

FUNCTION

Air is supplied into the space through the front panel of the device, normally at a slightly lower temperature than the room. The incoming air flows down to floor level and gradually pervades the lower level of the occupied space. The low velocity flow pattern is semicircular, allowing workstations to be located adjacent the device.

MATERIAL AND FINISHING

The AFD consists of a casing, detachable front panel (10% perforation) and a fixed flow equalization inner structure. The unit is made of epoxy-painted galvanized steel, with white RAL 9010 (30% gloss) as the standard colour. The device contains a detachable coupling sleeve with a gasket.

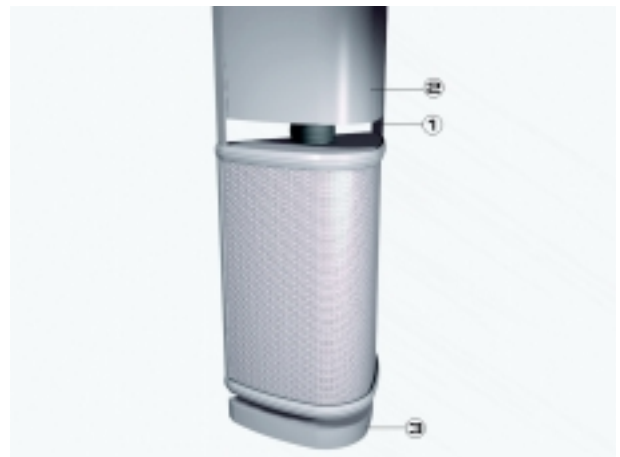
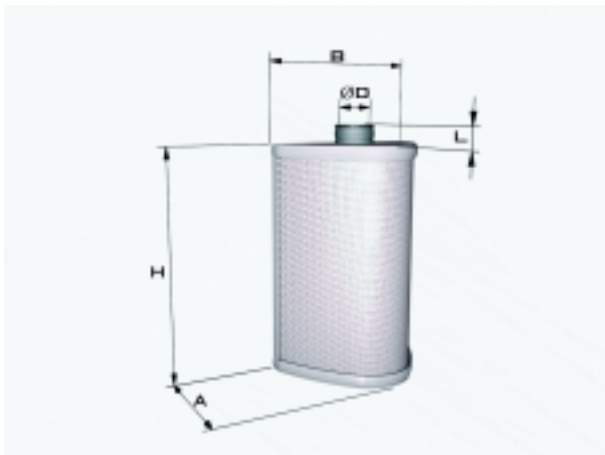
ACCESSORIES

- AB/AFD : base (3).
- SB/AFD: base, store model
- DC/AFD : duct cover 1000, 1500 or 2000 mm (2).

OPTIONS

- Acid Proofed Steel AISI 316 construction.
- Thicker front panel (1.5 mm).
- Smaller connection for the unit.
- Duct cover (DC) made of perforated plate (same as AFD).

