disinfect your hands.
- When unloading and storing clean items, do not wear gloves, but see that your hands are clean.
- Always disinfect your hands just prior to leaving the disinfection room.

Protection for healthcare personnel

Protective clothing, e.g. disposable gloves, plastic aprons and facemasks, should always be available in the disinfection room.

A COMPLETE RANGE OF FLUSHER- AND WASHER-DISINFECTORS

To select the right flusher- and/or washer-disinfector for your ward, there are a number of things you need to know. What type of healthcare is involved? How big is the ward? And what types of items are used most? What bedpan models are used in your country?

Getinge has a large range of flusher- and washer-disinfectors in many different sizes – as well as a full range of accessories – all easily adapted to specific, local requirements.

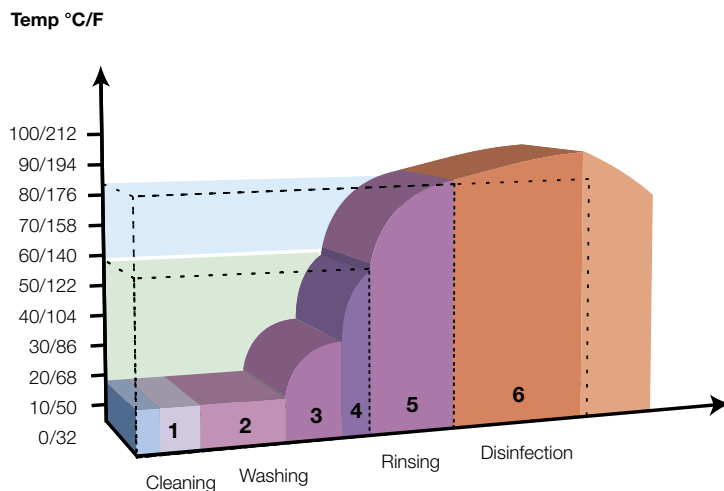
Top-loaded flusher-disinfector

Getinge's top-loaded flusher-disinfectors are suited to emptying, cleaning and disinfecting bedpans, urine bottles, buckets and more – in big and small wards. The largest model holds one very large or two standard-size bedpans.

No separate slop basin is needed. All top-loaded models have a built-in slop basin with rim flushing in the flush chamber.

The process begins with the emptying of the load contents in the flush chamber. Large waste is then removed by effective rinsing jets that assure excellent cleaning.

The entire process – rinsing with cold water, cleaning (with or without detergent), rinsing with hot and cold water, disinfection with steam, and cooling – is fully automatic. Everything is done with a locked lid, and it takes just 3–6 minutes!



- 1 Emptying of mop buckets etc is easy with the top-loaded flusher-disinfector.
- 2 Loading the front-loaded flusher-disinfector.
- 3 For larger wards, or where there is a large flow of items, the flusher-disinfector can be complemented with a washer-disinfector for cleaning and disinfecting bowls, hand basins etc.
- 4 Washer-disinfector for under-counter installation.
- 5 Free-standing model for improved ergonomic handling, with base cabinet for detergent storage.
- 6 The choice of flusher-disinfector is based on your capacity requirements and bedpan models.



Examples of items that are circulated in hospital wards – shown here in the Getinge 600-series top-loaded flusher-disinfector.



Bedpan
Anglo-American design
(load shown before automatic turnover)



Urine bag stand



Urine bottles and bedpan
Anglo-American design



Urine bottles and bedpan
British design



Wash basin



Suction bottles



Urin bottles and bedpan
German design
(load shown before automatic turnover)



Stainless steel bucket with lid



Plastic bucket



Bedpan
French design



Utensil rack with basket for utensils & surgical instruments



Bottles and wash basin
(load shown before automatic turnover)

Getinge's flusher-disinfectors – an overview				
▼ Capacity Model	Model ►	Top-loader		Front-loader
		600-series	422	2000
Bedpan, German design (G)		1	2	1
Bedpan, French/Italian design (F)		1	1	1
Bedpan, Anglo-american design (A)		1	2	1
Bedpan, British design (B)		1	2	1
<hr/>				
Urine bottles		2	4	3
Urine bottles and bedpan G		2 + 1	4 + 2	1 + 1
Urine bottles and bedpan F		2 + 1	–	–
Urine bottles and bedpan A		2 + 1	4 + 2	1 + 1
Urine bottles and bedpan B		2 + 1	4 + 2	–
<hr/>				
Wash basins, diameter 360 mm		2	2	1
Stainless steel bucket		1	2	1
Plastic bucket		1	2	–
Urine bag stand		1	1	–
Suction bottle, 2-litre		1	4	–
Suction bottle, 5-litre		1	2	–
Utensil rack with tray		1	1	1
Surgical instrument holder		1	1	1
Toilet bucket		–	1	–

Front-loaded flusher-disinfectors

Getinge's front-loaded flusher-disinfectors are also well-suited to cleaning and disinfecting items such as bedpans, urine bottles, buckets and so on. The doors, which are either manual or foot-pedal-operated, lock automatically when the machine is started to ensure reliable cleaning results.

