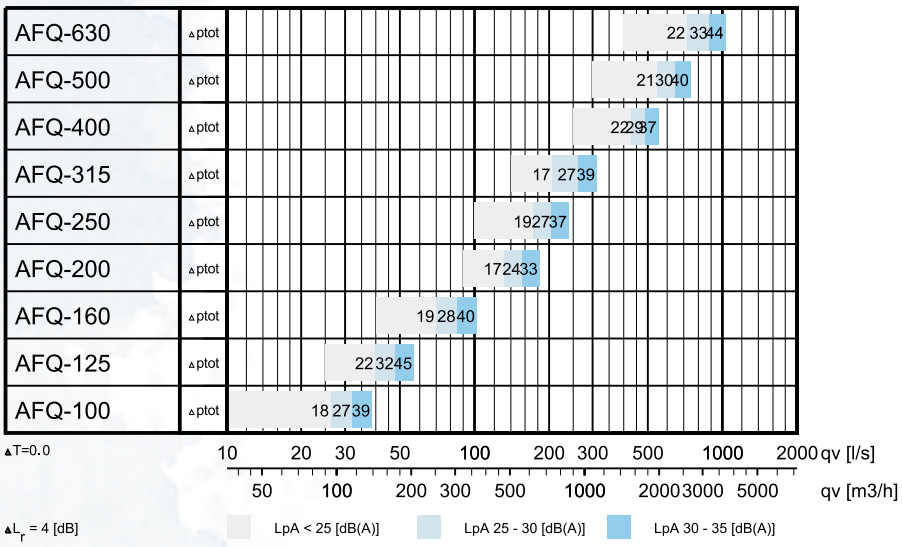
AFQ -Quarter–Circular Low Velocity Displacement Diffuser

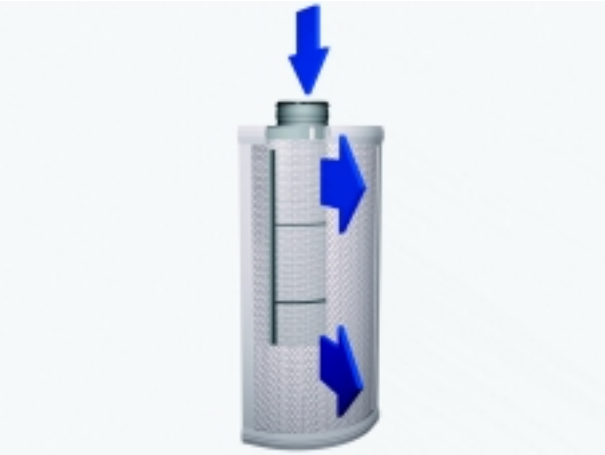
- Circular duct connection D100...630mm with integral rubber gasket to D400mm.
- Suitable for corner installation space.
- Front panel and internal distribution structure are detachable.
- Flow velocities are low in the occupied area.
- Large range of accessories.

QUICK SELECTION



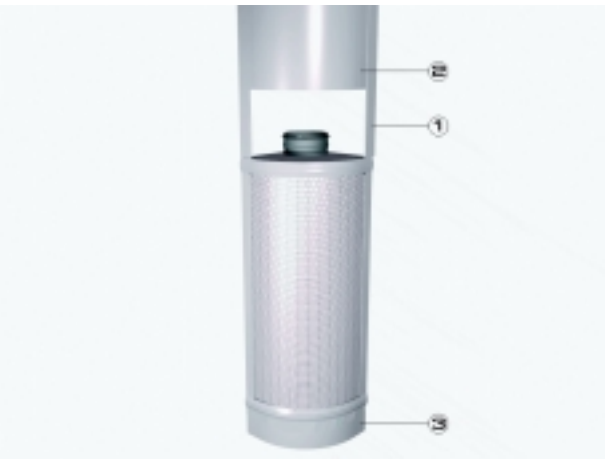
FUNCTION

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 quarter-circular and directed forward, allowing workstations to be located adjacent the device.



MATERIAL AND FINISHING

The AFQ consists of a casing, removable 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 includes mounting brackets and contains a detachable coupling sleeve with a gasket.



ACCESSORIES

- AB/AFQ : base (3).
- SB/AFQ : base, store model.
- DC/AFQ : 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 AFQ).