DIMENSIONS



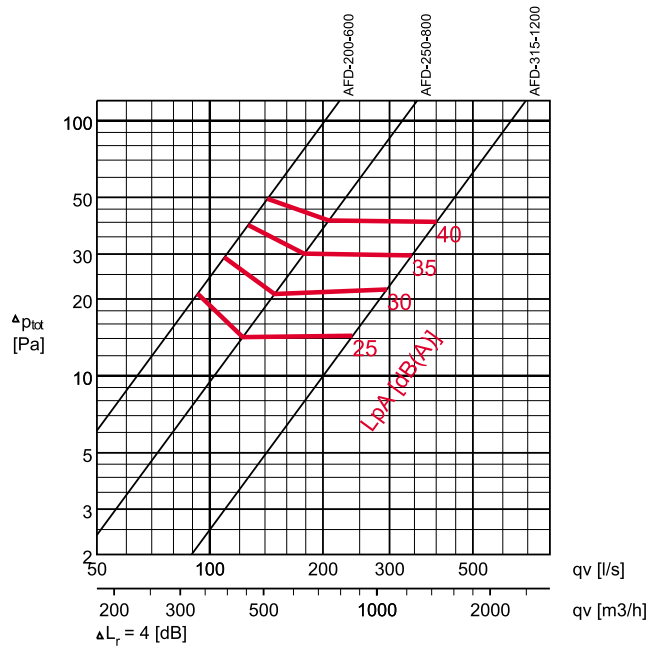
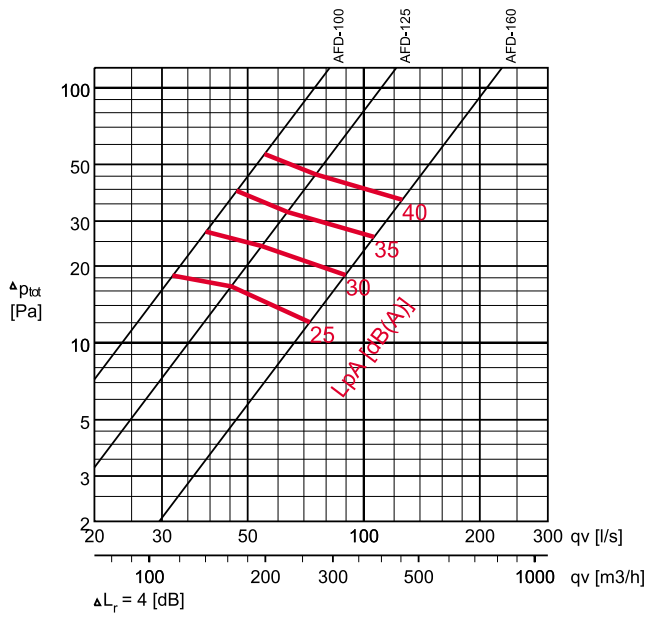
NS	A	B	D	H	L
100	205	402	99	600	40
125	221	428	124	600	40
160	260	492	159	800	40
200	285	532	199	600	40
200	285	532	199	1200	40
250	343	610	249	800	40
250	343	610	249	1200	40
315	406	714	314	1200	40
315	406	714	314	1800	40
400	491	844	399	1200	40
400	491	844	399	1800	40
500	591	1000	499	1800	50

- AB/AFD base : height = 50 mm (200 ..315), and 100 mm (400...500).
- SB/AFD base store model : height = 200 mm, B=B+120, A=A+60.

PRESSURE DROP AND SOUND DATA, SUPPLY

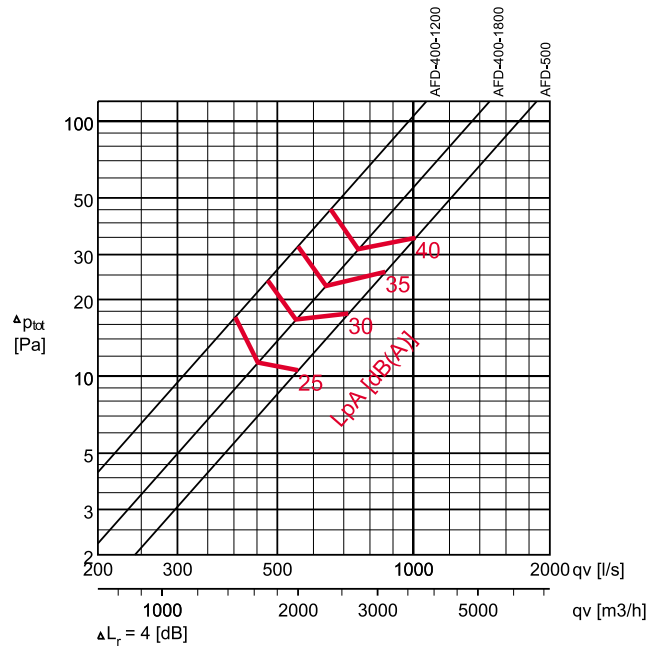
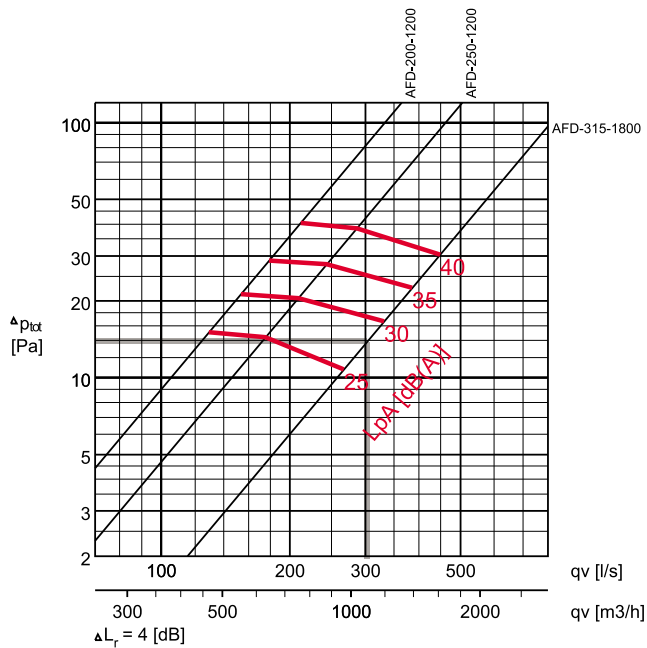
AFD-100, AFD-125, AFD-160

