



**FILTERING TECHNIQUE
FOR INDUSTRIAL LIGHTING SOLUTIONS**

FILTERING TECHNIQUE LIKE NO OTHER

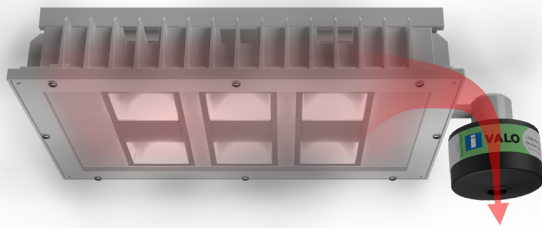
The luminaire breaths through the filter. I-Valo's efficient and unique filtering technique keeps the inner parts of the luminaire clean. Technique filters dirt and gas: the luminaire retains its luminosity even in demanding conditions.

In addition to filtering impurities from air, the technique offers an ideal solution for applications, such as the mining industry, where large fluctuations in air pressure are typical. Thanks to the filtering technique, the luminaire retains its air-tightness as the pressure is managed via the filter.

The range offers several different filters to choose from. The choice is made according to prevailing ambient conditions. I-Valo luminaires are all equipped with the I-Valo filtering technique. Filtering technique helps decrease energy consumption and the need for maintenance. Lighting life cycle costs can also be reduced considerably.

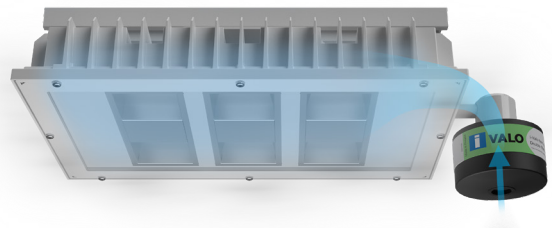


How does the filtering technique work?



THE LUMINAIRE IS ON

- AIR EXPANDS AS IT HEATS UP AND EXITS VIA THE FILTER



THE LUMINAIRE IS OFF

- THE LUMINAIRE COOLS DOWN AND TAKES IN AIR
- THE FILTER REMOVES IMPURITIES FROM THE INCOMING AIR

The air current caused by the lighting fixture heating and cooling is passed through a filter, which captures dust and other dirt particles. Such impurities are removed from the air by either the filtering microfibre paper, the activated charcoal element or the GORE membrane. This ensures that no impurities get onto the surface of the specially treated reflectors in such a way that would decrease the luminous flux or damage the sensitive LED chips or electronics. Energy consumption and the need for maintenance decrease and lighting life cycle costs reduce considerably.



The larger I-Valo dual-effect filters include an activated charcoal element in addition to the microfibre paper. They also filter out different gases in addition to dirt particles. The choice of filter is made based on the ambient conditions in the installation environment.

Filter options



19963

DUAL-EFFECT FILTER
with a plastic cover

19959

DUAL-EFFECT FILTER
with a metal cover

FILTERS

- organic, inorganic and acid gases and vapours
- hazardous solid and liquid particles, e.g. radioactive and toxic substances and micro-organisms

The dual-effect filter with a plastic casing offers added durability in environments where aggressive chemicals would corrode a filter with a metal casing. These include galvanising and pickling plants.



WATCH AN ANIMATED VIDEO OF THE
FILTERING TECHNIQUE VIA THE QR CODE



19960

AMMONIA FILTER

with a plastic cover

FILTERS

- organic, inorganic and acid gases and vapours
- ammonia and organic ammonia derivatives
- solid and liquid hazardous particles, e.g. radioactive and toxic substances and micro-organisms

The ammonia filter is typically used in luminaires that are exposed to ammonia gas or fumes. This applies to luminaires located in animal shelters such as stables, henhouses, cow sheds and buildings for manure treatment. In addition, laundry facilities, paint shops, water treatment plants and waste treatment plants are also among typical applications. Paper factories also have facilities where ammonia filters have proved beneficial.



19961

DUST FILTER

with a plastic cover

FILTERS

- solid and liquid particles of toxic agents
- radioactive substances and micro-organisms, e.g. bacteria and viruses
- dust particles and impurities larger than $0.01\ \mu\text{m}$

Typically used in luminaires that are used in standard industrial environments with dust in the air. These include power plants, boilers, pulp and paper mills, and the wood processing industry.





19956

GORE FILTER LARGE

with a plastic cover



19957

GORE FILTER SMALL

with a plastic cover

FILTERS

- dirt, dust, salts, water and other harmful liquids
- particularly recommended for use with luminaires installed in outdoor areas

Also recommended for facilities used in the food and beverage industry, where there is a need for regular cleaning due to strict hygiene regulations. This means that high humidity levels are often present. The thermal resistance of GORE filters is excellent; therefore, they are just as suited for cold rooms as they are for the highest ambient temperatures of I-Valo luminaires. They are also resistant to changes in temperature. Washing facilities constitute one challenging application area where the ambient temperature can vary significantly.



I-Valo Oy
Tehtaantie 3B
FI-14500 IITTALA, Finland
Tel. +358 (0)10 501 3000
info@i-valo.com

www.i-valo.com