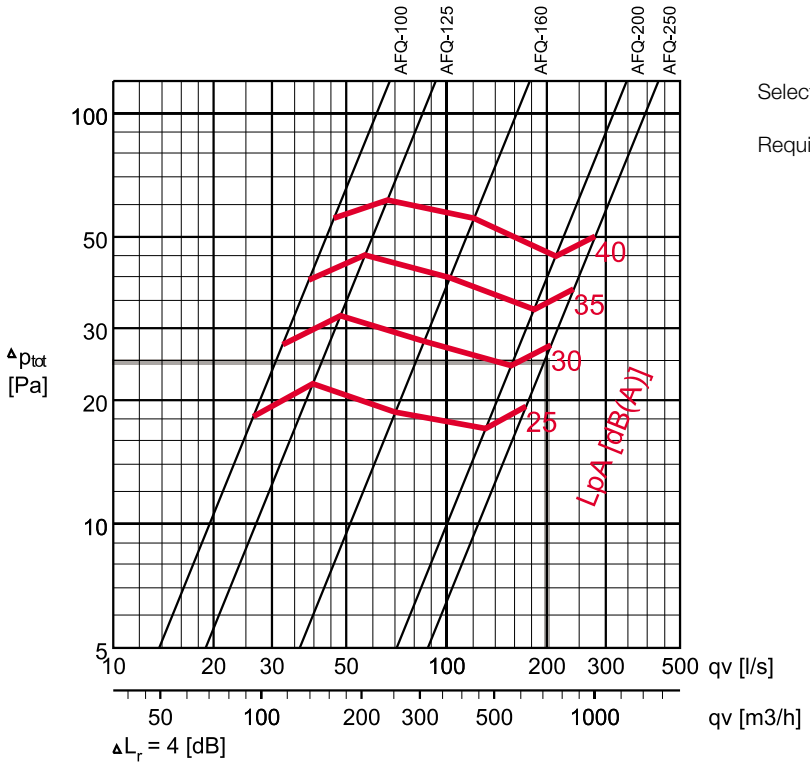
DIMENSIONS

NS	A	B	D	H	L
100	224	205	99	600	40
125	255	235	124	600	40
160	298	275	159	800	40
200	355	330	199	1200	40
250	417	390	249	1200	40
315	497	475	314	1500	40
400	616	585	399	1800	40
500	758	725	499	1800	50
630	955	890	629	1800	50

- AB/AFQ base : height = 50 mm (100 ..315), and 100 mm (400…630).
- SB/AFQ Base store model : height = 200 mm, B=B+120, A=A+60.

PRESSURE DROP AND SOUND DATA, SUPPLY

AFQ-100, AFQ-125, AFQ-160,
AFQ-200, AFQ-250

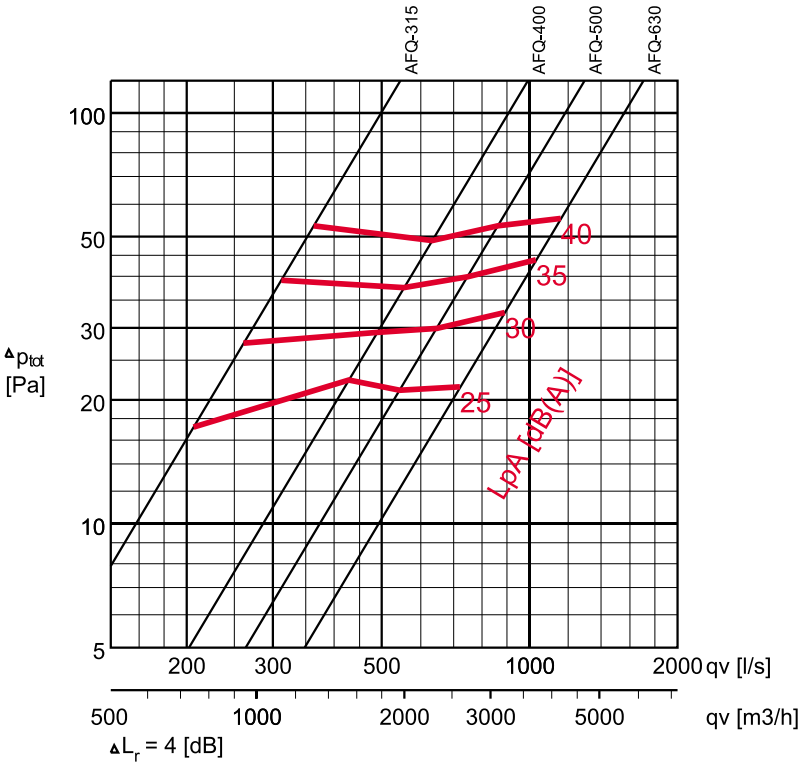


Selection example :