AFD-200-600, AFD-250-800, AFD-315-1200



AFD-200-1200, AFD-250-1200, AFD-315-1800

AFD-400-1200, AFD-400-1800, AFD-500

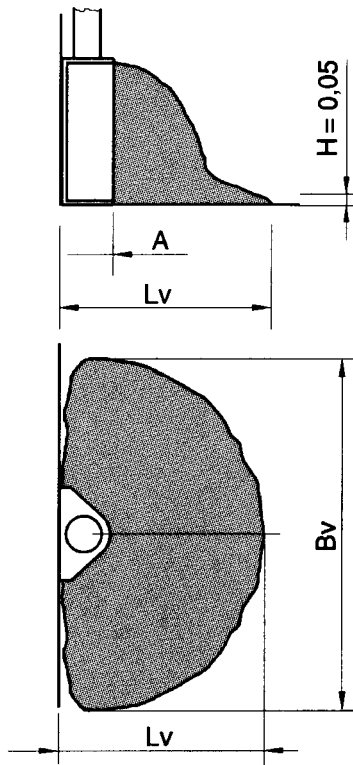


Selection example :

Requirements : $q_v = 300$ l/s Selection : AFD-315-1800
 $L_{pA} \leq 30$ dB(A) $\Delta p_{tot} = 14$ Pa
 $L_{pA} = 27$ dB(A)



