

# KCF – Air Conditioning Ceiling for Kitchens



The KCF ventilated ceiling is a flexible solution for kitchen ventilation where the heat loads are relatively low and aesthetics are a concern.

The KCF is assembled from extract and supply modules, light units and ceiling panels, that can be designed to fit any space requirement.

The ventilated ceiling can easily integrated Halton canopies where heat loads are intense.

- Draft free air distribution into the working zone from low velocity ceiling mounted panels.
- High efficiency grease filtration using Halton's KSA 'Multi-cyclone' filters –removal of 95% on particles at a size of 8 microns or above - \*UL and \*\*NSF classified.
- Modular construction simplifies design, installation and maintenance.
- Stainless steel, welded construction (AISI 304)

## QUICK DATA

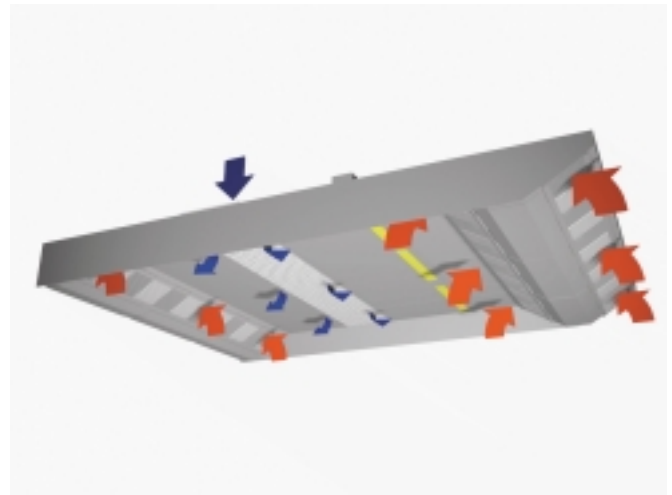
Units	Recommended air flows	
	l/s / m	m <sup>3</sup> /h / m
E1 (Exhaust, Wall model)	160	576
E2 (Exhaust, Island model)	320	1152
S1 (Supply, Width 350 mm)	130	468
S2 (Supply, Width 500 mm)	195	700

\* UL =Underwriters Laboratories (UL is an independent organization founded by the insurance industry in the U.S.A, giving approvals to safety tested products).  
\*\* NSF =National Sanitation Foundation (promoting hygiene and sanitation in the U.S.A)

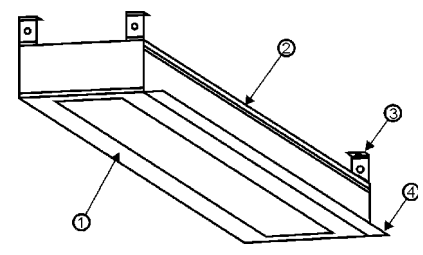
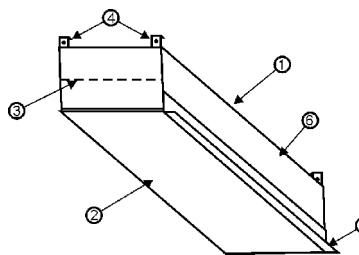
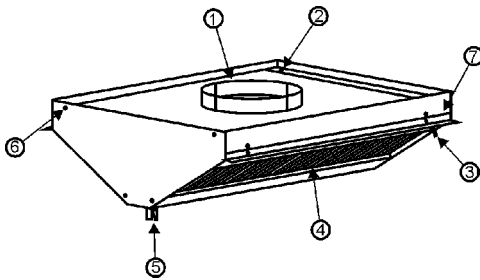
## FUNCTION

The contaminated hot air is extracted by the exhaust units equipped with KSA filters located in the ceiling. The supply air is brought without draught into the kitchen through low velocity units located at the extremities of the kitchen or between the cooking equipment, above the workers.

Correct lightning level can be achieved by locating light fitting above the working area.



