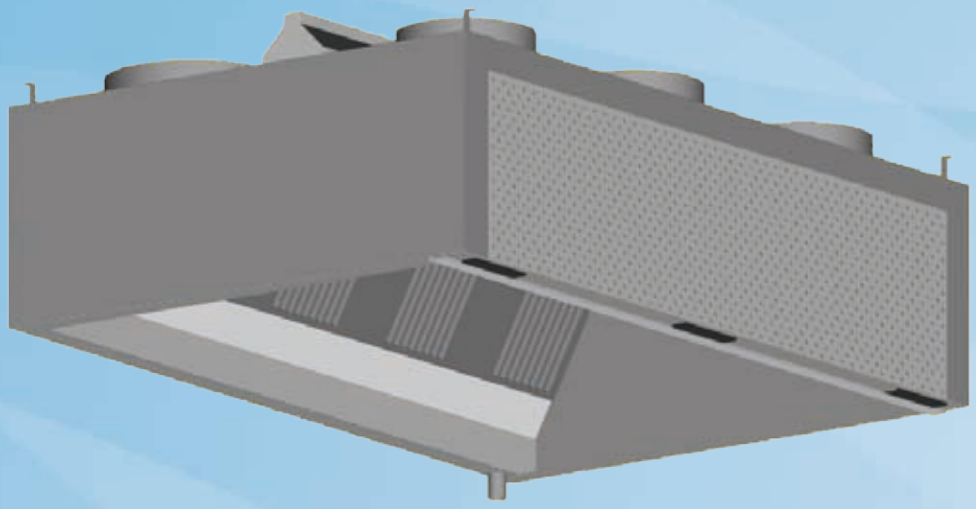
KVF

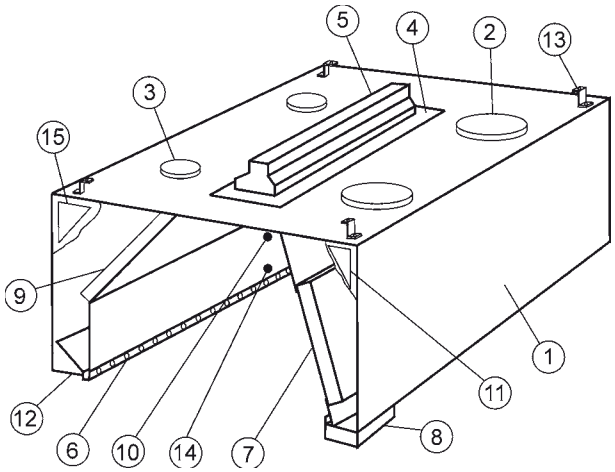
Capture Jet Canopy with Supply Air

20/KVF/xxxx/0306/EN



The KVF kitchen ventilation canopy is an advanced ventilation solution that helps to provide a comfortable, clean and hygienic environment within today's modern commercial catering facility.
The highly efficient KVF canopy includes Halton's Capture Jet™ technology, which allows the canopy to operate with up to 30% lower exhaust flows than traditional hoods. This utilizes the higher entrainment efficiency of a faster, compact Capture air jet to maximize the induction of room air into the canopy at the critical front face area, reducing the amount of air that normally 'spills' out into the kitchen and onto the chefs below.

- Halton's Capture Jet™ technology, reduces the exhaust air flow volume required and increases the capture and containment efficiency of the canopy, while reducing energy use.
- Draft free air distribution directly into the working zone from the front face, low velocity supply diffuser.
- High efficiency grease filtration using Halton's KSA 'Multi-cyclone' filters – up to 95% removal of particles at a size of 8 microns or above – *UL and **NSF classified.
- Individually adjustable 'personal' supply nozzles located within the front supply plenum – help to reduce the effects of the radiant heat given off by the cooking equipment.
- Supplied as standard with lighting, balancing dampers on both supply and exhaust air connections and T.A.B.™ testing and balancing taps which allow accurate and simple balancing and commissioning of the airflows.
- Stainless steel, welded construction (AISI 304).



CODE	DESCRIPTION
1	Outer casing - visible parts in stainless steel aisi 304
2	Exhaust air connection and adjustment damper
3	Supply air connection and adjustment damper
4	Installation hatch
5	Light fitting
6	Capture Jet™ nozzles
7	Ksa grease filters
8	Grease collection tray or drain tap
9	Thermal insulation
10	Adjustment wires for capture air
11	General exhaust (GE) with adjustment damper (optional)
12	Personal supply air nozzles
13	Assembly brackets
14	Rotary knob for adjustment of supply airflow pattern
15	General supply (GS) (optional)

Construction

The KVF canopy comprises of a supply air unit, light fitting, adjustment dampers, airflow measurement taps and KSA grease filters.
The exposed parts of the canopy are manufactured from polished stainless steel (AISI 304) and the unexposed parts from galvanised steel.
Joints on the lower edge are fully welded.
A discharge panel is integrated into the supply air unit for the Capture Jet supply.
A collection tray or a drain tap is fitted into the grease drain channel in order to enable the removal of the grease and dirt extracted by the KSA multi-cyclone filters.
The supply air plenum is thermally insulated using non-fibre releasing material to prevent vapours from condensing on the inner face of the canopy above the cooking equipment.
Testing and balancing taps (TAB) for airflow measurement are fitted to the exhaust plenum and the Capture Jet air plenum.

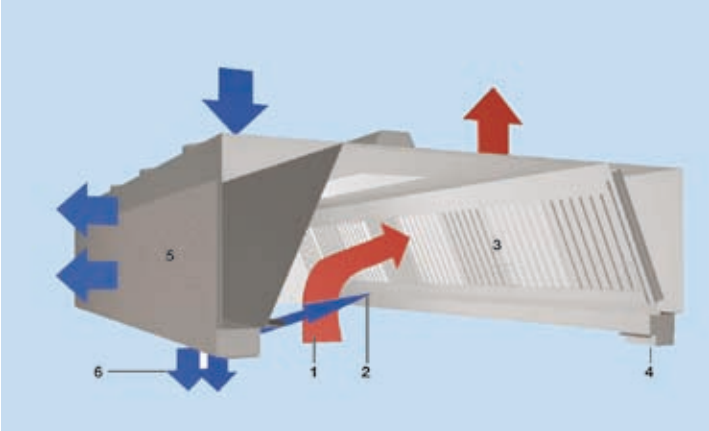
DIMENSIONS

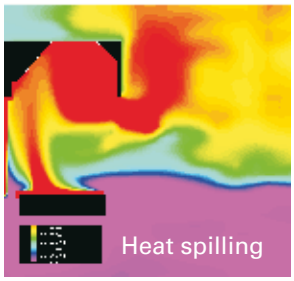
KVF	mm	
Length	1000....3000	
Width	1000....1700	
	2200....3400	for Island model -Two sections
	2000....2400	for Island model - One section
Height	555, 400	

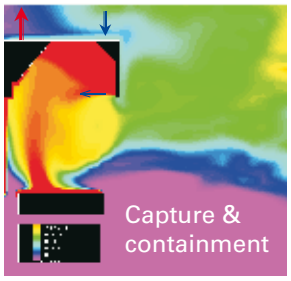
QUICK DATA

	Recommended Exhaust air volumes- HF=330 (std KSA filter)		Recommended Supply air volumes	
L	l/s	m^3/h	H=555 mm	H= 400 mm
1500	235...447	846...1610	100...200 l/s / meter length or 360...720 m^3/h / meter length LpA < 50 dB(A)	80...150 l/s / meter length or 288...540 m^3/h / meter length LpA < 50 dB(A)
2000	310...580	1116...2088		
2500	420...770	1512...2772		
3000	460...860	1656...3096		

Exhaust air volumes indicated above are for a recommended pressure loss of KSA filter between 35...120 Pa - LpA < 56 dB(A)
* 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 canopy above the cooking appliances contains the rising warm air and air contaminants (1).
The Capture Jets (2) direct the contaminated air towards the KSA grease filters (3), where grease particles and other impurities are separated from the exhaust air using the cyclone separation principle.
The extracted grease and other air contaminants flow into a drain channel towards the collection tray/drain tap (4).

