HOW TO SELECT AIR FILTERS IN AN ISO16890 WORLD?

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Motivation for ISO16890

Testing air filters according ISO16890 is based on a fundamental different approach than previous standards like EN779 or ASHRAE 52.x. It's not only focusing on classifying air filters allowing performance-based comparison of different filters but enabling purposeful selection of air filters for desired Indoor Air Quality (IAQ) given a certain Outdoor Air Quality (OAQ). In terms of control theory ISO16890 classification of an air filter is a kind of transfer function connection IAQ with OAQ. In addition, ISO16890 is easing communication between different disciplines dealing with airborne particles, like the HVAC community, aerosol physicians and meteorologists.

Testing filters acc. ISO16890

The presentation describes in brief the test procedure which includes full size filter efficiency tests in virgin and discharged stage as well as determining dust holding capacity. In doing so the discharging of full-size filters poses a new challenge regarding test equipment and procedures.

ISO16890 filter classification vs. EN779:2012 and ASHRAE 52.2-2012

Even considering the differences in test methods, test dust and test results a rough correlation between filter classes according ISO16890, EN779:2012 and ASHRAE 52.2 is helpful at least during transition phase or for those not dealing daily with that topic.

Filter selection according IAQ/OAQ

The presentation explains in detail the selection of right filter class for desired Indoor Air Quality (IAQ) given a certain Outdoor Air Quality (OAQ). It's based on a recommendation of European Association for Indoor Climate, Process Cooling and Food Cold Chain Technologies (EUROVENT).