## CONSTRUCTION



E1 and E2 units are manufactured in 1 mm thick stainless steel AISI 304 polished. The joints are TIG welded to avoid harmful dripping of water. Plenum roof is in galvanized steel

The units are equipped with extract spigots and damper (1), fixing holes of module (2), pressure measurement tap (3), KSA filters (4) or blind filters, drain tap (5), prepunch holes for joining module sections (6), support panels (7)

The units are equipped with supply spigots and damper (1), stainless steel perforated front panel (2), internal parts (3) in galvanised steel, hanging and joining brackets (4), support panels (5), outer casing (6) from galvanised steel.

The unit is provided with access hatch (1) stainless steel AISI 304, surrounded by tempered glass light diffuser, outer casing (2) is from galvanised steel, hanging and joining brackets (3), support panel (4). 3x1 mm<sup>2</sup>, core electrical cable connecting the light fitting to the conduit box containing multiple connectors is provided.

## DIMENSIONS

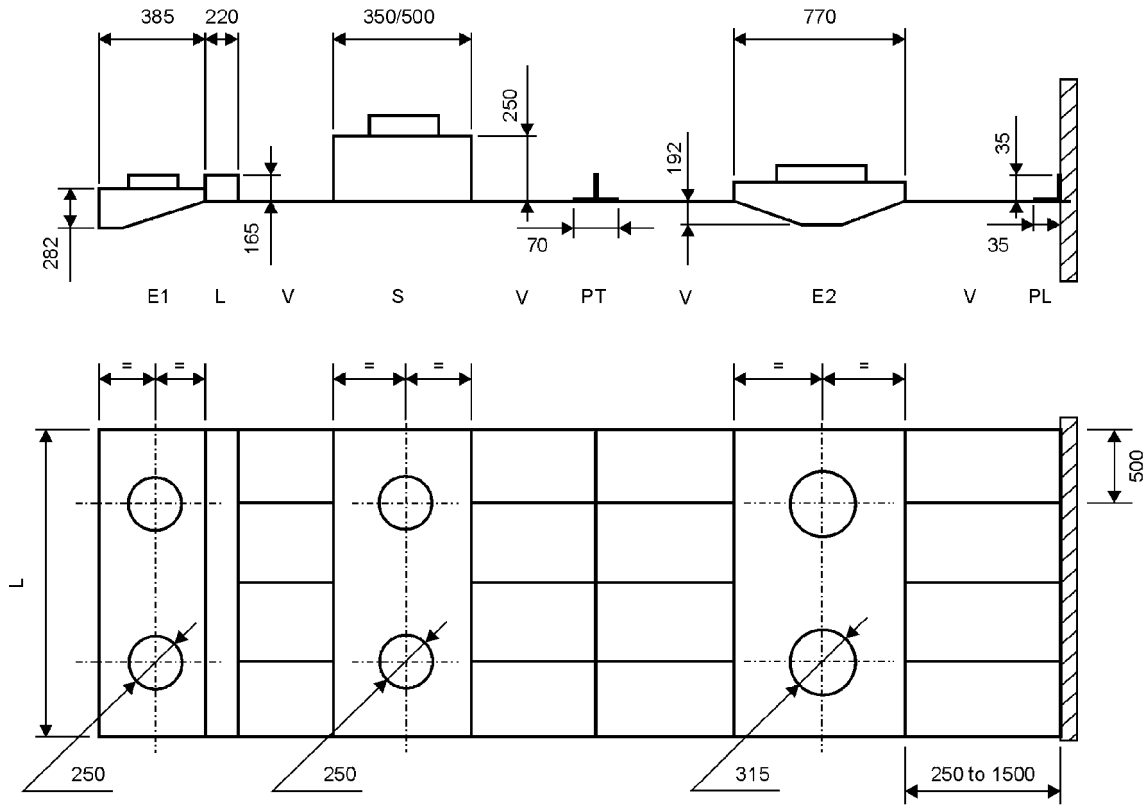
		Light power
E1	1500	1 x 250
	2000-2500-3000	2 x 250
E2	1500	1 x 315
	2000-2500-3000	2 x 315
S	1500-2000	2 x 250
	2500-3000	
L	1000	1 x 18w
	1500	2 x 36w
	2000	2 x 58w
	2500	2 x 36w + 2 x 18w
	3000	2 x (2 x 36)w
V	150 to 1500	

Contact your local Halton office or representative for special requirements.