Make-up air is distributed into the space at low velocity through the front panel of the canopy (5).
The throw pattern of supply air can be adjusted using the knob positioned inside the canopy.
Individually adjustable personal supply nozzles (6) can be used to increase, when necessary, air velocities in the working zone near cooking equipment in order to compensate for the effects of radiant heat emitted by the cooking equipment.

Accessories

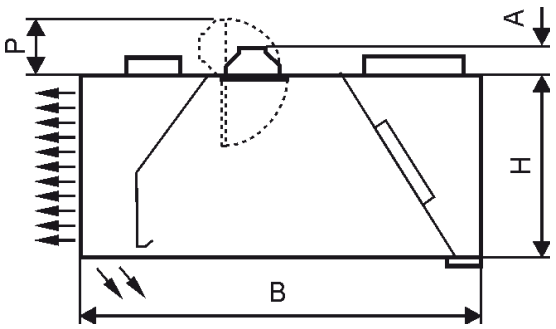
- General exhaust (GE) / General supply (GS)
- Cover Boards – where canopies are below ceiling level
- Infill Panels
- KSA grease filters
- Blind filter in stainless steel
- Integrated light fixture -IP65 (high T°)
- Surface mounted light – IP65 (Maxi. ambient T°: 35°C)
- Non-standard spigots sizes and position
- Canopy cut outs to fit around columns
- Exhaust/supply roof in stainless steel

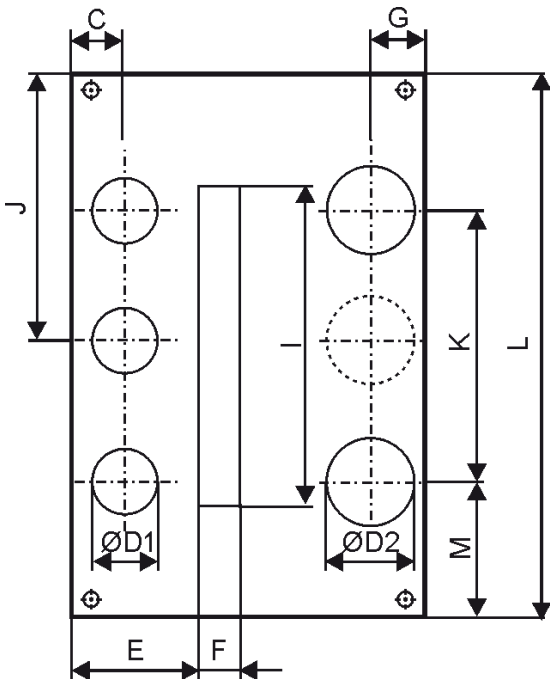
DIMENSIONS (mm)

KVF – 1- Wall model	
L	1000.....3000
B	1000.....1700
H	555, 400
D1	250
D2	315
G	220
C	180

Note: The dimensions above are for modular sections only; larger canopies are assembled using a combination of separate modules, which makes transportation and site handling easier.

Light	
A	115
P	190
F	190
E	390 (B 1100), 490 (B>1100)
I	680 (L<1400, 2x18w), 1285 (L 1400, 2x36w)





LOCATION OF CONNECTIONS (mm)

For typical sizes

		Exhaust		Supply		
		2x315	1x315	2x250	3x250	3x250
L	M	K	J	K	J	K
1500	375	750	L/2	750	–	–
2000	500	1000	L/2	1000	L/2	1000
2500	500	1500	L/2	1500	L/2	1500
3000	500	2000	L/2	2000	L/2	2000

WEIGHTS (KG)

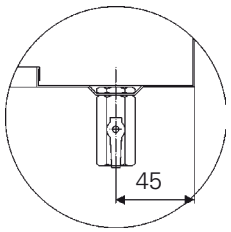
400 mm

L/B	1100	1300	1500	1700
1500	68	73	78	83
2000	83	88	93	99
2500	96	101	116	123
3000	110	116	145	153

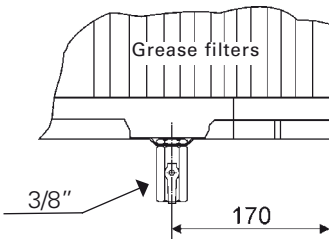
555 mm

L/B	1100	1300	1500	1700
1500	73	78	83	88
2000	90	95	100	106
2500	105	112	118	125
3000	120	129	139	147

Position of Drain tap, when fitted

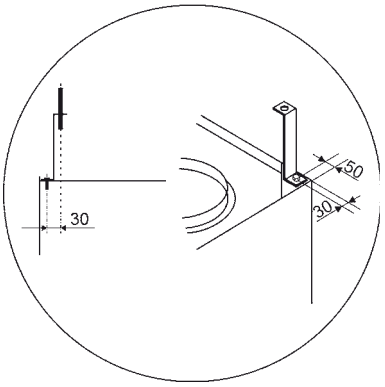


Side view



Front view

Mounting bracket 150 mm high

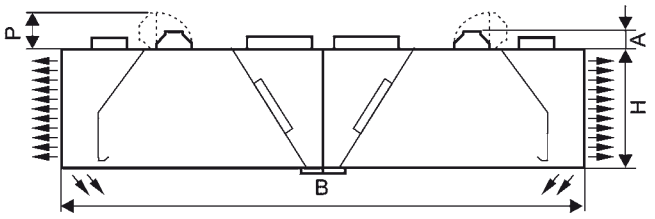


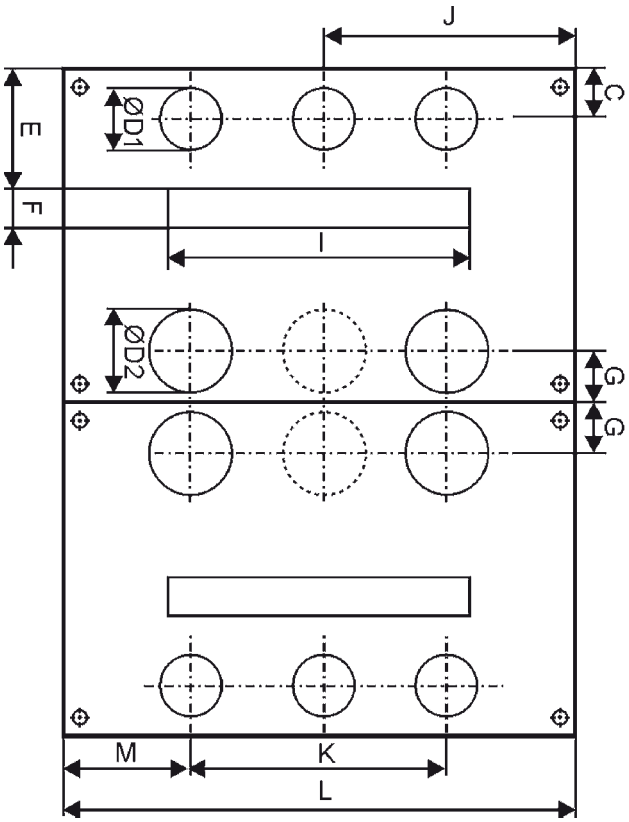
DIMENSIONS (mm)

KVF - 2 - Island model - Two sections	
L	1000.....3000
B	2000.....3400
H	555, 400
D1	250
D2	315
G	220
C	180

Note: The dimensions above are for modular sections only; larger canopies are assembled using a combination of separate modules, which makes transportation and site handling easier.