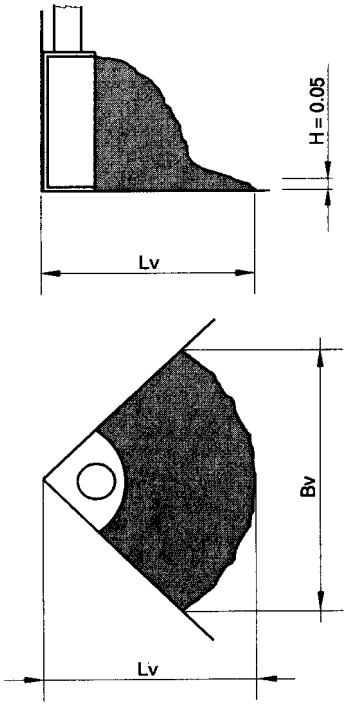
Requirements : q_v = 200 l/s
$L_{pA} \leq$ 30 dB(A)

Selection : AFQ-250
Δp_{tot} = 26 Pa
L_{pA} = 29 dB(A))

AFQ-315, AFQ-400, AFQ-500, AFQ-630



NEAR ZONE



H = 0,05 m	Qv		L_{pA}	ΔP_{tot}	v = 0,20 m/s		v = 0,35 m/s	
	(l/s)	(m^3/h)	[dB(A)]	(Pa)	Lv (m)	Bv (m)	Lv (m)	Bv (m)
AFQ-100	26	94	25	18	1,9	2,7	<0,5	<0,5
	32	115	30	27	2,2	3,2	0,7	1,0
	39	140	35	39	2,6	3,7	1,0	1,4
	46	166	40	55	3,1	4,5	1,4	1,9
	56	202	45	83	3,6	5,2	1,7	2,3
AFQ-125	40	144	25	22	2,5	3,5	0,9	1,2
	48	173	30	32	3,0	4,2	1,2	1,7
	57	205	35	45	3,5	4,9	1,6	2,2
	67	241	40	62	4,0	5,6	2,0	2,8
	80	288	45	89	4,6	6,4	2,5	3,5
AFQ-160	70	252	25	19	2,7	3,8	0,6	0,8
	85	306	30	28	3,2	4,5	1,0	1,4
	102	367	35	40	4,0	5,6	1,7	2,4
	121	436	40	55	4,7	6,6	2,1	2,9
	142	511	45	77	5,5	7,7	2,6	3,6
AFQ-200	131	472	25	17	3,6	5,1	0,5	0,7
	156	562	30	24	4,0	5,7	1,8	2,5
	183	659	35	33	4,6	6,5	1,5	2,1
	213	767	40	45	5,2	7,4	2,0	2,8
	255	918	45	65	6,0	8,5	2,6	3,7
AFQ-250	173	623	25	19	3,0	4,2	<0,5	<0,5
	206	742	30	27	3,4	4,8	<0,5	<0,5
	241	868	35	37	3,8	5,3	0,6	0,8
	279	1004	40	50	4,3	6,0	1,0	1,4
	330	1188	45	70	4,9	6,9	1,6	2,2
AFQ-315	207	745	25	17	4,2	5,9	<0,5	<0,5
	261	940	30	27	5,1	7,2	1,0	1,4
	312	1123	35	39	6,0	8,5	1,8	2,5
	363	1307	40	53	6,8	9,6	2,6	3,6
	410	1476	45	68	7,2	10,2	3,2	4,5
AFQ-4OO	428	1541	25	22	6,5	9,1	1,7	2,4
	489	1760	30	29	7,5	10,5	3,0	4,2
	554	1994	35	37	8,2	11,5	3,8	5,3
	633	2279	40	49	9,1	12,7	4,8	6,7
	740	2664	45	67	10,5	14,7	5,8	8,1
AFQ-5OO	544	1958	25	21	7,5	10,4	3,6	5,0
	647	2329	30	30	8,5	11,8	4,6	6,4
	747	2689	35	40	9,5	13,2	5,2	7,3
	861	3100	40	53	11,0	15,3	6,1	8,5
	990	3564	45	70	12,1	16,8	7,0	9,8
AFQ-630	722	2599	25	22	8,5	11,9	4,7	6,6
	890	3204	30	33	10,0	14,0	5,6	7,8
	1031	3712	35	44	12,0	16,8	6,8	9,5
	1158	4169	40	55	13,0	18,2	7,2	10,1
	1320	4752	45	72	15,0	21,0	8,5	11,9