## ACCESSORIES

- Profile – PL / PT
- Cover Board - J
- Infill Panels
- KSA grease filter
- Blind filter in stainless steel
- Non-standard spigots
- Supply control damper – MSM (optional)
- Exhaust/supply roof in stainless steel

# DIMENSIONS (mm)



## E1- Wall model, Exhaust

L	1000-1500-2000-2500-3000
D	1x D250, L ≤ 1500 – 2xD250, L > 1500

## E2- Island model, Exhaust

L	1000-1500-2000-2500-3000
D	1x D315, L ≤ 1500 – 2xD315, L > 1500

## S - Supply

L	1000-1500-2000-2500-3000
D	1x D315, L ≤ 1500 – 2xD315, L > 1500
Width	350, 500

## L - Light

L	1000	1500	2000	2500	3000
Power (W)	2x18	2x36	2x58	2x54	2x2x36

## V - Panels

L	250... 1500
Width	500

## Weights of ceiling Kg

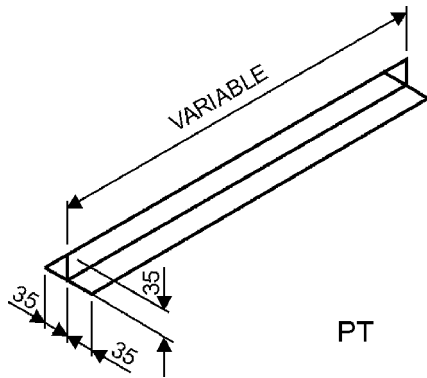
15 to 20 kg / m<sup>2</sup>



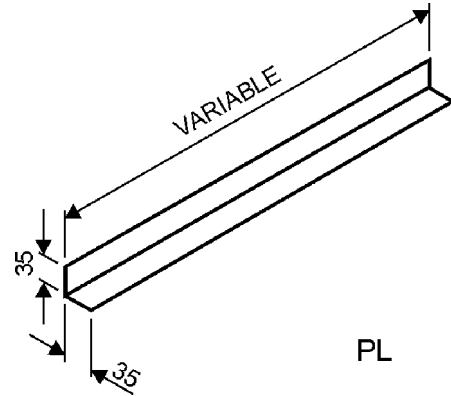
# ACCESSORIES

## Profile - PL / PT

PL is a single profile ceiling tile support used to fit V-Panels against the wall. PT is a double L profile for suspension between 2 V panels of length up to 1.5 m long.