Light	
A	115
P	190
F	190
E	390 (B ⩽ 1100), 490 (B>1100)
I	680 (L<1400, 2x18w), 1285 (L ⩾1400, 2x36w)





LOCATION OF CONNECTIONS (mm)

For typical sizes

		Exhaust		Supply		
		2x (2x315)	2x (1x315)	2x (2x250)	2x (3x250)	2x (3x250)
L	M	K	J	K	J	K
1500	375	750	L/2	750	–	–
2000	500	1000	L/2	1000	L/2	1500
2500	500	1500	L/2	1500	L/2	1500
3000	500	2000	L/2	2000	L/2	2000

WEIGHTS (KG)

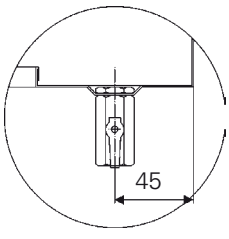
400 mm

L/B	2200	2600	3000	3400
1500	136	146	156	166
2000	166	176	186	198
2500	192	202	232	246
3000	220	232	290	306

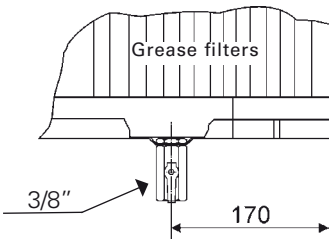
555 mm

L/B	2200	2600	3000	3400
1500	146	156	166	176
2000	180	190	200	212
2500	210	224	236	250
3000	240	258	278	294

Position of Drain tap, when fitted

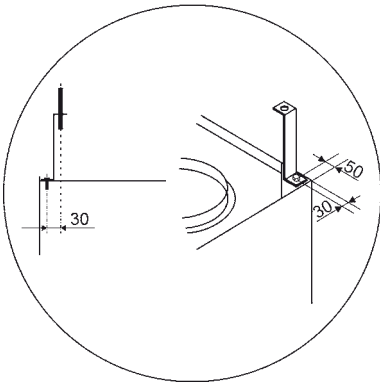


Side view



Front view

Mounting bracket 150 mm high

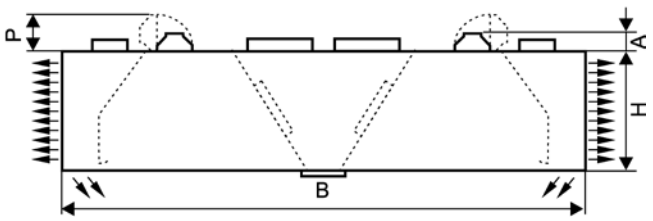


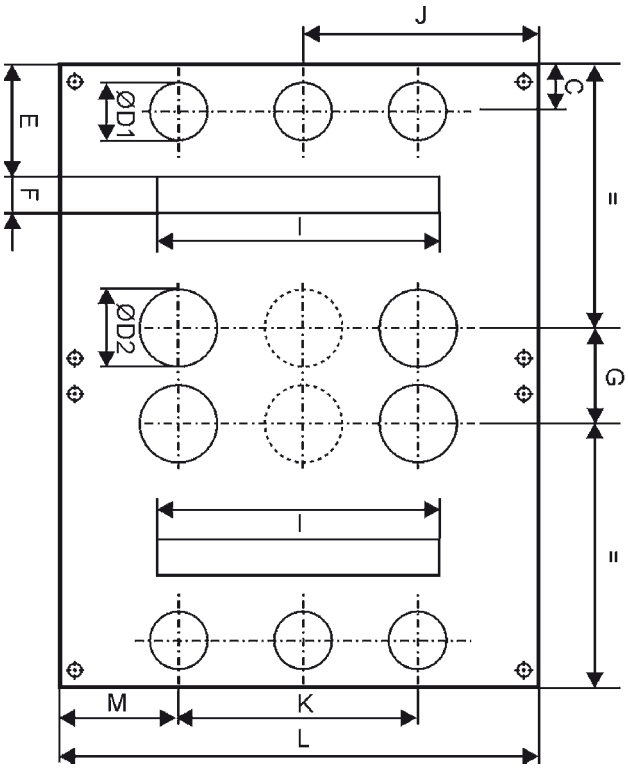
DIMENSIONS (mm)

KVF - 2 - Island model - One section	
L	1000.....2500
B	2000.....2400
H	555, 400
D1	250
D2	315
G	440
C	180

Note: The dimensions above are for modular sections only; larger canopies are assembled using a combination of separate modules, which makes transportation and site handling easier.

Light	
A	115
P	190
F	190
E	390 (B 1100), 490 (B>1100)
I	680 (L<1400, 2x18w), 1285 (L⩾1400, 2x36w)





LOCATION OF CONNECTIONS (mm)

For typical sizes

		Exhaust		Supply		
		2x (2x315)	2x (1x315)	2x (2x250)	2x (3x250)	2x (3x250)
L	M	K	J	K	J	K
1500	375	750	L/2	750	–	–
2000	500	1000	L/2	1000	L/2	1000
2500	500	1500	L/2	1500	L/2	1500

WEIGHTS (KG)

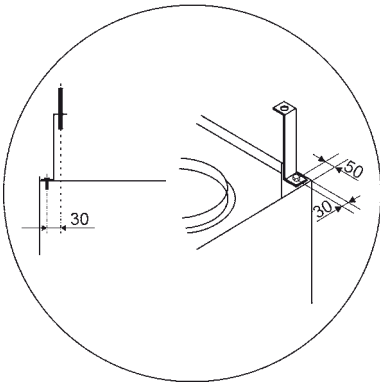
400 mm

L/B	2000	2200	2400
1500	114	124	134
2000	144	154	164
2500	170	180	190

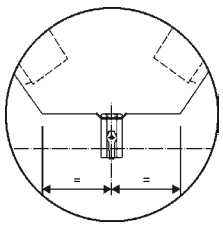
555 mm

L/B	2000	2200	2400
1500	124	134	144
2000	158	168	170
2500	188	198	208

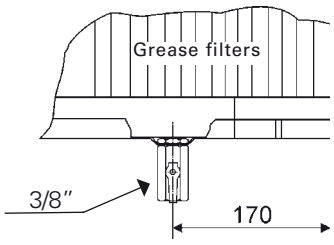
Mounting bracket 150 mm high



Position of Drain tap, when fitted



Side view



Front view

Pressure drop and sound data, exhaust

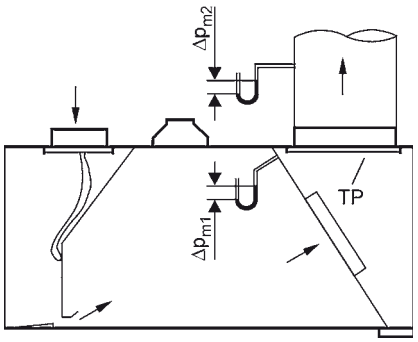
H= 555/400, HF= 330 (Std KSA filter)

Δp_{m1} = Pressure loss of filters measured from measuring tap, minimum exhaust pressure loss when the damper plate is open

Δp_{m2} = Maximum exhaust pressure loss when the damper plate is nearly closed.