An easily accessible storage space beneath the door provides a safe place to keep detergent and deliming agent.

Washer-disinfectors for utensils

Large wards or departments with high-volume requirements may need a separate machine for cleaning utensils, wash basins etc. Getinge has washer-disinfectors that hold up to 8 wash basins (Ø 360 mm), available as free-standing or under-counter models.

Norms & standards

The European norm¹ for washer-disinfectors classifies three different groups of machines according to the application area:

- models for surgical instruments, anaesthetic and respiratory tubing, metal containers, utensils, glassware etc.
 - models for bedpans, urine bottles etc.
 - models for heat-sensitive, items, including endoscopes.
- Getinge's top-loaded and front-loaded flusher-disinfectors are grouped under the coming EN norm 15883-3, while instrument washer-disinfectors are grouped under the coming EN norm 15883-2.

1) prEN ISO 15883-2, 15883-3 – expected to be completed in 2005

Daily routine checks

A few simple daily checks will help to ensure trouble-free operation and good cleaning results:

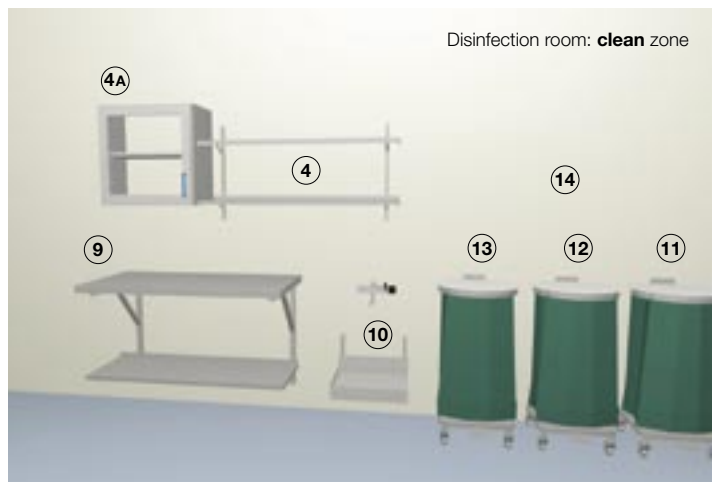
- See that the flusher jets inside the chamber are not covered with dirt.
- See that the flusher arms (if applicable) can rotate freely.
- See that the levels in the detergent and drying agent containers are sufficiently high.

ALL YOU NEED IN A DISINFECTION ROOM

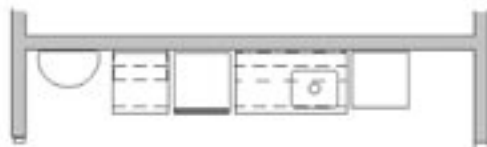
Getinge offers complete solutions that include everything you need in an effective and efficient disinfection room.



Disinfection room: **soiled zone**



Disinfection room: **clean zone**



Floor plan for the "soiled zone".



Floor plan for the "clean zone".



1. The sink includes all accessories, e.g. soap and disinfectant dispensers.



2. Worktop for soiled items, hygienic stainless steel. Wall-mounted.



3. Top-loaded flusher-disinfector, Getinge 600-series. Wall-mounted.



3. Top-loaded flusher-disinfector, Getinge 422 model. Wall-mounted.



3. Front-loaded flusher-disinfector, Getinge 2000 model. Wall-mounted.



4. Storage shelf for clean items. Sloping rack shelves, hygienic stainless steel. Wall-mounted.



4A. Storage lockers* for clean items, hygienic stainless steel. Wall-mounted.



4B. Storage lockers* for clean items, hygienic stainless steel. Wall-mounted.



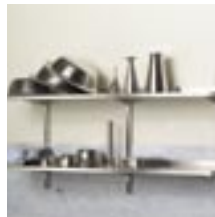
7. Washer-disinfector* free-standing, Getinge 46-series, for surgical instruments and utensils.