NEAR ZONE



H = 0,05 m	Qv		L _{pA} [dB(A)]	ΔP _{tot} (Pa)	v = 0,20 m/s		v = 0,35 m/s	
	(l/s)	(m³/h)			Lv (m)	Bv (m)	Lv (m)	Bv (m)
AFD-100	32	115	25	8	<0,5	<0,5	<0,5	<0,5
	39	140	30	13	<0,5	<0,5	<0,5	<0,5
	47	169	35	18	0,8	1,1	<0,5	<0,5
	55	198	40	25	1,1	1,5	<0,5	<0,5
	67	241	45	81	1,6	2,2	<0,5	<0,5
AFD-125	45	162	25	17	<0,5	<0,5	<0,5	<0,5
	54	194	30	24	<0,5	<0,5	<0,5	<0,5
	64	230	35	33	1,1	1,3	<0,5	<0,5
	75	270	40	46	1,5	1,7	<0,5	<0,5
	89	320	45	64	1,9	2,2	<0,5	<0,5
AFD-160	72	259	25	12	1,2	1,5	<0,5	<0,5
	90	324	30	18	1,5	1,9	<0,5	<0,5
	107	385	35	28	1,8	2,3	<0,5	<0,5
	126	454	40	36	2,0	2,5	<0,5	<0,5
	148	533	45	50	2,3	2,9	<0,5	<0,5
AFD-200-600	93	335	25	21	1,4	1,7	<0,5	<0,5
	109	392	30	29	1,6	1,9	<0,5	<0,5
	126	454	35	39	1,9	2,3	<0,5	<0,5
	142	511	40	49	2,1	2,5	<0,5	<0,5
	167	601	45	68	2,4	2,9	0,5	0,8
AFD-200-1200	129	464	25	15	1,9	2,2	0,8	1,2
	153	551	30	21	2,2	2,6	<0,5	<0,5
	179	644	35	29	2,4	2,8	<0,5	<0,5
	212	763	40	40	2,7	3,2	<0,5	<0,5
	247	889	45	55	3,0	3,5	<0,5	<0,5
AFD-250-800	122	439	25	14	1,6	2,0	<0,5	<0,5
	148	533	30	21	1,9	2,3	<0,5	<0,5
	178	641	35	30	2,2	2,7	<0,5	<0,5
	207	745	40	41	2,5	3,1	<0,5	<0,5
	238	857	45	54	2,8	3,4	0,7	1,2
AFD-250-1200	175	630	25	14	2,1	2,8	<0,5	<0,5
	209	752	30	21	2,4	3,2	<0,5	<0,5
	244	878	35	28	2,7	3,6	<0,5	<0,5
	286	1030	40	39	3,1	4,2	<0,5	<0,5
	330	1188	45	51	3,5	4,7	<0,5	<0,5
AFD-315-1200	245	882	25	15	2,5	3,4	<0,5	<0,5
	296	1066	30	22	3,0	4,1	<0,5	<0,5
	340	1224	35	29	3,2	4,4	<0,5	<0,5
	392	1411	40	38	3,6	4,9	0,6	1,0
	450	1620	45	51	4,1	5,6	0,8	1,3
AFD-315-1800	279	1004	25	12	2,8	3,9	<0,5	<0,5
	332	1195	30	17	3,3	4,7	<0,5	<0,5
	379	1364	35	22	3,5	4,9	<0,5	<0,5
	429	1544	40	28	3,9	5,5	<0,5	<0,5
	490	1764	45	36	4,3	6,1	<0,5	<0,5
AFD-400-1200	403	1451	25	17	3,6	6,3	<0,5	<0,5
	476	1714	30	24	4,2	7,4	0,8	1,2
	555	1998	35	32	4,7	8,2	1,5	2,3
	656	2362	40	45	5,5	9,6	2,2	3,4
	750	2700	45	59	6,1	10,7	2,7	4,2
AFD-400-1800	452	1627	25	11	4,1	6,8	<0,5	<0,5
	547	1969	30	17	4,6	7,6	<0,5	<0,5
	651	2344	35	23	5,4	9,0	0,6	0,8
	754	2714	40	31	6,0	10,0	1,0	1,3
	860	3096	45	41	6,5	10,8	1,6	2,0
AFD-500	555	1998	25	11	4,4	7,2	<0,5	<0,5
	718	2585	30	16	5,3	8,7	<0,5	<0,5
	865	3114	35	26	6,1	10,0	1,1	1,6
	1010	3636	40	35	7,5	12,3	2,6	3,8
	1180	4248	45	48	8,0	13,1	3,4	5,0

