



Planning an On Premises Laundry (OPL) to Maximise Efficiency and Reduce Costs.

An on-premises laundry can be a great time-and money-saving benefit to a business. However, If the facility is not properly designed and outfitted correctly what should be an advantage can become an expensive mistake. Laundries are heavily affected by water, labour, energy and chemical cost increases. Therefore operating costs of laundries have now become a critical aspect of the equipment purchasing decision.

Contrary to popular belief, the most expensive elements of an on-premises laundry is labour and operating costs, not the equipment. To help decide on the number and size of washers and dryers, one should design a laundry that operates on one 8-hour shift per day. To calculate the laundry/hour requirement, divide the total laundry per day by an 8-hour shift to determine an hourly production rate. So, if your laundry volume is 1000kg per day (dry mass) to be processed in 8 hours that would require equipment capable of processing 125kg per hour. (Note that if you intend to run two shifts per day the hourly laundry processing requirement would be 63kg per hour). Excess capacity means excess capital expenditure, under capacity means expensive overtime. Poor equipment choice means high operating costs with every load - for 20 + years!

Becoming more common are High-Speed washer-extractors, which save both time and money. High-speed extraction removes moisture quickly from linens by achieving a higher centrifugal force. The clothes washed in them will dry in less time due to lower water retention. Other features of a modern washer extractor are crucial for efficiency. Efficiency means lower water consumption per load, less chemical usage, faster heating, lower energy cost, higher production capacity, longer linen lifespan. and less equipment maintenance with a long lifespan. All SEVE washer extractors are high speed machines.

Inverter drives have become common in many types of equipment but are still not used on many washer extractors. Called by various names such as "soft starts", "converter drives", "variable speed drives" they all do the same job. Inverter drives control motors. On a washer extractor they smooth out the power factor of the motor which reduces power consumption, reduces stress on the motor and all mechanical components of the machine thereby extending service life and allow for variable extraction speeds. All SEVE washer extractors are fitted with inverter drives as standard.

Correct design of the washing cylinder (drum) of a washing machine is crucial for achieving maximum cleanliness and efficiency. They must have a high aspect ratio. i. e. The drums must be tall and shallow, not short and deep. A taller drum = greater circumference which, combined with high extraction speed, results in a higher G-force and therefore less residual water in the linen to make drying quicker. Dryers are the biggest users of energy in a laundry so savings here result in major operating cost savings. All SEVE washers have drums with a high or very high aspect ratio.

Programmability has become another highly desired labour-saving device. The ability to program washers as to exact requirements helps to achieve maximum efficiency, maximize cleanliness, minimize labour and extend fabric life. All SEVE machines are operated by programmable computers.

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The fabric to be washed must also be analyzed before selecting equipment. For example, incontinence pads may be difficult to extract because they tend to block the drain holes at high speeds. Towels, cotton sheets and table linen, on the other hand, are perfect for high-speed extraction. Some poly cotton linen tends to crease when extracted quickly, and personal clothing may be too delicate for this process. Washers with variable extraction speeds may be the best choice. All SEVE washers have variable speed extraction.

The types of linens being washed determine selection of dryer size. If all linens being washed are also dried, each dryer should have 1.5 to 2 times the washer capacity. The ability to program a dryer as opposed to drying based on time alone, is important. If the dryer stops automatically when the clothes are dry, it eliminates over-drying and lengthens the life of the fabric. Over-drying can result in spontaneous combustion. SEVE "A" model dryers are fully computer controlled.

Ironing is a labour and energy intensive process. If a SEVE high speed extraction washer is used in conjunction with a SEVE ironer the ironing can be taken straight from the washer to the ironer skipping the tumble dryer because all SEVE ironers dry and iron in one operation. In addition, SEVE ironers have large diameter drums which allows for better quality ironing and higher production. All SEVE ironers are computer controlled and all are fitted with inverter drives with variable speed and temperature controls. The SEVE C model ironers are unique in design and have many advantages over alternative brands. For details refer to the brochure and the special brochure "Ironer Efficiency" which explains the massive cost savings.

However, all the above points and those below will be academic if there is insufficient power to run an OPL. If the equipment is to be electrically operated and heated it is crucial to ascertain the total power required. If the heating will be by steam then the electrical and steam requirements must both be ascertained. A well planned laundry will synchronize the operation of the washers, dryers and ironers to eliminate, as far as possible, having imbalance in the process and avoid backlogs. Once the proper equipment is selected, a layout plan to scale should be done to position the equipment for maximum efficiency and convenience. Pay close attention to working space, entries, exits, columns, drain locations, exhaust areas, ventilation and machinery access. Are door openings and hallways of sufficient size to bring equipment in or out? Will stairs or columns impede installation? Washers have to be carefully placed to allow working areas around them. Dryers can be placed side by side. Placing equipment in a manner that takes future maintenance needs into account is also important. If, for example, a washer is too close to a back wall, there would be no access for servicing

Perhaps one of the most neglected aspects of laundry design is airflow, both in regard to dryers and to Occupational Safety and Health requirements for cross-contamination, particularly in hospital laundries. New hospital laundries may soon require, by law, complete separation of soiled linen from clean linen. This is not necessarily accomplished with closed doors, but also via a negative airflow away from clean linen and toward the soiled. In the SEVE range of washing machines are Medical Barrier Washers that allow for the separation of soiled and clean linen. SEVE sluicing machines are unique in being able to reduce the handling of infected or heavily soiled theater garments and linen. With a SEVE sluicing machine these items can be sluiced, washed and sterilised all in one operation reducing handling and the potential for infection. Labour time is reduced while efficiency of operation is dramatically improved over conventional equipment.

Other areas of laundry design that deserve more attention are foundations; availability of sizing of the water, water pressure and drain lines, electrical voltage, wire gauge size and breaker availability. Floors should be at least 100mm thick beneath regular washers and 300mm thick under washer-extractors. Concrete is the most suitable floor material and can be covered by one of the synthetic resinous materials offering a smooth, yet nonslip, surface. Water and drain lines should be sized to maximize fill times and minimize drain times. Electrical circuits should be balanced and properly sized to lower overall amperage draw. A through flow laundry design is the ideal option. This means that incoming soiled laundry comes in through one door and into a holding and sorting area before going to the washers and then to the dryers, ironers and finishing areas before being removed via a second door at the other end.