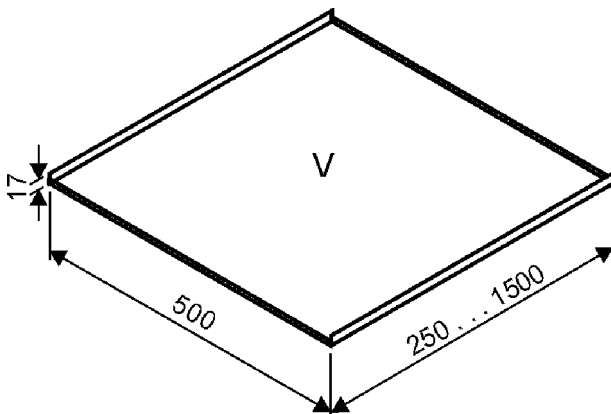
PT



PL

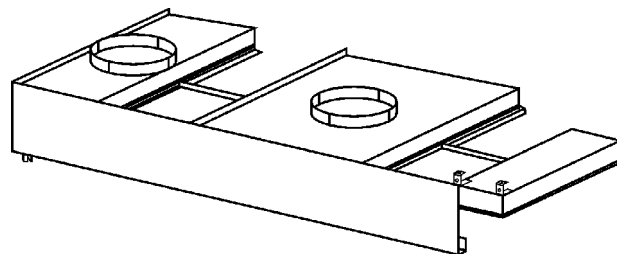
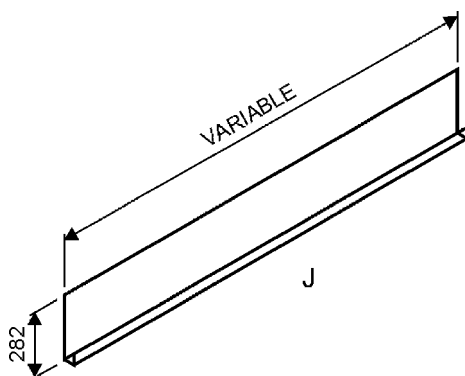
## V - Panels

The stainless steel ceiling V panels are used to fill the space between the different row units.



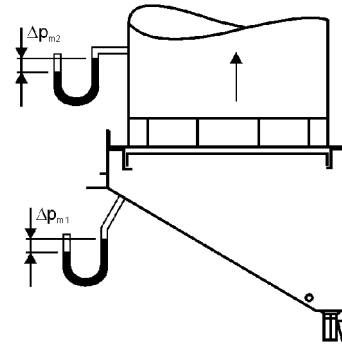
## Cover Board - J

Cover boards are used to close the edges of the ceiling where necessary. They are manufacture in stainless steel AISI 304 and designed with a collecting drain channel.



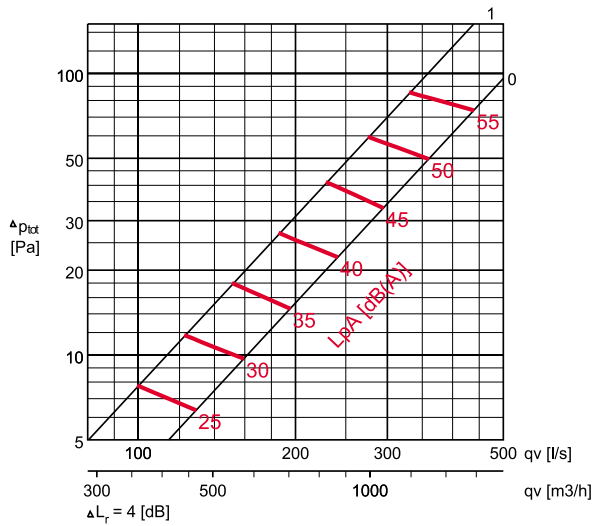
# PRESSURE DROP AND SOUND DATA, EXHAUST

- $\Delta p_{m1}$  = Pressure loss of filters measured from measuring tap, minimum exhaust pressure loss when the damper plate is open
- $\Delta p_{m2}$  = Maximum exhaust pressure loss when the damper plate is nearly closed
- 0,1.. = Numbers of blind filter

