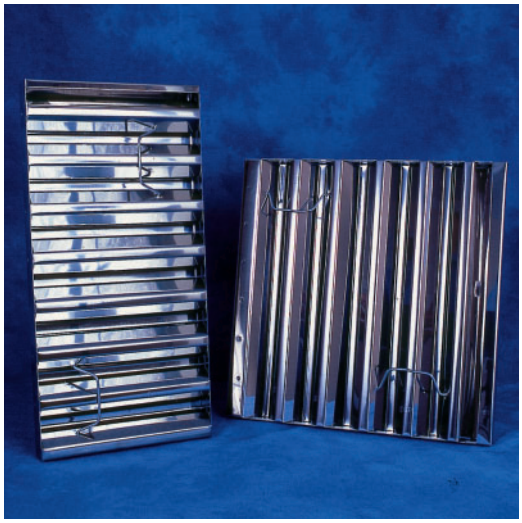
AIRGARD TYPE 3 BAFFLE FILTER

LONGAR
INDUSTRIES LIMITED



HOW AIRGARD TYPE 3 WORKS

The effluent from cooking processes contains aerosols of water vapour mixed with evaporated fat or oil. These are carried from the cooking surface by the moving air being drawn into the exhaust hood. Although small, each aerosol is much heavier than the air molecules surrounding it. Thus, when the air stream containing these aerosols strikes the Airgard baffle system, the inertial force of the moisture-grease aerosol is considerably greater than that of the air molecule. While the air molecule changes direction easily, the aerosol strikes the baffle with considerable force, causing it to “splatter” on the surface.

Whereas the heaviest aerosols, because of their greater inertial force, impinge on the surfaces of the baffles facing and perpendicular to the air flow, the lighter ones remain in the air stream. As the air stream is drawn through the baffle system, the restrictions in area created by the baffles cause the air to increase in velocity while changing direction by 180 degrees. Since the inertial force is a product of mass and the square of the velocity, this increase in velocity serves to increase the inertial force of the remaining smaller aerosols, causing them to impinge on the inner surfaces of the baffle in the same manner in which the heavier aerosols impinged on the initial surfaces. The design of the baffle system provides several impingement surfaces and two rapid, 180 degree direction changes. The grease then slides down to the collection container.

FEATURES

- Available in stainless steel & aluminium.
- Airgard Type 3 incorporates a unique ‘Frameless’ design with full filter height baffles.This feature maximises the filter’s available capture area, while at the same time increasing the filter’s free area.
- Unlike other equivalent filters on the market, it is impossible for the grease laden air to ‘short circuit’ or avoid making the turns through our full filter height overlapping baffle system.
- Two piece die-stamped construction makes the baffles a structural part of the filter and increases the overall strength
- 85-90% efficient as tested by U.L.C.
- The full filter height and overlapped baffles of the Airgard Type 3 filter guarantee that we filter 100% of the grease laden air 100% of the time.
- Two handles included at no additional cost.

85-90% EFFICIENCY

It has been proven by the Underwriters' Laboratories of Canada that the Airgard Type 3 has the highest rate of grease extraction of any filter on the market, while still maintaining extremely low static pressures. Quoting U.L.C. File #CR1157, it was stated that "the quantity of grease passing through the filter to the exhaust duct did not exceed 20% of the amount generated". (A full copy of this report can be obtained on request.)

QUALITY OF CONSTRUCTION

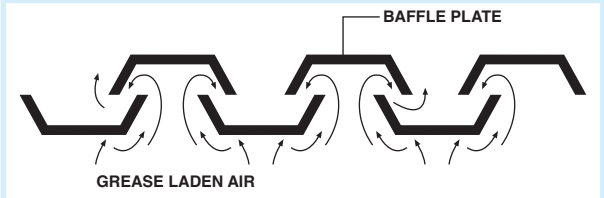
All Airgard Type 3 filters are manufactured from steel for long life, durability and resistance to fire. The welded construction of the filter means that, with normal care, the Airgard Type 3 should easily give 5 to 10 times the useful life of other filters.