4C. Storage lockers* for clean items. Special cabinet for bedpans and urine bottles. Wall-mounted.



5. Sink for manual cleaning with lower shelf. Wall-mounted, stainless steel.



6. Storage shelf. Wall-mounted, stainless steel.



7. Washer-disinfector* free-standing, Getinge 2455 model, for surgical instruments and utensils.



7. Washer-disinfector* free-standing under-counter model 2455, for surgical instruments and utensils.



8. Urine container cabinet, refrigerated and ventilated, for measuring patient urine volume. Wall-mounted.



9. Side-table* for clean items, hygienic stainless steel. Wall-mounted.



10. Wall-mounted sink shelf*, of stainless steel. For filling of cleaning sink from tap. Wall-mounted shelves also available.



11. Mobile bag holder*, hygienic stainless steel. For 120-liter refuse bags.



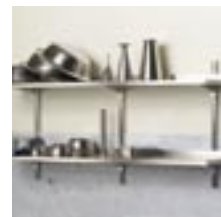
12. Disposable refuse box* included in Getinge's IWT System for hazardous waste.



13. Mobile bag holder*, hygienic stainless steel. For 120-liter laundry bags.



13a. Washing machine,** for doing laundry in the ward.



14. Storage shelf* for clean items, hygienic stainless steel. Wall-mounted.

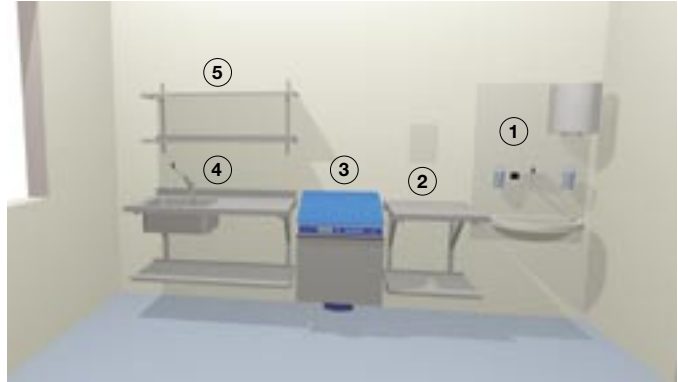
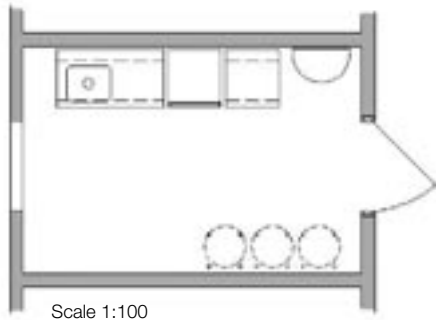
* Optional equipment

** Not included in Getinge's standard range

THE FULLY EQUIPPED DISINFECTION ROOM

The small disinfection room

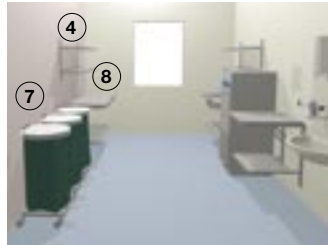
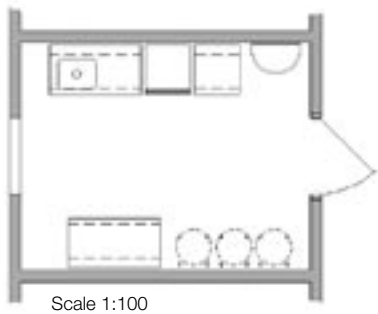
A design suggestion for fitting a small disinfection room based on “the four cornerstones” (see page 6).



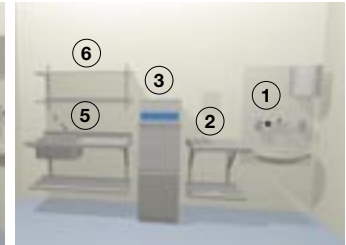
- 1 Hand washing area
- 2 Worktop for soiled items
- 3 Flusher-disinfector, Getinge 600-series
- 4 Sink
- 5 Storage shelf

Disinfection room for <20 beds

A slightly larger disinfection room with the Getinge 2000 flusher-disinfector. Complete workstation for handling and storing clean items in the “clean zone”.