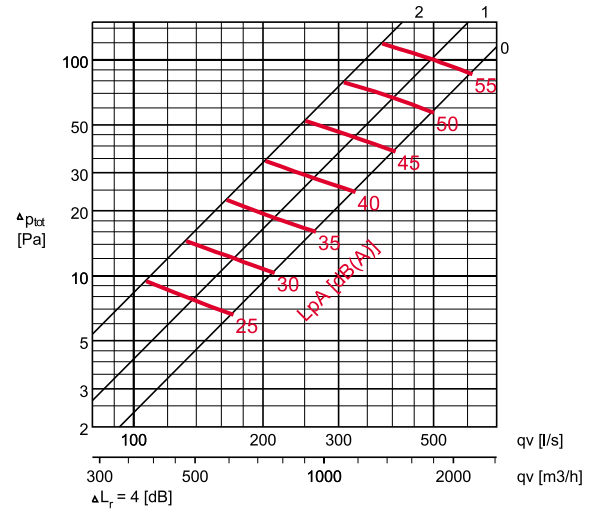


Recommended pressure loss of filters  $\Delta p_{m1}$  25-100 Pa

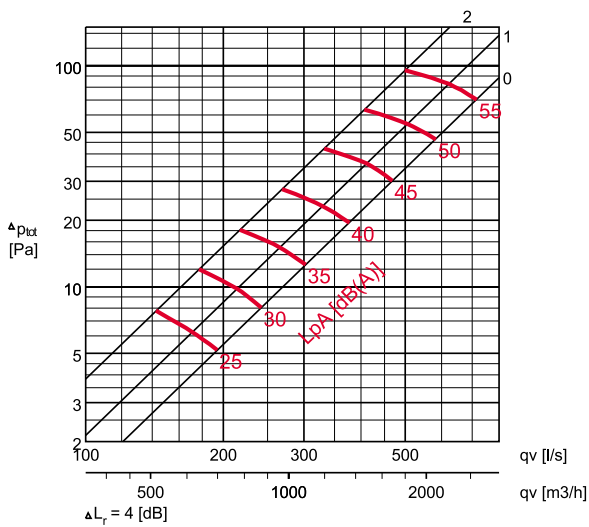
## E1 1500



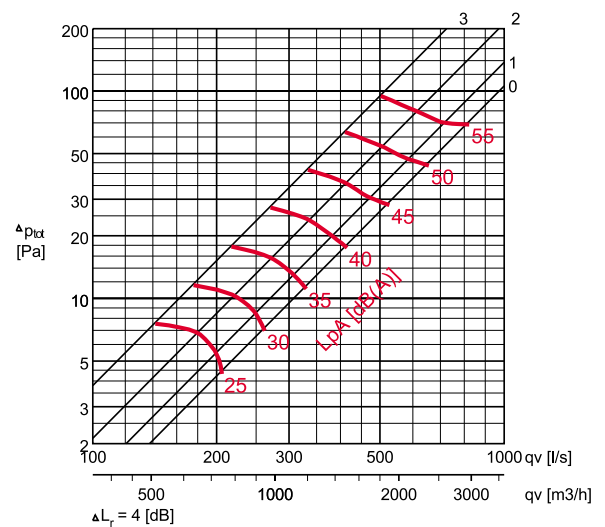