The durability of Airgard Type 3 is quite exceptional. The welded construction prevents bending or warping, which is a very common fault in filters from other manufacturers. This fault causes other filters to lie unevenly in the hood, creating gaps between the filters. As air and grease will always flow in the path of least resistance, the grease laden air will flow through these gaps, circumventing the filters and lining the plenum and ductwork with heavy coatings of grease.

Fire tests have shown that the Airgard Type 3 retains structural integrity at temperatures in excess of 2200 degrees for extended periods of time.

BAFFLE DESIGN

Airgard Type 3 has U-shaped baffles developed after extensive testing. The smooth, deep baffles create an even air flow that extracts grease and resists flame penetration without disturbing the movement of air. Many of our competitors use a convoluted baffle design which they state increases grease extraction. In reality these baffle designs cause such a restriction of air flow that they create low face velocities. These low face velocities carry the air so slowly through the filter that the majority of the grease passes through the filter and is carried into the ductwork. In addition, the uneven design of the baffle causes increased air turbulence creating erratic face velocities, air pulsing and, in many cases, blower cavitation. All these factors lead to erratic and poor grease extraction.



STANDARDS

The National Evacuation Services Committee of the Council of American Building Officials, a co-operative organisation which now provides uniform standards for the entire United States, recognises the Airgard Type 3 when installed with the manufacturer's recommendation and the following table:

Pressure Drop – Pascals

Airflow	Filter Size									
M^3/sec	10×16	10×20	16×16	16×20	16×25	20×16	20×20	20×25	25×16	25×20
0.09	85	47	30	17	12	22	10	7	12	7
0.14	209	120	82	47	30	57	27	17	32	17
0.19	363	207	142	82	52	102	47	32	57	32
0.23	565	318	214	124	80	152	72	48	88	48
0.28	814	463	316	182	115	224	104	70	129	72
0.33	1108	630	430	246	157	306	142	95	174	97
0.38		827	562	324	204	396	184	122	229	126
0.42		1043	715	408	259	508	234	159	291	162
0.47			864	505	319	620	291	194	355	197
0.52			1063	607	386	757	348	236	433	242
0.56				727	458	894	416	281	515	286
0.61				852	540	1060	490	331	607	336
0.66					627		568	383	702	388
0.71					719		650	440	806	448

All tests conducted by Cert-Aire Technical Services to AMCA Standard 500-89

Underwriters' Laboratories of Canada	Guide No. 440E13	File No. CR1157
City of New York Department of Buildings	No. MEA 184-81-M	Accepted for Use
National Fire Protection Association	Standard No. 96	Meets All Requirements

SIZE/INSTALLATION

Airgard Type 3 filters should always be installed with the baffles in a vertical position, to allow the grease particles to be drawn into the collection system by gravity. Standard sizes are ordered with the vertical (top to bottom) dimension stated first, followed by the horizontal (left to right) dimension.

A complete list of government and industry approvals is available on the request.

UNDERWRITERS' LABORATORIES INC.

Airgard Type 3 grease filters are classified by Underwriters' Laboratories Inc as to flammability after exposure to grease-laden air only. Guide AKUS, File R6593, Control #854G. See Underwriters' Laboratories Classified Building Materials Index.

STAINLESS STEEL FILTER

Height of Grease Filters	
Type of cooking Equipment	**Height Above Cooking Surface (m)**
Without Exposed Flame	0.15
Exposed Flame	0.60
Charcoal Burning	0.60

Recommended operating velocity range for the removal of grease	
Airgard Type 3 aluminium	0.5 m/sec to 3.5 m/sec
Airgard Type 3 stainless	0.5 m/sec to 3.5 m/sec
Airgard grease filters will continue to extract grease at velocities higher than 3.5 m/sec.	
There will be slight penalties paid in the form of higher static pressures and increased energy costs.	

Longar Industries Limited
Unit 25, Glenmore Business Park, Colebrook Way, Weyhill Road, Andover SP10 3GZ
Tel: 01264 332993 Fax: 01264 332994

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Longar Industries Limited reserves the right to change any of the information within this literature.