GUIDE TO THE LAYOUT & REQUIREMENTS FOR A COMMERCIAL LAUNDRY ROOM
This guide provides useful information when specifying or designing a commercial laundry environment. It is designed to be used as a starter guide and should not be used as a substitute for seeking professional advice on a per project basis.

As active members of SLEAT (The Society of Laundry Engineers and Allied Trades) and being Gas Safe Registered, all information included in this guide is taken from relevant British Standards and industry best practice.
THE LAUNDRY ROOM

LOCATION

For delivery, installation and practicality, commercial laundries should be sited on the ground floor of the proposed building. From an aesthetic view point it is also advantageous to locate them away from main entrances, external seating areas or other points of interest. Local planning regulations should also be consulted with regards to the proximity of laundries to kitchens and other food preparation areas.

Basements should be avoided for laundry installation wherever possible, as this can cause issues for a number of reasons:

- They can lack vital and required ventilation as it can be difficult to obtain access to the external environment to create the required make up air for traditional vented tumble dryers. It can also be difficult to create an acceptable working environment as dryers will cause temperatures to rise dramatically unless arrangements are made for additional ventilation.

- Using a heat pump tumble dryer however can overcome the issue of ventilation, as these dryers have no requirement for ventilation or make up air. With no need for ventilation ducting, heat pump dryers can also provide a very cost effective solution both for the build requirements and ongoing for the client as they are far more energy efficient than standard vented dryers.

- The laundry system may be operated on the hot and cold domestic supply from the lowest draw off point within the building and comply with water regulations providing it is gravity fed and no pumps are installed.

- Drainage can create a major problem, as without a 4” (100mm) diameter main drain to the sewer system with a natural fall from the basement, it will be necessary to fit a pumped system to drain the water away. Pumps cannot be fitted directly to the washers, therefore it would be necessary to create a sump in the floor of the basement. NB. In existing buildings if the basement has had a waterproof membrane fitted, installing a sump may mean cutting through the membrane, destroying its integrity. This should also be considered when bolting down washers in a basement, as dependent on the bolt length it may also breach any membrane installed. Machines could be raised up on a plinth to give a natural fall into a large tank on the floor however machine controls and top loading soap hopper access should be considered (note: access to top loading soap hoppers could be solved through use of an auto dosing system).
DIMENSIONS

The required dimensions of the laundry room will vary dependent on the following factors:

- The expected workload and the number of linen changes expected per day and so the required laundry capacity required.

- The type of linen that is to be processed and the machines required i.e. is finishing equipment required for flat work such as sheets or tablecloths?

- How the required capacity is divided up by type and number of machines required. For example, if a 40kg capacity required, this could be split as 2 x 7kg washers plus 2 x 13kg washers or 4 x 10kg washers or 3 x 13kg washers – all of which would have differing space requirements.

- All equipment will require adequate working space behind the units in order to provide access to the machines and services.

- The requirement for separate storage areas, as this could reduce the need for storage within the laundry.

- The physical layout of the building.

- If it is a care home, the type of resident that is being catered for (i.e. residential, elderly frail, terminal care, Hospice etc.)
ACCESS

The room design and location must take into account the size of commercial laundry equipment and the door openings both on route to and into the laundry itself and must be sized accordingly. It is good practice to have double doors or leaf and a half doors on laundries, as this assists with both delivery of the equipment and will be helpful long term for the access of linen trolleys. It can also be advantageous to have separate doors for ‘in’ and ‘out’ to create a dirty to clean flow minimising opportunities for contamination.

Where laundries are not located on the ground floor, suitably sized lift access should be allowed as the size and weight of commercial laundry equipment makes it very difficult to deliver up or down steps.

FLOORING FOUNDATIONS

Ideally laundries should be located on the ground floor and machines bolted to the structural slab via the required fixings. Where ‘Bison’ beam, or block and beam floors are used further consultation will be required and could also limit the type of equipment that is able to be installed. It is very important to correctly secure the machines in order to prevent vibration and to ensure an optimum life-span for the machines.

Washing machines also often need to be raised above the floor in order to gain adequate fall to the main drain, this can be achieved by casting a concrete plinth or by using metal raising plinths designed for the equipment. Floor coverings should be able to be thoroughly cleaned in the event of any spillage, and a floor drain fitted to aid the cleaning process. A sill should be fitted to all doorways to the room to ensure that no water can seep out into the surrounding areas.
ELECTRICS

Commercial laundry equipment is likely to require a 3 phase + N power supply, however the total Amps per phase required will depend on the final machine specification. Single phase washers are available, however these will be limited to the smaller capacity machines e.g. up to 10kg and smaller capacity, gas heated dryers.

Ideally a separate distribution board should be supplied for the laundry with individual machine isolators located in accessible positions. Where necessary, supplies would then be run to cable outlet points at the rear of each machine.

WATER

A commercial laundry will require a hot and cold water supply and in areas of hard water, an additional cold softened supply. If required, hot water should be able to be supplied at 60°C, and cold water supplied at a pressure of 25 psi. Pipe sizes and services to the laundry will be dependent upon other usage within the building and the finalised machine specification. However, it is important to supply the washing machines at a good working pressure and flow rate in order to ensure optimum cycle times.

Where washers are connected directly to the mains supply, they should be WRAS approved to comply with regulations that require prevention of back flow into the water supply via a type A airgap.
DRAINS

Laundry installations usually require a minimum drain of 100mm diameter. The main drain, S.V.P. or stub stack must be trapped and enter the foul water system. Individual machine connections vary and would require further discussion once the machine specification is finalised.