ΔL_r = 4 dB, ΔT = -3°C

SOUND LEVEL DATA, SUPPLY

	Qv		ΔP_{st} (Pa)	ΔP_{tot} (Pa)	F (Hz)								L_{pA} [dB(A)]	NR	NC
	(l/s)	(m ³ /h)			63	125	250	500	1000	2000	4000	8000			
AFD-100	32	115	8	18	39	24	27	30	22	9	12	18	25	22	20
	39	140	13	27	40	26	30	35	29	18	14	19	30	27	25
	47	169	18	40	41	28	34	39	35	27	16	20	35	31	30
	55	198	25	55	41	31	37	42	41	34	23	20	40	37	36
AFD-125	45	162	8	17	40	26	28	30	22	8	5	18	25	22	20
	54	194	12	24	41	29	32	34	29	18	10	19	30	26	25
	64	230	17	33	42	32	36	38	36	27	15	20	35	32	30
	75	270	23	46	42	32	39	41	41	35	24	21	40	37	36
AFD-160	72	259	4	12	41	32	30	28	22	10	17	19	25	22	19
	90	324	7	18	42	32	33	33	30	19	18	20	30	26	24
	107	385	9	26	43	32	36	37	36	27	19	21	35	32	30
	126	454	13	36	43	33	39	42	41	34	24	21	40	37	36
AFD-200-600	93	335	16	21	29	26	31	29	23	11	9	19	25	22	19
	109	392	22	29	30	29	34	33	30	19	16	22	30	26	24
	126	454	29	39	32	31	36	37	36	27	21	24	35	32	30
	142	511	37	49	36	34	40	42	41	34	27	31	40	37	36
AFD-200-1200	129	464	5	15	41	26	29	29	22	13	3	18	25	21	19
	153	551	7	21	42	30	33	34	29	21	10	19	31	26	24
	179	644	9	29	43	33	36	38	35	28	18	20	35	31	29
	212	763	13	40	43	36	39	42	40	34	24	21	40	36	35
AFD-250-800	122	439	10	14	42	20	29	28	23	10	10	21	25	24	21
	148	533	15	21	43	26	33	33	29	19	16	23	30	26	24
	178	641	22	30	44	31	37	37	36	27	21	24	35	32	30
	207	745	30	41	44	36	40	41	41	34	31	34	40	37	36
AFD-250-1200	175	630	7	14	43	24	31	27	22	12	19	19	25	22	19
	209	752	10	21	44	29	34	32	29	20	21	23	30	26	24
	244	878	13	28	45	32	36	37	36	27	22	26	35	32	30
	286	1030	18	39	45	34	39	42	41	34	24	25	40	37	36
AFD-315-1200	245	882	9	15	30	25	27	27	17	11	22	24	25	27	24
	296	1066	13	22	34	28	33	33	28	20	22	26	30	29	26
	340	1224	18	29	38	30	38	38	35	26	22	27	35	31	30
	392	1411	23	38	39	33	42	42	40	33	25	27	40	36	35
AFD-315-1800	279	1004	4	12	49	31	30	26	17	12	20	21	25	24	21
	332	1195	6	17	50	31	34	33	27	19	21	22	30	25	23
	379	1364	8	22	51	31	38	39	34	25	22	23	35	31	29
	429	1544	10	28	51	32	41	43	40	32	23	25	40	36	35
AFD-400-1200	403	1451	11	17	45	27	28	27	22	15	16	21	25	25	21
	476	1714	15	24	47	31	33	32	29	22	20	24	30	27	24
	555	1998	21	32	48	34	38	37	35	28	23	27	35	31	29
	656	2362	29	45	48	38	42	42	40	35	26	26	40	36	35
AFD-400-1800	452	1627	4	11	45	33	28	25	23	11	17	23	25	26	23
	547	1969	5	17	47	35	33	32	30	21	20	25	30	28	24
	641	2038	7	23	48	36	37	37	35	28	22	26	35	31	30
	754	2714	10	31	48	38	41	41	41	35	25	27	40	37	35
AFD-500	555	1998	6	11	43	37	28	21	19	15	19	24	25	28	24
	718	2585	10	18	45	39	34	30	28	22	22	26	30	29	26
	865	3114	14	26	47	41	38	37	35	27	25	28	35	31	29
	1010	3636	19	35	47	43	41	42	41	34	27	29	40	37	36

$\Delta L_r = 4$ dB

SPECIFICATION

The Halton AFD displacement unit shall be furnished and installed where shown on the working drawings. It shall be made of epoxy-painted galvanized steel, with a robust, maintenance free, non-clogging structure and white (RAL 9010) as the standard colour. The AFD shall incorporate a detachable perforated front panel, and an internal fixed flow equalization

element. Mounting brackets shall be included in the package. Air distribution into the occupied zone shall be over the entire surface area, with uniform low velocity and noise, even with large airflow rates. A large range of accessories (duct cover, base, cover list) shall be available.