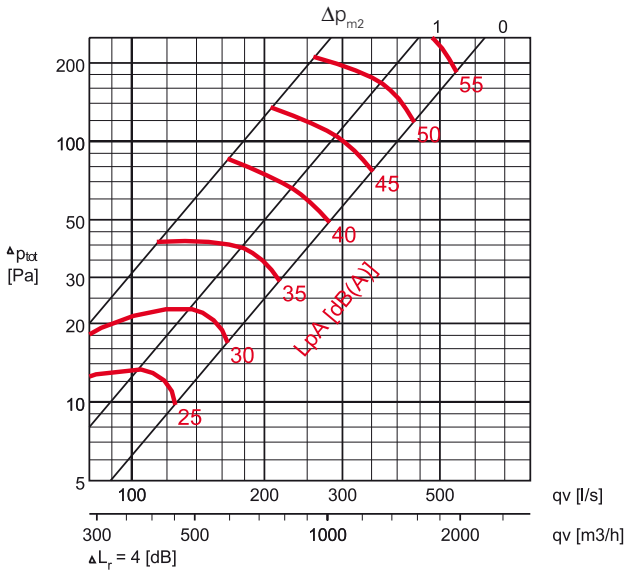
TP = Damper plate

0,1. = Numbers of blind filter

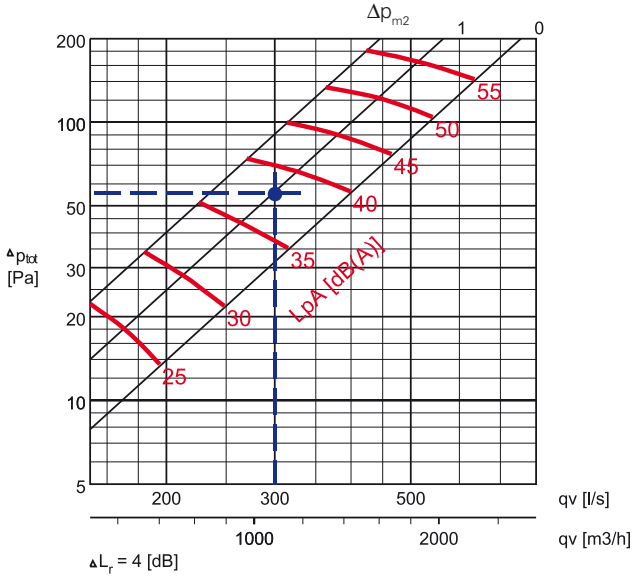


Recommended pressure loss of filter Δp_{m1} 35-120 Pa

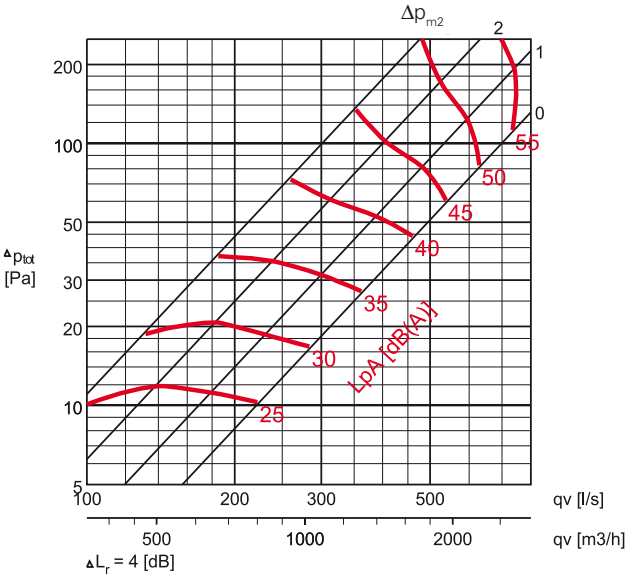
KVF-1500



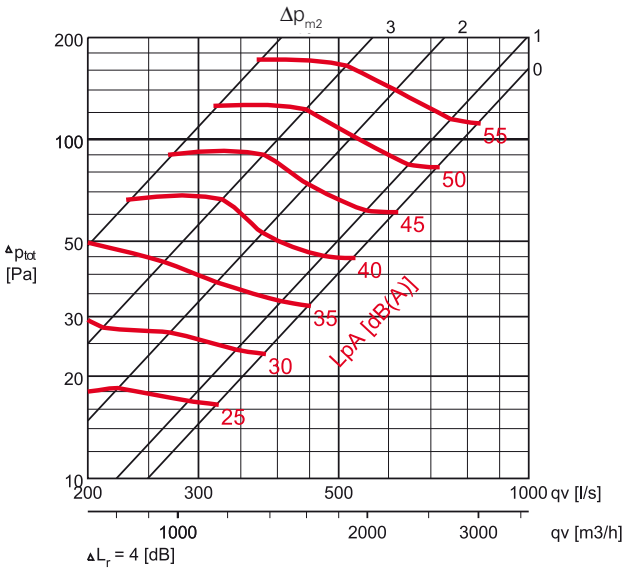
KVF-2000



KVF-2500



KVF-3000



Example: KVF/1 - 2000 - HF= 330 (standard KSA filter)
Qv=300 l/s with 1 blind filter,
Δp_{tot}= 56 Pa
L_{pA}= 38 dB(A)

Pressure drop and sound data, exhaust

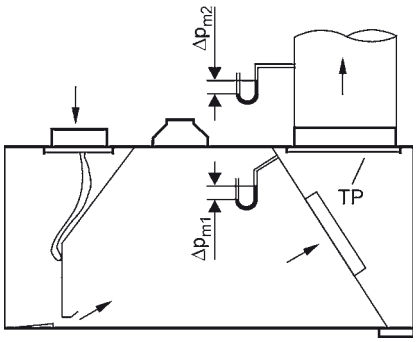
H= 555/400, HF= 500 (High volume filter)

Δp_{m1} = Pressure loss of filters measured from measuring tap, minimum exhaust pressure loss when the damper plate is open

Δp_{m2} = Maximum exhaust pressure loss when the damper plate is nearly closed.