## E1 2000



## E1 2500

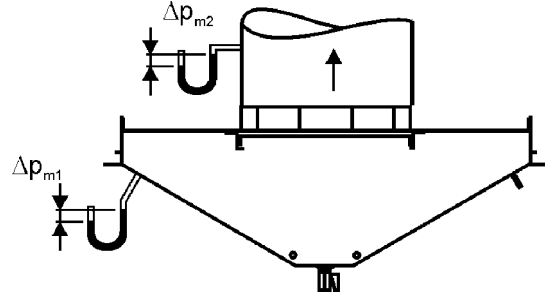


## E1 2500



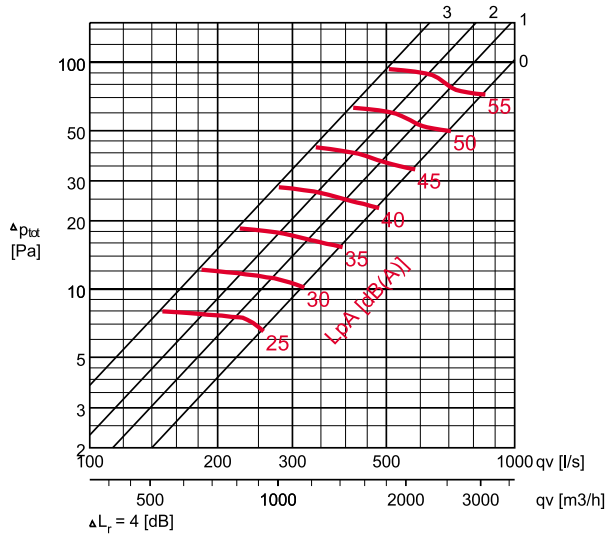
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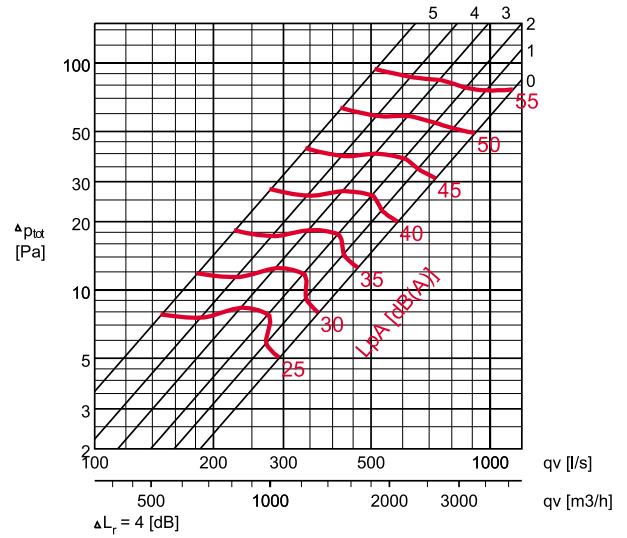