PRODUCT CODE

AFD - D - H

Height of device	
D	H
100	600
125	600
160	800
200	600,1200
250	800,1200
315	1200,1800
400	1200,1800
500	1800

Size of connection
100,125,160,...,500

Specifics and accessories

SD=, MA=, TP=, CO=, CP=, AC=

Accessories
DC/AFD=Duct cover
SB/AFD=Base, store model
AB/AFD=Base

Plastic Strip Color
W=White
G=Grey
B=Black
L=Blue

Color
W=White
X=Special RAL colour (add code)

Thicker front panel (1.5mm)
N=No
Y=Yes

Material
CS=Steel
AS=Stainless steel /AISI316

D Special size of duct conn.
125 100
160 100,125
200 100,125,160
250 100,125,160,200
315 100,125,160,200,250
400 100,125,160,200,250,315
500 100,125,160,200,250,315,400

Example

AFD-100-600; MA=CS;TP=N;CO=W;AC=DC,AB

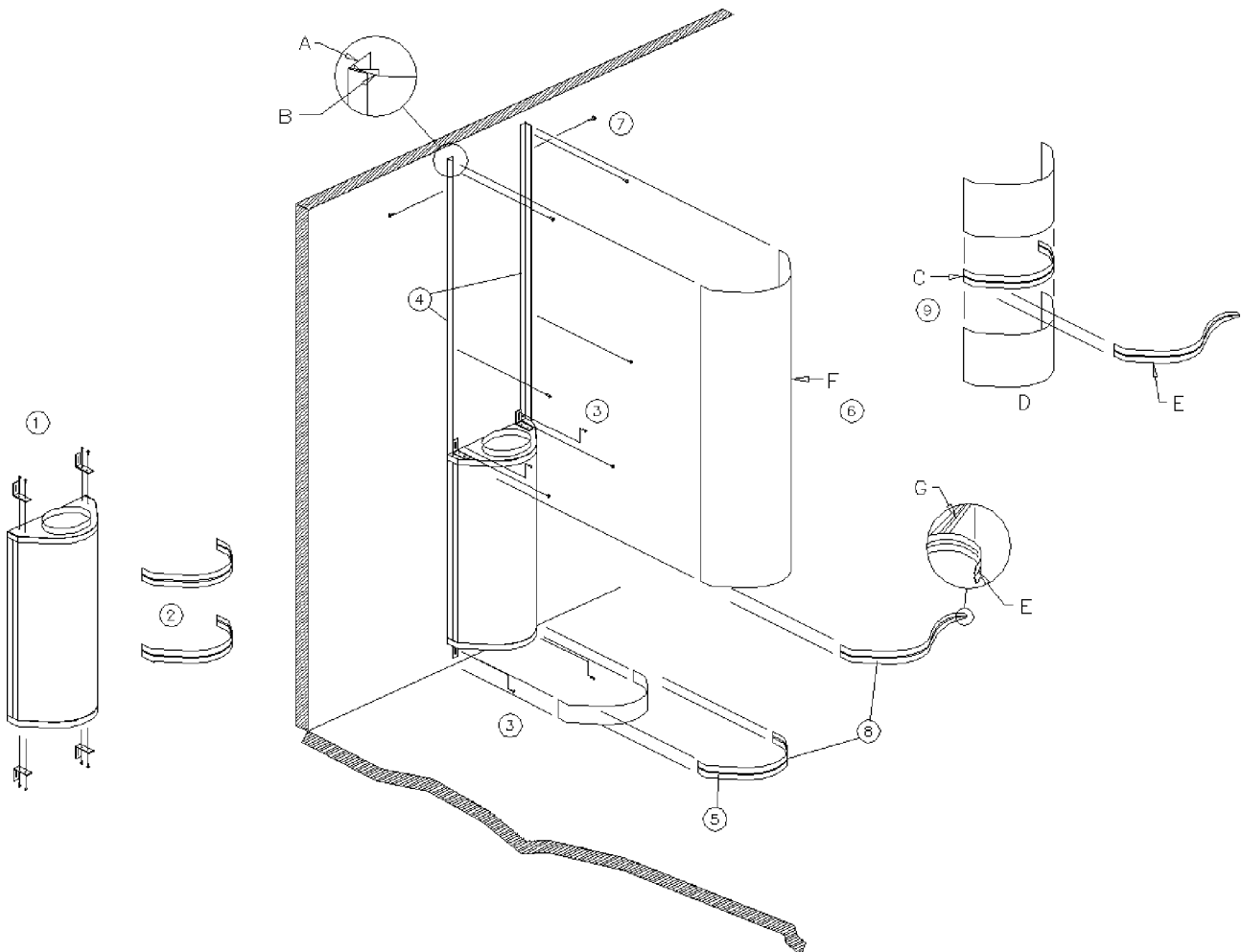


INSTALLATION

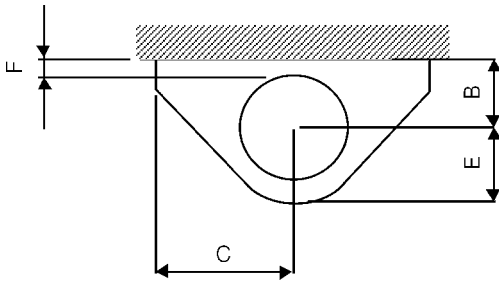
Perform the installation in the numerical order.

1. Fix mounting brackets (4 places) to low velocity unit.
2. Remove plastic cover strips (E) from unit.
3. Locate unit against wall and secure through mounting brackets.
4. Fix duct cover support brackets (A) to wall between unit and ceiling.
5. Position AS base against lower flange of the unit.
6. After installation of ductwork, locate DC duct cover as follows :