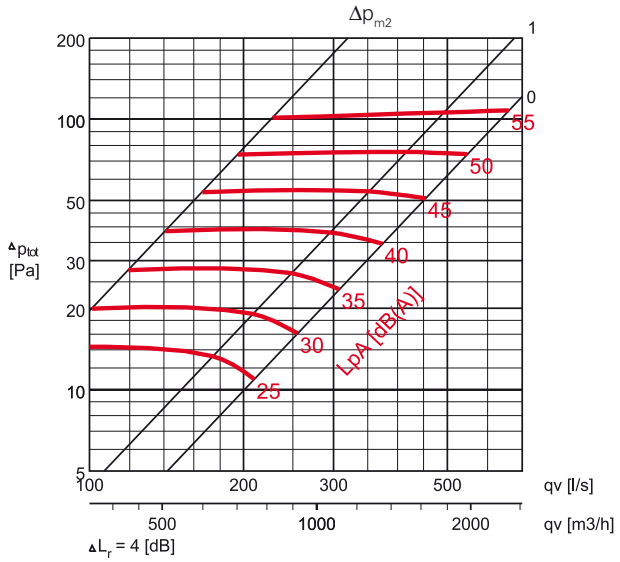
TP = Damper plate

0,1. = Numbers of blind filter

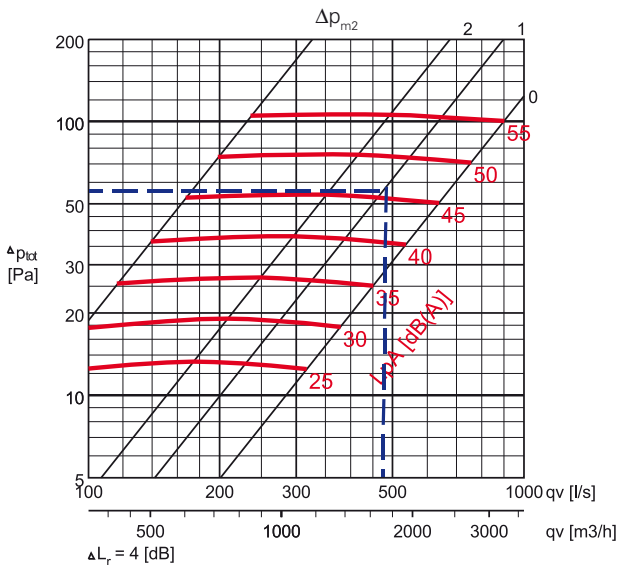


Recommended pressure loss of filter Δp_{m1} 35-120 Pa

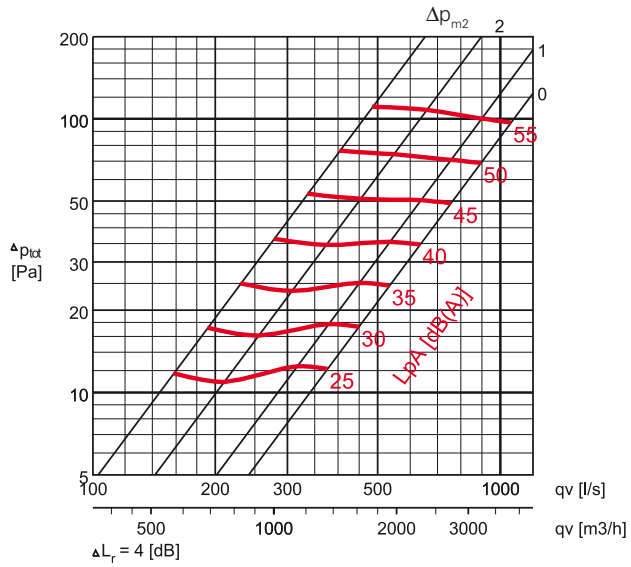
KVF-1500



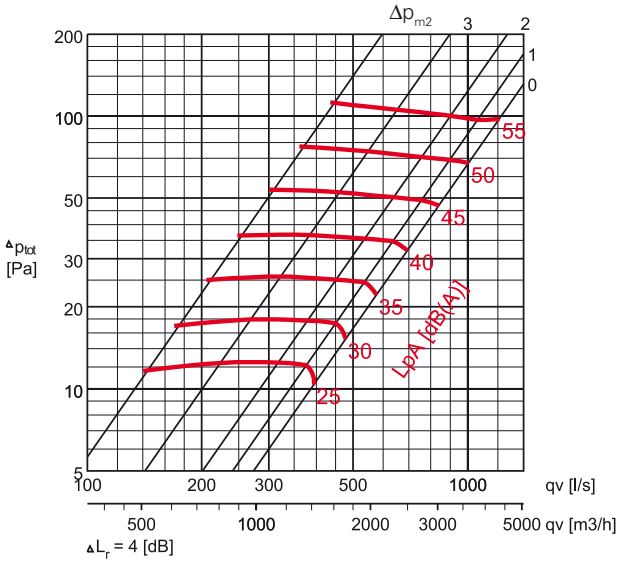
KVF-2000



KVF-2500



KVF-3000



Example: KVF/1 - 2000 - HF=500 (High volume KSA filter)
Qv=480 l/s with 1 blind filter,
Δp_{tot}= 56 Pa
L_{pA}= 46 dB(A)

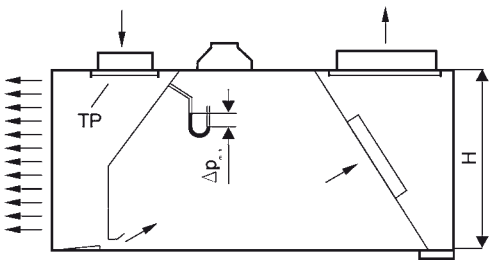
Pressure drop and sound data, supply

H= 400

Δp_{m1} = Measured pressure difference, PA

Δp_{m2} = Maximum supply pressure loss when the damper plate is nearly closed.