Recommended pressure loss of filters  $\Delta p_{m1}$  25-100 Pa

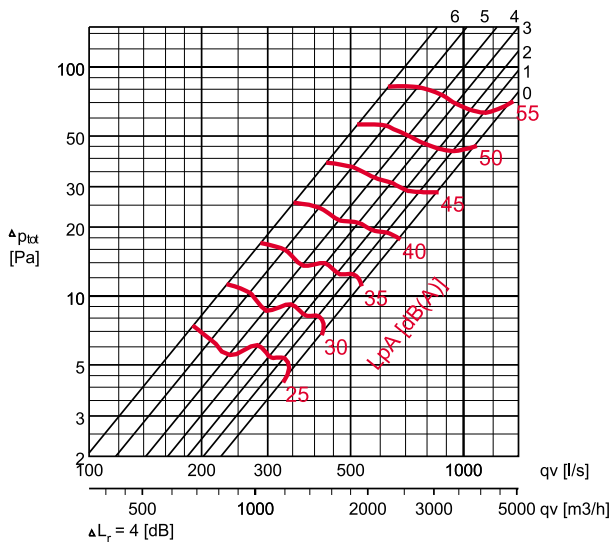
## E2 1500



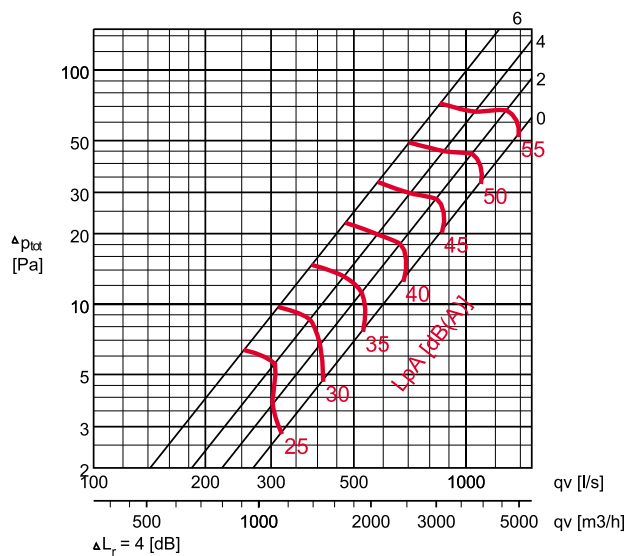
## E2 2000



## E2 2500



## E2 3000



# PRESSURE DROP AND SOUND DATA, SUPPLY

Q <sub>s</sub> Air flow			X : distance in m from the unit face										L <sub>pA</sub> (dBA)
m <sup>3</sup> /h	l/s	Δp <sub>tot</sub> Pa	0,4	0,6	0,8	1	1,2	1,4	1,6	1,8	2		
UNIT S 1500x350			V: maximum velocity in m/s										
500	139	9	0,85	0,63	0,47	0,34	0,24					24	
600	167	13	0,92	0,69	0,53	0,41	0,31	0,23				31	
800	222	24	1,05	0,83	0,67	0,55	0,45	0,36	0,29	0,22		34	
900	250	31	1,12	0,90	0,74	0,62	0,52	0,43	0,36	0,29	0,23	37	
1000	278	38	1,19	0,97	0,81	0,69	0,59	0,50	0,43	0,36	0,30	40	
1200	333	54	1,33	1,11	0,95	0,82	0,72	0,64	0,56	0,50	0,44	45	
UNIT S 2000x350													
600	167	7	0,83	0,60	0,44	0,32	0,22					26	
800	222	13	0,93	0,71	0,55	0,43	0,33	0,24				31	
1000	278	20	1,04	0,82	0,66	0,53	0,43	0,35	0,27	0,21		37	
1200	333	31	1,15	0,92	0,76	0,64	0,54	0,45	0,38	0,32	0,26	43	
1400	389	42	1,25	1,03	0,87	0,75	0,65	0,56	0,49	0,42	0,36	46	
1600	444	54	1,36	1,14	0,98	0,85	0,75	0,67	0,59	0,53	0,47	51	
UNIT S 1500X500													
700	194	9	0,84	0,62	0,46	0,34	0,24					29	
900	250	15	0,94	0,71	0,56	0,43	0,33	0,25				33	
1100	306	18	0,99	0,76	0,60	0,48	0,38	0,29	0,22			37	
1300	361	31	1,13	0,91	0,75	0,62	0,52	0,44	0,36	0,30	0,24	45	
1500	417	41	1,23	1,00	0,84	0,72	0,62	0,53	0,46	0,40	0,34	49	
1700	472	54	1,32	1,10	0,94	0,82	0,72	0,63	0,56	0,49	0,43	53	
UNIT S 2000x500													
1000	278	10	0,87	0,64	0,48	0,36	0,26					36	
1200	333	15	0,94	0,72	0,56	0,43	0,33	0,25				41	
1400	389	20	1,01	0,79	0,63	0,51	0,40	0,32	0,25			45	
1600	444	27	1,08	0,86	0,70	0,58	0,48	0,39	0,32	0,25		49	
1800	500	34	1,16	0,93	0,77	0,65	0,55	0,46	0,39	0,33	0,27	53	
2000	556	42	1,23	1,00	0,85	0,72	0,62	0,54	0,46	0,40	0,34	57	

V: maximum velocity measured under the diffuser placed in the horizontal position.

X: Distance between the measurement point and the surface of the diffuser

Δp<sub>tot</sub>: Pressure loss of the diffuser without damper

ΔL<sub>r</sub> (4) dB



# SPECIFICATIONS

General: The manufacture of all Halton kitchen canopies is to be controlled by an ISO9000 registered quality system, constructed from stainless steel to material specification AISI 304.

The kitchen ceiling shall be supplied complete with Exhaust modules (E1-E2), supply air modules (S), panels (V), pressure measurement taps, supply and extract air spigot connections with damper plates, light fixture, KSA grease filters, drain tap, adjustment for supply air and hanging brackets.