7. Locate DC duct cover section (F) on top flange (G) of AF unit and firmly push into support brackets fixed to wall (B).
8. Secure DC duct cover with screws through cover into support brackets.
9. Re-fit plastic cover strips between DC duct cover and AF unit, and between AS base and AF unit by bending strip back on itself (E) and pressing bead into groove in flange (G).
9. When multiple sections of DC duct cover are used (D) an aluminium coupling flange (C) is needed.



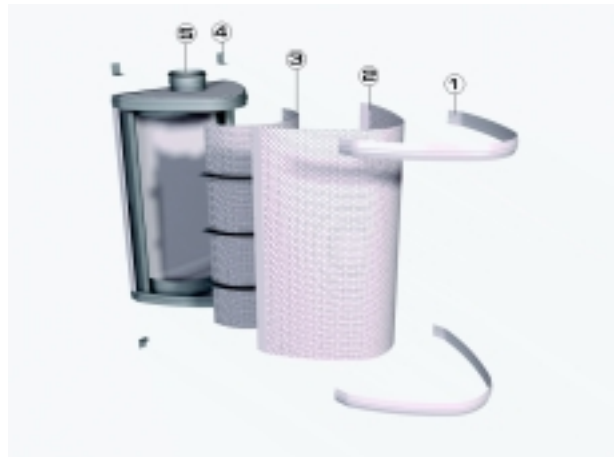
DUCT INSTALLATION



	D	C	D	E
AFD-100	91	201	59	41
AFD-120	99	214	55	36
AFD-160	120	246	55	40
AFD-200	133	266	47	33
AFD-250	170	305	43	45
AFD-315	202	357	42	45
AFD-400	243	422	43	43
AFD-500	294	500	42	44

SERVICE

To open the front panel (2). First remove the plastic strips (1) and undo the screws under them. Pull out the front panel. If required, the inner structure (3) can be detached by undoing the fixing screws. Pull out the inner structure. Reassemble in reverse order. Clean the parts with a brush or damp cloth. Reassemble after cleaning.



NUMBER	NAME
1	PLASTIC STRIPS
2	FRONT PANEL
3	INNER STRUCTURE
4	MOUNTING BRACKETS
5	CASING