GAS

Gas tumble dryers are often used within commercial laundries due to the savings in running costs over electric versions. (However it should be noted that with the advent of Heat Pump tumble dryers, which are electric powered, these can offer significant ongoing energy savings to the client.) The main supply size to the laundry will be dependent upon distance from source and machine specification. All installations must conform to current Gas Safe regulations.

As a rule LPG powered dryers should not be installed in a basement as LPG is heavier than air, therefore presents a significant H&S risk. There are solutions around this, however these can be expensive and are reliant upon other building factors, therefore a reputable supplier such as Laundraysia should be consulted.
DUCTING

All vented (gas or electric) commercial tumble dryers, require exhaust ducting to the atmosphere, therefore the laundry should be designed with at least one external wall which is not on the front elevation of the building but rather in the ‘service’ area.

In order to maximise the performance of the dryers and reduce installation costs, the duct run must be kept to a minimum length and with the least number of bends possible. Smooth bore solid metal ducting must be used capable of withstanding the heat produced in the tumble dryer. It is important that the duct work is designed and installed properly and that discussion take place prior to any installation work commencing. Note: Laundryserv can as part of the complete installation process, supply and install all required ducting.

The exception to this requirement is if Heat Pump dryers are used, as these have no requirement for ducting. Heat pump dryers utilise condensing heat pumps which recycle 100% of the air. These recover the heat from the used air, condense out the moisture & remove it via a drain, then re-use the captured heat to re-heat the air. This creates huge energy savings in the drying process and removes the need to have external ducting and ventilation, creating significant cost savings.

MAKE UP AIR

As air is exhausted from the laundry to the external atmosphere, sufficient make up air inlet panel(s) must be installed in order to replace it. Make up air is generally provided via fixed louvres in an external wall. These should be located a minimum of 2m away from the exhaust ducts in order to avoid recirculation of the exhausted air. The design should consider the position of the make up air panels in relation to working staff as in the cold winter months this can make for uncomfortable working conditions, leading to staff incorrectly blocking up such vents.

Also consider that any additional extract fans or boilers within the laundry would adversely affect the required size for the panel. Make up air requirements are relative to the machine specifications chosen. Note: if Heat Pump dryers are used, there is no requirement for the laundry to have make up air however general ventilation for the room and comfort of the staff should be considered.
SINKS
A staff wash hand basin should be supplied within the soiled linen area of the laundry. It may also be useful to have a utility / cleaners sink for mop buckets. However this should not be used for washing soiled clothes.

SORTING AREAS
The laundry should be designed with a soiled linen collection and sorting area, therefore allowance should be made for soiled linen trolleys. Lighting should be such that it will easily show up any stains appearing on the laundry.

STORAGE AREAS
Generally space is required for storing clean linen prior to it being returned sent out for use. In a care home for example, this space should allow for at least an individual basket (per resident) of 300mm wide x 450mm long x 300mm deep. Consideration should also be given to the storage of bed linen and towels which can take up a considerable amount of space. Storage of clean linen should be away from the area where dirty linen is brought in and sorted.
THE EQUIPMENT

Laundry equipment should be expected to last for 8-10 years, therefore the specification of the equipment must be correct, not only for the present requirements, but also for the possibility of future upgrades.

WASHERS & DRYERS

The number and capacity of the washers and dryers will depend on the project type and will be affected by the type of linen to be processed e.g. towels, flat work, residents clothing etc.

The required capacity should be split over multiple machines (rather than having just one larger machine) as this will allow for better working practices, and provide peace of mind that washing can still be processed should a machine suffer a breakdown.

For example if 40kg capacity is required, this could be split as 2 x 7kg washers plus 2 x 13kg washers or 4 x 10kg washers or 3 x 13kg washers.

There are standard calculations that can be used to work out the capacity of the equipment required, and Laundryserv’s consultants would be able to provide this information for you as well as provide advice on specification of machines.

AUTO DOSING OF DETERGENTS

For an effective, efficient laundry, detergent dosing should also be considered during the process of the laundry design. Auto dosing offers the most cost effective and efficient detergent solution, ensuring the right amount of product is dosed at the right time in every wash.

Auto dosing requires a small set of wall mounted pumps to be located on the wall behind the washers, however adequate space is also required for siting the detergent drums (either on the floor or in wall mounted cradles) and allowing access for laundry operatives to be able to easily and safely change the drums as needed.

IRONERS

The type and size of ironer will depend upon the type and quantity of linen to be finished. For example a hotel may need to process large amounts of flat work e.g. sheets, duvet covers etc, therefore may benefit from a dryer ironer, which would reduce the need for dryers.

Within a care home environment, smaller rotary Ironers are likely to be better suited, as the volume of work required for ironing in a Care Home should be very small.
For further information on commercial laundry equipment specifications and requirements, please contact PHS Laundryserv on 0800 7311 399 or visit www.laundryserv.co.uk

Whether you need to specify laundry equipment for a new care home, hotel, hospital or student accommodation block, PHS Laundryserv is here to help. With over 40 years experience in the commercial laundry industry no one is better placed to ensure your clients get the right laundry equipment, with the right features, in the right location.

Laundryserv’s extensive range of commercial washers and dryers offer the ultimate in quality and efficiency whilst being highly energy efficient, ensuring your installation complies with the increasingly stringent BREEAM regulations.

We provide a complete project management service, so whether you’re looking to specify a single washer and dryer or a complete laundry, we ensure you specify the right laundry equipment. From initial CAD drawings right through to final installation, our experts are here for when you need us, whilst our in house installation team work with your site contractors to ensure a first class installation, so you can be sure the laundry will be delivered on time and on budget.