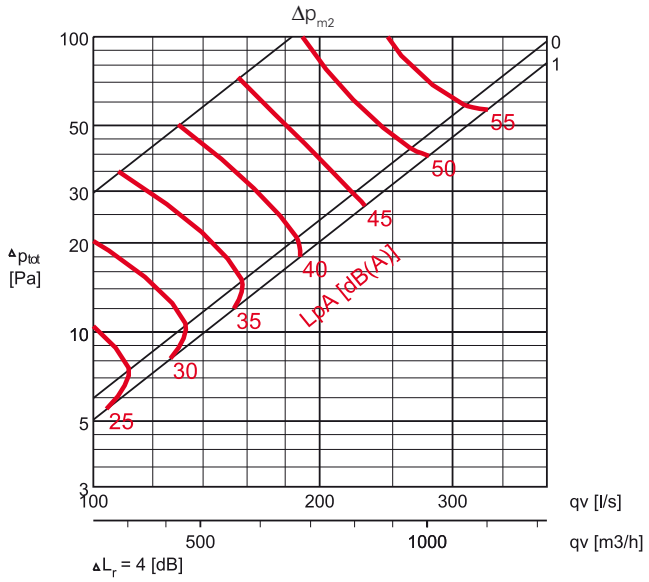
TP = Damper plate



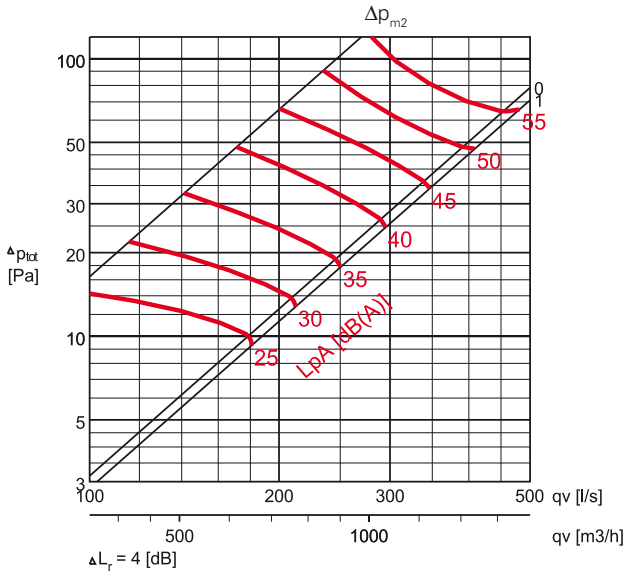
0 = GS - Without General Supply

1 = GS - With General Supply

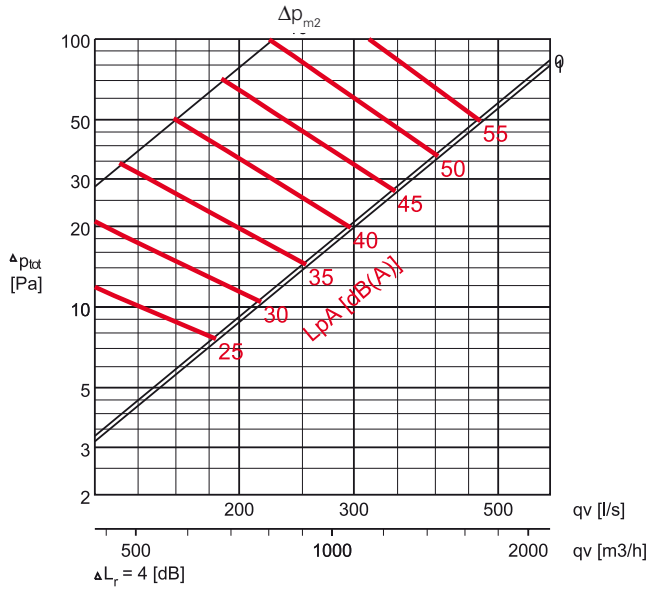
KVF-1500



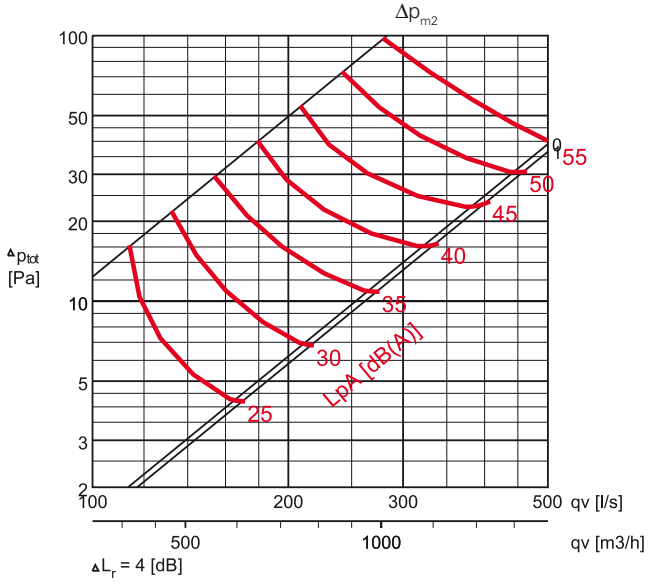
KVF-2000



KVF-2500

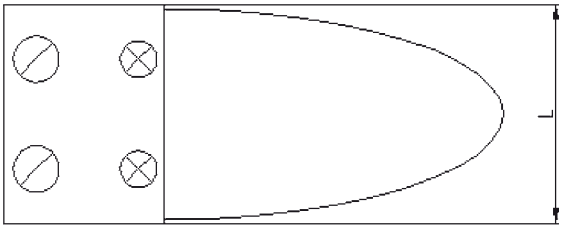


KVF-3000



Throw pattern

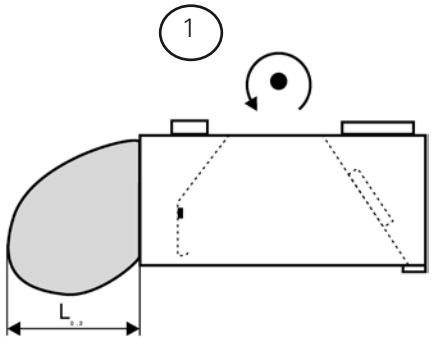
KVF, H= 400



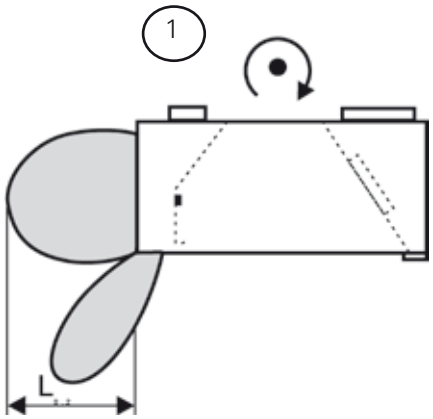
Δt = 4°C, cooling
$L_{(0,2)}$ = throw length, m
q_v = air flow
L = length of the unit, m
H = height of the unit, mm

The total flow is adjusted by using the rotating knob (1) located within the canopy.

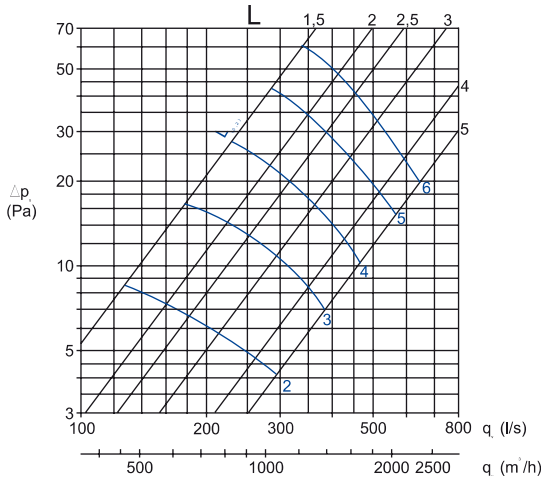
Turning it anti-clockwise produces an even supply pattern.



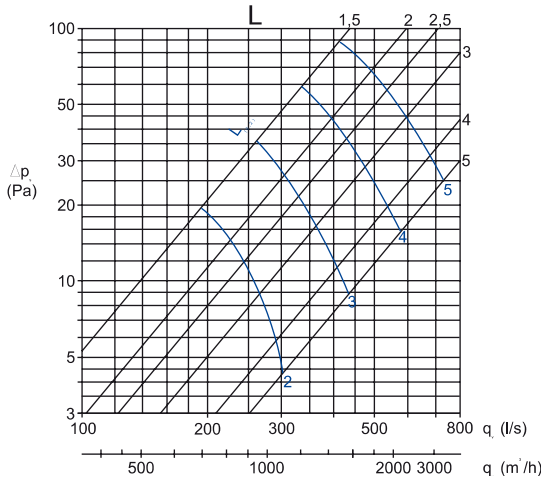
Turning it clockwise produces a bi-directional supply pattern.



One way pattern



Two way pattern



Pressure drop and sound data, supply

H= 555

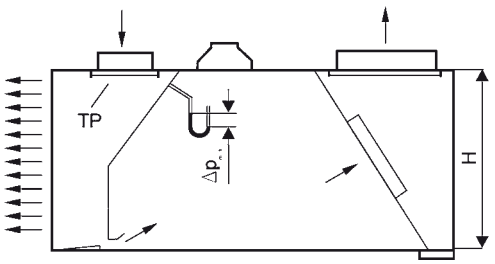
Δp_{m1} = Measured pressure difference, PA

Δp_{m2} = Maximum supply pressure loss when the damper plate is nearly closed.

