

Heating, ventilation and sanitation systems: Project planning conditions for process premises

Scope

SSG 3704E provides guidelines for planning, projecting and execution of air conditioning installations, cooling systems and heating systems for process premises.

Process premises are complex ventilation technical spaces with a number of variables to take into account. Each process room carries its own conditions and it is not possible to apply the same ventilation solution for similar machine and room types without investigation.

The guidelines in this standard are therefore set to the most basic information required to start designing ventilation in process premises.

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1 General

For work in industrial premises with high humidity and major sources of radiation it is important to make a correct assessment of the conditions to maintain the workers' balance of heat within normal limits. Consideration must be given to ambient temperatures, heat radiation, airspeed, air humidity and workload.

The air temperature alone is not sufficient, as it does not take regard of the incidence of heat radiation sources and the effect of humidity in association with air movements. Hygienic limitation values per [AFS 2018:1 – *Hygieniska gränsvärden*] must be considered.

Determination of leakage must be made to ensure sufficient capacity. See 1.2 – "Openings".

Another aspect of design is to handle any future production increases and new production cases as cooling, heating and ventilation can be expensive to rebuild afterwards for increased capacity.

That being said, the energy efficiency of the system should still be as good as possible. This can mean that fixed objects, such as ducts, are oversized while replaceable system components, such as plants, are dimensioned according to the current operating case.