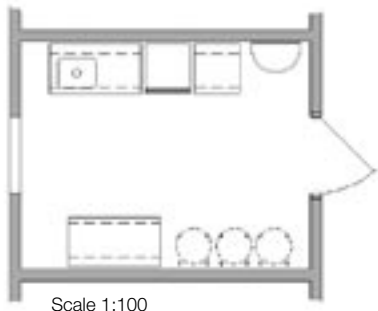


- 1 Hand washing area
- 2 Worktop for soiled items
- 3 Flusher-disinfector, Getinge 2000
- 4 Storage shelf for clean items
- 5 Sink
- 6 Storage shelf
- 7 Refuse-bag holders
- 8 Side-table for clean items

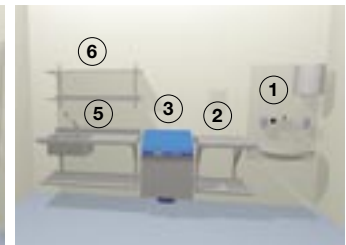


Disinfection room for <30 beds

A disinfection room with the top-loaded Getinge 600-series flusher-disinfector. Complete workstation for handling and storing clean items in the “clean zone”.

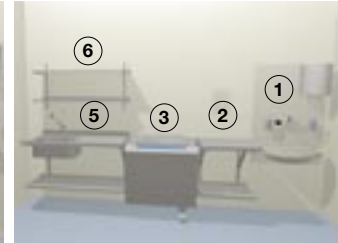


- 1 Hand washing area
- 2 Worktop for soiled items
- 3 Flusher-disinfector, Getinge 600-series
- 4 Storage shelf for clean items
- 5 Sink
- 6 Storage shelf
- 7 Refuse-bag holders
- 8. Side-table for clean items



Disinfection room for 30-60 beds

Large hospital wards generally require increased flusher-disinfector capacity. The Getinge 422 meets this need and is also suitable for large bedpans.

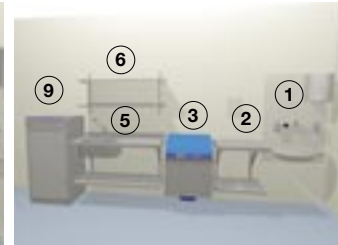
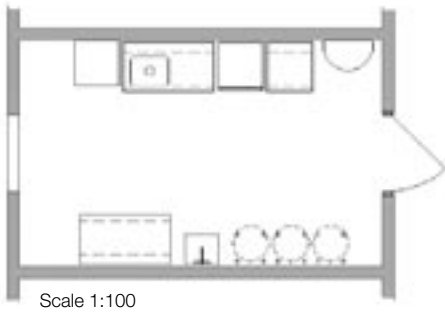


- 1 Hand washing area
- 2 Worktop for soiled items
- 3 Flusher-disinfector, Getinge 422
- 4 Storage shelf for clean items

- 5 Sink
- 6 Storage shelf
- 7 Refuse-bag holders
- 8 Side-table for clean items

Disinfection room for <30 beds including washer-disinfector

If you require separate cleaning and disinfection of surgical instruments and utensils, your flusher-disinfector should be complemented with a washer-disinfector.

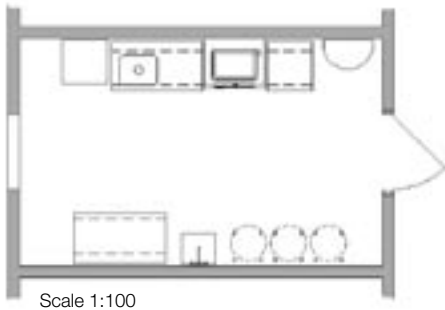


- 1 Hand washing area
- 2 Worktop for soiled items
- 3 Flusher-disinfector, Getinge 600-series
- 4 Storage shelf for clean items
- 5 Sink

- 6 Storage shelf
- 7 Refuse-bag holders
- 8 Side-table for clean items
- 9 Washer-disinfector, Getinge 2455

Disinfection room for <60 beds including washer-disinfector

A design suggestion for a disinfection room for very large hospital wards that require a large capacity for bedpans, urine bottles etc. as well as for surgical instruments and utensils.



- 1 Hand washing area
- 2 Worktop for soiled items
- 3 Flusher-disinfector, Getinge 422
- 4 Storage shelf for clean items
- 5 Sink

- 6 Storage shelf
- 7 Refuse-bag holders
- 8 Side-table for clean items
- 9 Washer-disinfector, Getinge 2455



Getinge provides complete solutions for effective and efficient cleaning, disinfection and sterilization in the healthcare and life science sectors. Our know-how comprises everything from architectural planning, production and handling equipment, to systems for full traceability of sterile goods. Our commitment covers expert advice, training and long-term technical support.

GETINGE

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