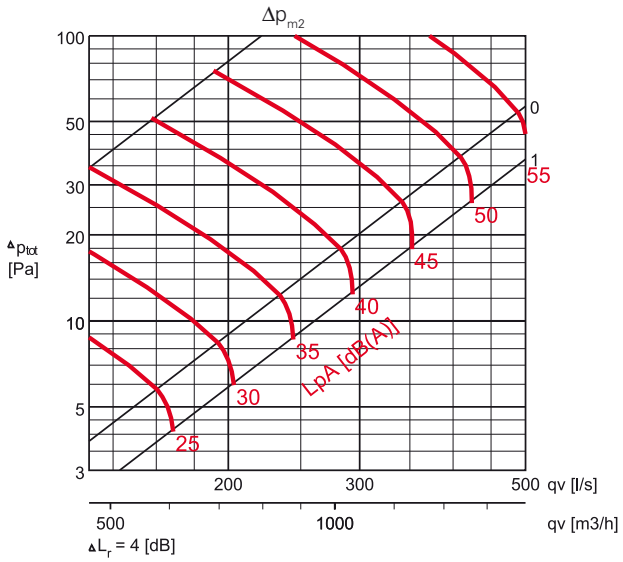
TP = Damper plate

0 = GS - Without General Supply

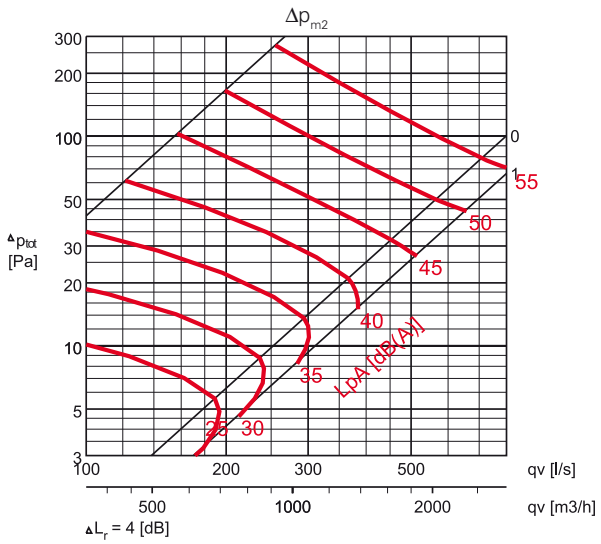
1 = GS - With General Supply



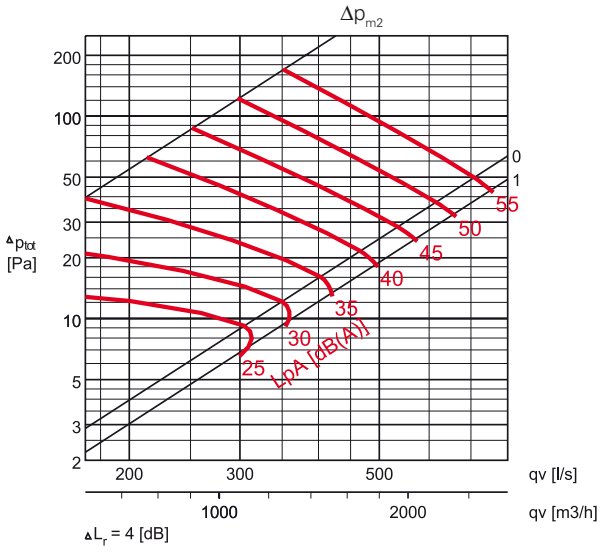
KVF-1500



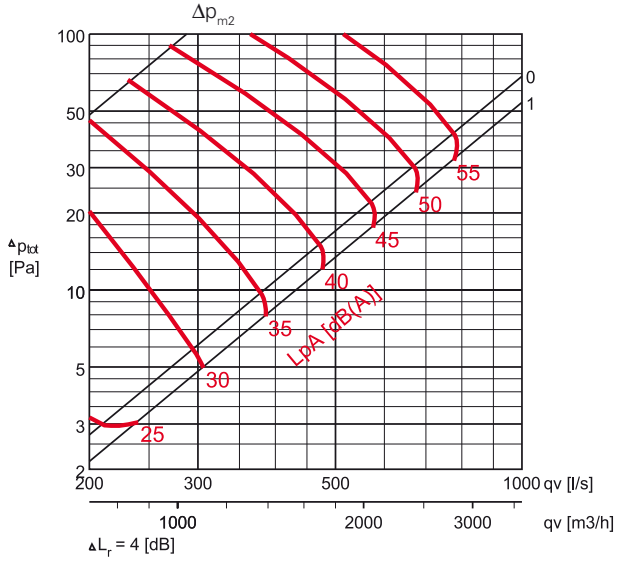
KVF-2000



KVF-2500

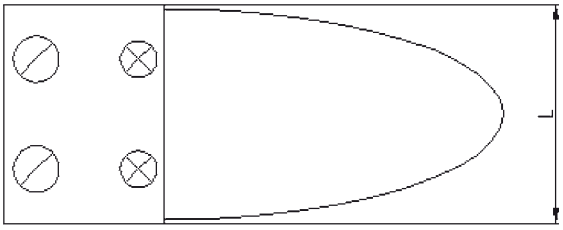


KVF-3000



Throw pattern

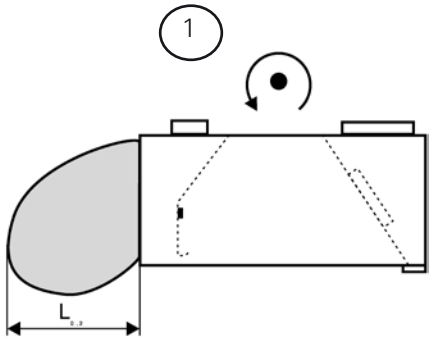
KVF, H= 555



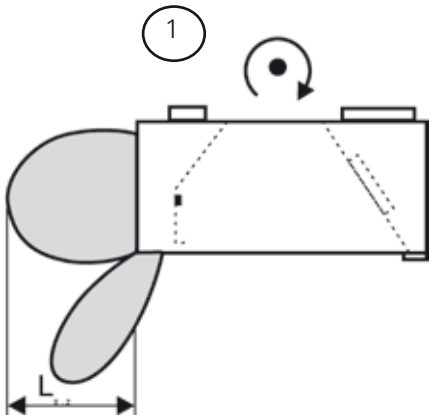
Δt = 4°C, cooling
$L_{(0,2)}$ = throw length, m
q_v = air flow
L = length of the unit, m
H = height of the unit, mm

The total flow is adjusted by using the rotating knob (1) located within the canopy.

