UNDERSTANDING
THE PURGE SECTION

THE REASONS BEHIND THE PURGE SECTION:
The purge section is a useful addition that can be used for many wheel installations and will have the effect of greatly reducing carryover contamination (usually from 2 to 4% to 1% only) at the expense of a slightly reduced effectiveness (approx. 1% less).
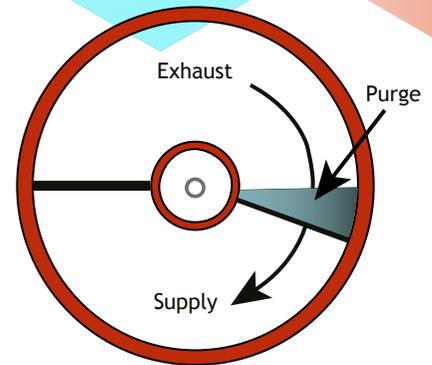
How does it work?

By blocking a small portion of the wheel exactly at the limit where the wheel rotates back to the supply air side, the purge section helps return a good portion of the exhaust air contained within the wheel to the exhaust side greatly reducing contamination (see figure below). The optimal angle of the purge section is usually calculated based on each installation's supply and exhaust static pressures.
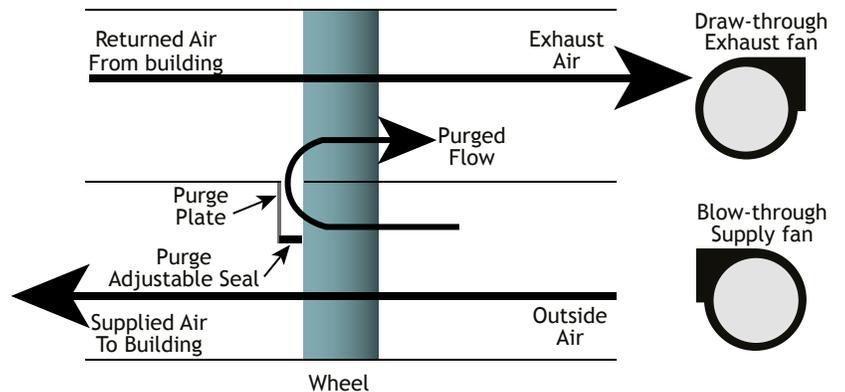
Fan arrangement, an important aspect:

While the purge section does reduce the carryover portion of the contamination from the exhaust to the supply air stream, it has absolutely no effect on the contamination resulting from the peripheral and transverse seals which no energy wheel manufacturer can eliminate. A good way to solve this problem however is with a proper fan arrangement; fan arrangement that leads to a higher entering supply static pressure compared to the exhaust one.

Possible alternatives:

Even with both a proper designed purge section and an optimized fan arrangement, contamination from the exhaust to the supply air stream will never be fully eliminated with energy recovery wheels. Thus, for applications with dangerous chemicals or biohazard contaminants in the exhaust air stream, other energy recovery components, which this time can guaranty absolutely no leakage like fixed plate exchangers or heat pipe exchangers, should be used.

**Front View
With Upstream Exhaust**

**Side Cross Section
with Purge Section**

setting the
standard
for **energy**
recovery

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