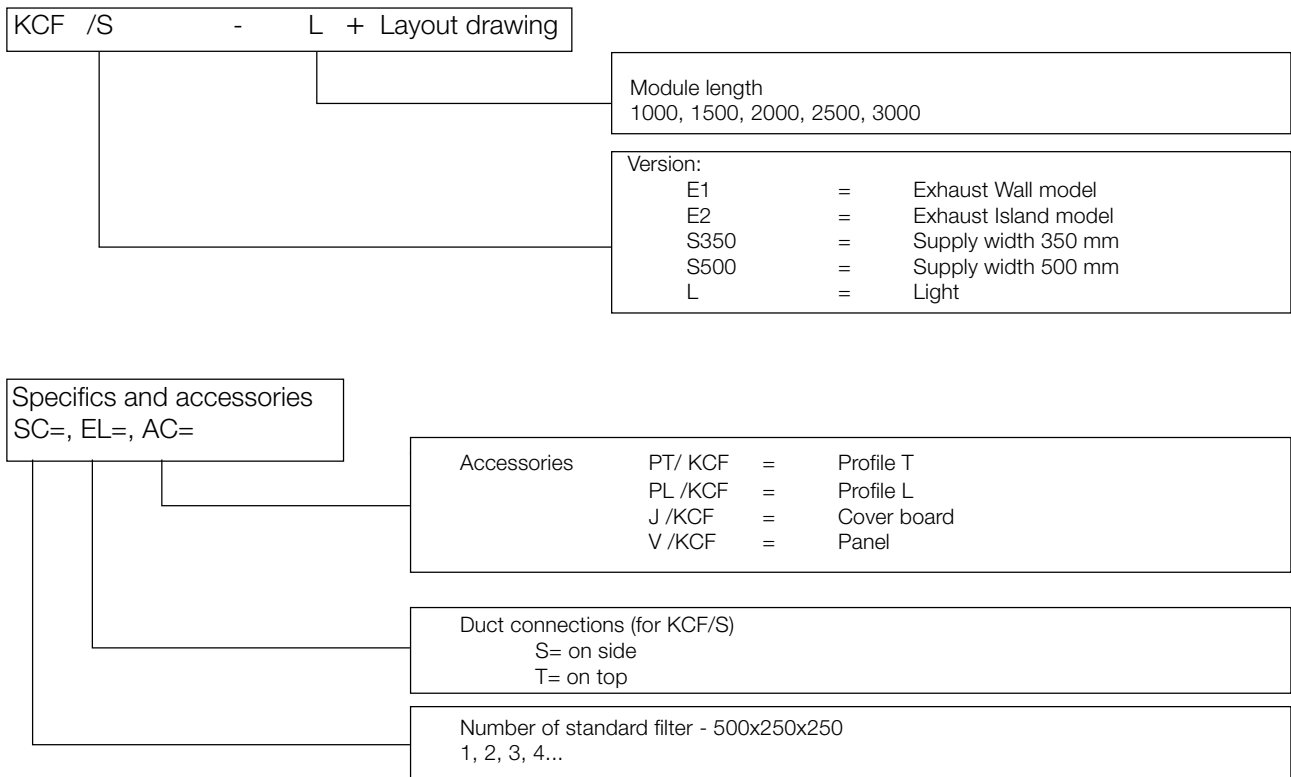
Outer casing panels of the exhaust modules shall be constructed of 1mm thick stainless steel sheet to AISI 304 in brushed satin finish. Each joint shall be tig welded. The modules shall be supplied with pressure measurement taps. The exhaust damper shall be adjustable and access to it is via the removal of the KSA grease filters. The KSA grease filters shall be supplied in modular size 500 x 250 x 50mm and shall be removable via two folding handles. The filters shall be constructed from stainless steel to AISI 304 and shall be NSF and UL classified. The spigot connections for extract air shall be constructed from galvanised

sheet steel and shall be supplied with a sealing gasket. The supply air plenum shall be provided with access by removal of main casing front panels.

The front panel shall be in perforated stainless steel that works as a low velocity supply diffuser, supplying draft free air distribution directly into the working zone. The casing plenum shall be constructed of galvanised steel. The spigot connections for supply air shall be constructed of galvanised steel and shall be supplied with a sealing gasket.

The light (L) shall be provided with an access hatch in stainless steel AISI 304 and be surrounded by a tempered glass light diffuser. Heat tolerance of the glass shall be -40 to +300° C. The hatch shall be hinged and held in position with screws. The light fixture shall be suitable for single phase 230V supply and shall be constructed to protection standard IP65. Ballast and capacitor shall be located within the light fixture housing. 3x1 mm<sup>2</sup>, core electrical cable connecting the light fitting to the conduit box containing multiple connectors shall be provided.

# PRODUCT CODE



EXAMPLE  
KCF/E1 – 1000, AC=J