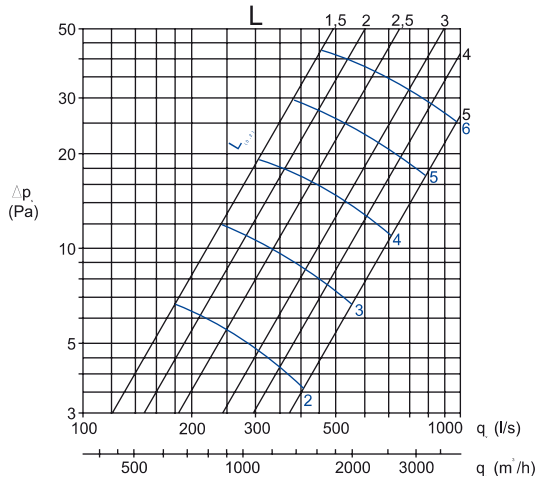
Turning it anti-clockwise produces an even supply pattern.



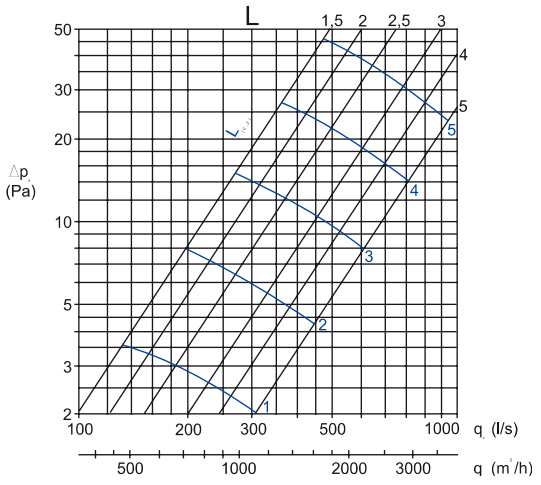
Turning it clockwise produces a bi-directional supply pattern.



One way pattern



Two way pattern



Suggested specifications

General
Kitchen canopies shall be constructed from stainless steel AISI 304.
Kitchen canopies shall be supplied complete with outer casing/main body, supply air plenum, pressure measurement taps, supply and extract air spigots with adjustment dampers, installation hatch, fluorescent light fixture, Capture Jet nozzles, grease filters, perimeter drain channel, drain tap or collection tray, adjustment wires for supply air and assembly brackets.

Outer casing/ Main body
Outer casing panels shall be constructed from stainless steel sheet AISI 304 in brushed satin finish. Each joint shall be either spot-welded, riveted or machine-stitched.
The canopy shall be provided with a full-perimeter condensate channel and crush-folded sloping edges, which have been properly deburred.
The joints of lower edge shall be fully welded in order to avoid harmful dripping.

Supply Air Plenum
The supply air plenum shall be insulated with an M0 sealed glass wool slab of density 95 kg/m^3.
Access to the plenum shall be provided via removal of the main casing's perforated stainless steel front panels.
The main supply air shall be distributed into the kitchen at low velocity through the perforated front panel of the canopy.
A rotary knob shall be located inside the canopy, on the supply plenum face, to enable adjustment of the air throw pattern.
The plenum top panels (supply and exhaust) shall be constructed from galvanised steel.

Personal Supply Air Nozzles
The supply air nozzles shall be constructed from ABS plastic and shall be adjustable to provide directional airflow.

Capture Jet
The kitchen canopy shall be designed with Capture Jet technology to reduce the required exhaust airflow rate and increase the capture and containment efficiency of the canopy, while reducing energy use.

Pressure Measurement Taps
The pressure measurement taps shall be located on the inside of the canopy to enable the measurement of supply and exhaust airflow rates.

Grease Filters
The grease filters shall be constructed from stainless steel AISI 304 and shall be NSF and UL classified.
The grease filters shall be supplied in modular size 500 x 330 x 50 mm (500 x 500 x 30 mm) and shall be removable via two folding handles.
The grease filters shall have a honeycomb design in order to allow high grease filtration efficiency due to the vortex flow inside the honeycomb.

Spigot Connections
The spigot connections for supply and exhaust air shall be constructed from galvanised steel and shall be supplied with a gasket and airflow balancing damper also manufactured from galvanised steel.
The exhaust damper shall be adjustable, and the supply air damper shall be adjustable via high-tensile stranded wire cables

Fluorescent Light Fitting
Each canopy shall be provided with fluorescent light fitting to provide an average illuminance of approximately 500 lux at the cooking appliances work surface.
The lighting fixture shall be suitable for single phase 230 V power supply and shall be constructed to protection standard IP65.
The ballast and the capacitor shall be located within the housing of the light fitting.
The light fittings shall be hinged to allow access to canopy roof.
A core electrical cable (3x1 mm^2) connecting the light fittings to the junction box shall be provided.

Access Hatch
Each canopy shall be provided with an access hatch made of stainless steel AISI 304 with a plain mill finish, surrounded by 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.

Product code

KVF/S-L-W-H

S = Wall/Island installation
- 1 Wall installation
- 2 Island installation (2 sections)
- M Island installation (1 section)

L = Length
- 1000,+50,..,3000

W = Width
- S=1: 1000,+50,..,1700
- S=2: 2000,+50,..,3400
- S=M and L<=2000: 1600,+50,..,2600
- S=M and L>2000: 1600,+50,..,2000

H = Height
- 400, 555

Specifics and accessories

HF = Filter height
- 330, 500

NB = Number of blind filters
- S=2, S=M and L=3000 : 0,1,2,3,4,5,6,7,8,9,10
- S=2, S=M and L>=2500 : 0,1,2,3,4,5,6,7,8
- S=2, S=M and L>=2000: 0,1,2,3,4,5,6
- S=2, S=M and L>= 1500: 0,1,2,3,4
- S=2, S=M and L>=1000:0,1,2
- S=1 and L=3000: 0,1,2,3,4,5
- S=1 and l>=2500: 0,1,2,3,4
- S=1 and L>=2000: 0,1,2,3
- S=1 and L>=1500: 0,1,2
- S=1 and L>=1000:0,1

EC = Number of exhaust connections
- 1 1 pcs
- 2 2 pcs
- 4 4 pcs
- N No exhaust connections

SC = Number of supply connections
- 1 1 (standard location)
- 2 2 (standard locations)
- 4 4 (standard locations)
- N No connections

LF = Light fitting
- I Integrated light (std. location)
- S Surface mounted light
- H Hight temperature light 1x36 W
- J Integrated light in the supply plenum
- N No light

GE = General exhaust
- N No
- L Left (1 pc)
- R Right (1 pc)
- 2 Left (1 pc) and right (1 pc)
- L2 Left (2 pcs)
- R2 Right (2 pcs)
- L3 Left (2 pcs) and right (1 pc)
- R3 Left (1 pc) and right (2 pcs)
- 4 Left (2 pcs) and right (2 pcs)

GS = General supply
- N No
- L Left (1 pc)
- R Right (1 pc)
- 2 Left (1 pc) and right (1 pc)
- L2 Left (2 pcs)
- R2 Right (2 pcs)
- L3 Left (2 pcs) and right (1 pc)
- R3 Left (1 pc) and right (2 pcs)
- 4 Left (2 pcs) and right (2 pcs)

CD = Canopy drain
- D Drain tap
- C Collection tray
- N No Collection

CE = Open end(s)
- N No open ends
- L Open end in the left
- R Open end in the right
- 2 Open ends in both sides

NZ = Personal supply air nozzle
- Y Yes
- N No

Code example

KVF/1-1000-1000-400, HF=330,NB=0,EC=1,SC=1,LF=I

Sub products

- KB Cover board
- KI Infill panel
- KT Canopy top list