

CYKLOTEC® CYCLONE FILTER

Effective grease filters for professional kitchens

- › Separates all particles larger than 7 µm
- › Filters effectively at variable flow rates
- › Constant pressure drop always yields the correct exhaust air flow
- › No moving parts or electrical motors
- › Reduced risk of fire and simplified cleaning of duct system



Description

The Cyklotec cyclone filter consists of a filter housing with damper, pressure tap and a number of filter cassettes. Each cassette contains ten cyclones (spiral formed cylinders).

The Cyklotec has uniquely effective grease separation even at variable air flow rates. The effective filtering minimizes the risk of fire and reduces maintenance of the duct system. The filter's design prevents clogging which always guarantees the correct exhaust air flow.

Since each filter cassette functions within a broad flow rate range, kitchens' needs are normally met using a small number of cassettes. The cassettes are easily removed and cleaned in the dishwashing machine.



A filter cassette consists of ten cyclones. The cassettes are easily removed for cleaning in the dishwashing machine

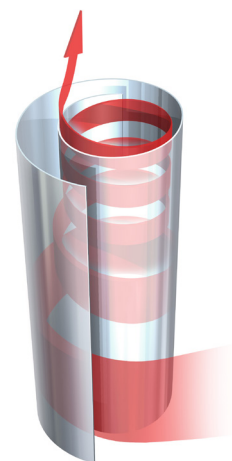
Function

The exhaust air rate in the cyclone determines how effectively the separation of particles occurs. Higher speeds make for more effective separation but also a larger pressure drop. In the range of 20-90 Pa, the cyclone filter works effectively at a low noise level.

The Cyklotec separates all particles larger than 7 µm at the recommended flow and 9 µm at 50% rate. For this reason the Cyklotec can be used in kitchens where the fan is used at both full and 50% rates and retain adequate particle separation.

Proposal for description text

Cyklotec cyclone filter with 100% collection of particles; 7 µm at recommended flow and 9 µm at 50% flow.



1. Air containing grease flows into the cyclone
2. When the air circulates at a great speed in the cyclone the grease and particles are hurled against the walls of the cyclone due to the centrifugal forces exerted
3. Grease and grime drip down the walls to the filter's collection vessel
4. The filtered air flows out of the cyclone filter and is transported into the exhaust duct



The Cyklotec's filter cylinder has a unique spiral design that creates an accelerated air speed. The aerodynamic design provides much higher air speeds even at low air flow rates.

Design

Filter housing in brushed stainless steel sheet metal. Sleeve coupling connections with damper. Pressure tap. Filter cassette in stainless steel sheet metal. Filter cassettes can be replaced with a piece of blank sheet metal.

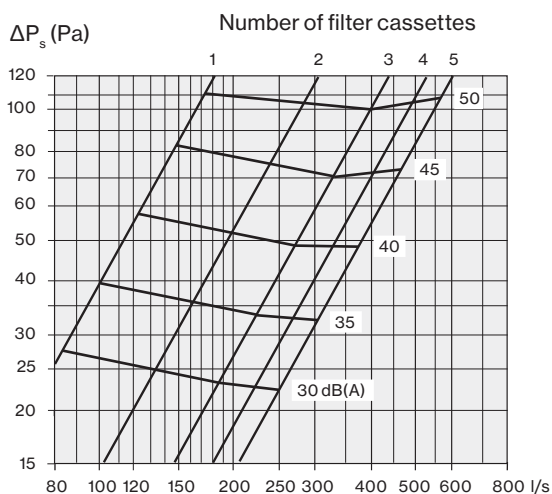
Exhaust air

The number of filter cassettes in the Cyklotec cyclone filter is determined by the exhaust air flow. A pressure drop of at least 20 Pa through the filter is recommended for efficient separation. This corresponds to the lower exhaust air flow in the table below. At the higher air flows the pressure drop is 80-90 Pa.

Exhaust air l/s	Number of filter cassettes	ØD _c mm	L _c mm
60 - 150	1	250	295
120 - 250	2	315	400
170 - 340	3	400	620
215 - 430	4	400	840
250 - 520	5	400	1060

Airflow - Pressure drop - Sound level

Reported dB(A) values apply at 10 m² Sabine, which corresponds to an attenuation of 4 dB.

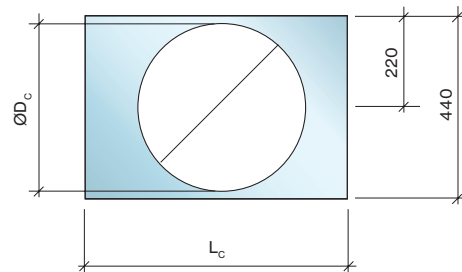
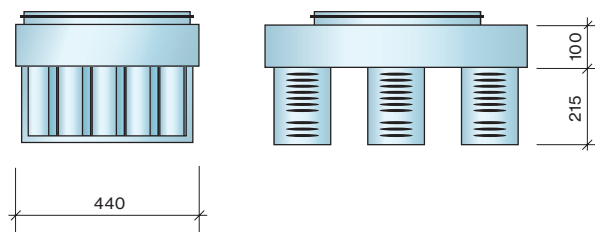


Sound power level

The sound power level L_w (dB), divided into octave bands, is obtained by adding the following correction Kw to the noise level in question. L_w = LA + Kw (dB).

Table K_w - exhaust air

Cyclone filter	Frequency, Hz							
	63	125	250	500	1K	2K	4K	8K
Cyklotec	7	6	5	4	-4	-9	-15	-29

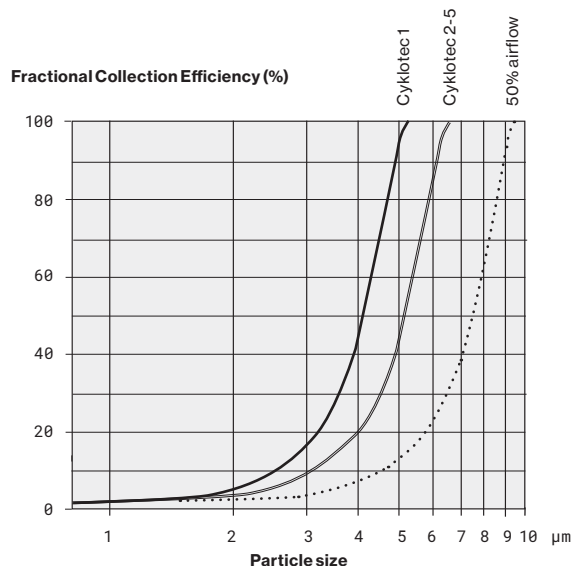


ØD_c = diameter exhaust air connection

L_c = filter housing length

Particle collection efficiency

The efficiency of the filter has been measured by a certified test institute according to standard VDI 2052. The diagram shows the filter's particle collection efficiency at the recommended (80 Pa) and 50% air flow (20 Pa). Note that even at 50% flow rate all particles > 9 µm are separated.



Sound attenuation

Reported sound attenuation ΔL (dB) regards the total sound reduction between the duct and room including end reflection.

Table ΔL (dB) - exhaust air

No of filter cassettes	Frequency, Hz							
	63	125	250	500	1K	2K	4K	8K
1	20	15	9	5	3	3	2	2
2	17	12	7	3	3	3	2	3
3	15	10	6	3	2	2	1	2
4	14	9	5	2	2	1	0	1
5	13	8	4	2	1	1	1	0