ΔL_r = 4 dB, ΔT= -3°C

SOUND LEVEL DATA, SUPPLY

	Qv		ΔP_{st}	ΔP_{tot}	F (Hz)								L_{pA}	NR	NC
	(l/s)	(m^3/h)	(Pa)	(Pa)	63	125	250	500	1000	2000	4000	8000	[dB(A)]		
AFQ-100	26	94	12	18	40	24	26	30	22	10	3	18	25	22	20
	32	115	17	27	41	25	30	34	29	19	10	19	30	26	25
	39	140	25	39	42	26	34	38	36	28	17	20	35	32	30
	46	166	35	55	41	27	37	42	41	35	23	21	40	37	35
AFQ-125	40	144	16	22	30	22	30	29	22	11	5	19	25	22	19
	48	173	23	32	31	26	34	34	29	20	12	20	30	26	25
	57	205	32	45	32	30	37	39	34	28	17	22	35	31	29
	67	241	44	62	32	31	40	43	40	36	22	22	40	36	35
AFQ-160	70	252	11	19	40	26	32	28	22	11	3	18	25	21	18
	85	306	17	28	41	29	35	33	29	21	9	19	30	25	24
	102	367	24	40	42	31	37	38	35	29	17	20	35	31	30
	121	436	34	55	42	33	40	41	41	36	25	21	40	37	35
AFQ-200	131	472	7	17	43	28	32	28	22	11	7	14	25	19	18
	156	562	9	24	44	32	35	33	29	20	14	18	30	25	23
	183	659	13	33	45	36	38	38	35	27	20	22	35	31	29
	213	767	17	45	45	38	41	42	41	34	26	26	40	37	35
AFQ-250	173	623	12	19	41	28	30	27	24	13	17	20	25	23	20
	206	742	17	27	42	31	34	32	30	22	19	21	30	26	24
	241	868	23	37	43	34	38	36	35	29	21	22	35	31	30
	279	1004	31	50	43	36	40	40	41	36	27	26	40	37	36
AFQ-315	207	745	13	17	40	32	30	24	17	10	22	24	25	27	24
	261	940	21	27	42	36	35	31	27	20	24	26	30	30	26
	312	1123	30	39	43	39	39	37	34	27	25	28	35	31	29
	363	1307	40	53	43	40	41	41	41	35	26	29	40	37	36
AFQ-400	428	1541	15	22	39	28	32	26	24	17	3	17	25	20	18
	489	1760	20	29	40	31	35	31	30	24	8	18	30	26	24
	554	1994	26	37	41	35	37	36	36	30	18	19	35	32	30
	633	2279	34	49	42	37	40	40	41	36	25	19	40	37	36
AFQ-500	544	1958	17	21	50	25	31	27	21	10	3	17	25	20	17
	647	2329	23	30	51	31	34	33	29	19	9	18	30	25	23
	747	2689	31	40	52	36	37	38	35	27	14	19	35	31	29
	861	3100	42	53	53	40	41	42	41	35	22	19	40	37	36
AFQ-630	722	2599	18	22	52	27	31	26	15	8	10	17	25	20	17
	890	3204	28	33	53	34	36	33	26	13	10	18	30	25	23
	1031	3712	37	44	53	39	40	39	34	22	10	18	35	31	30
	1158	4169	47	55	53	43	43	44	40	28	10	19	40	36	35

ΔL_r = 4 dB

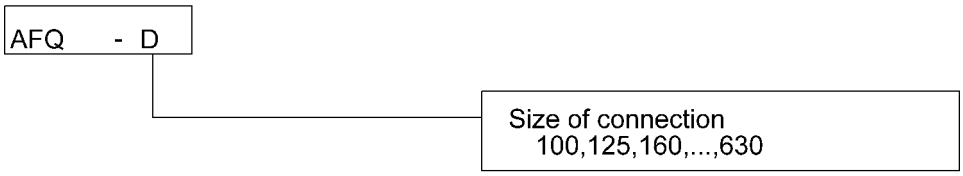
SPECIFICATION

The Halton AFQ 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 AFQ shall incorporate a detachable perforated front panel, and an internal fixed flow equalization element. Mounting brackets shall be included in the package.

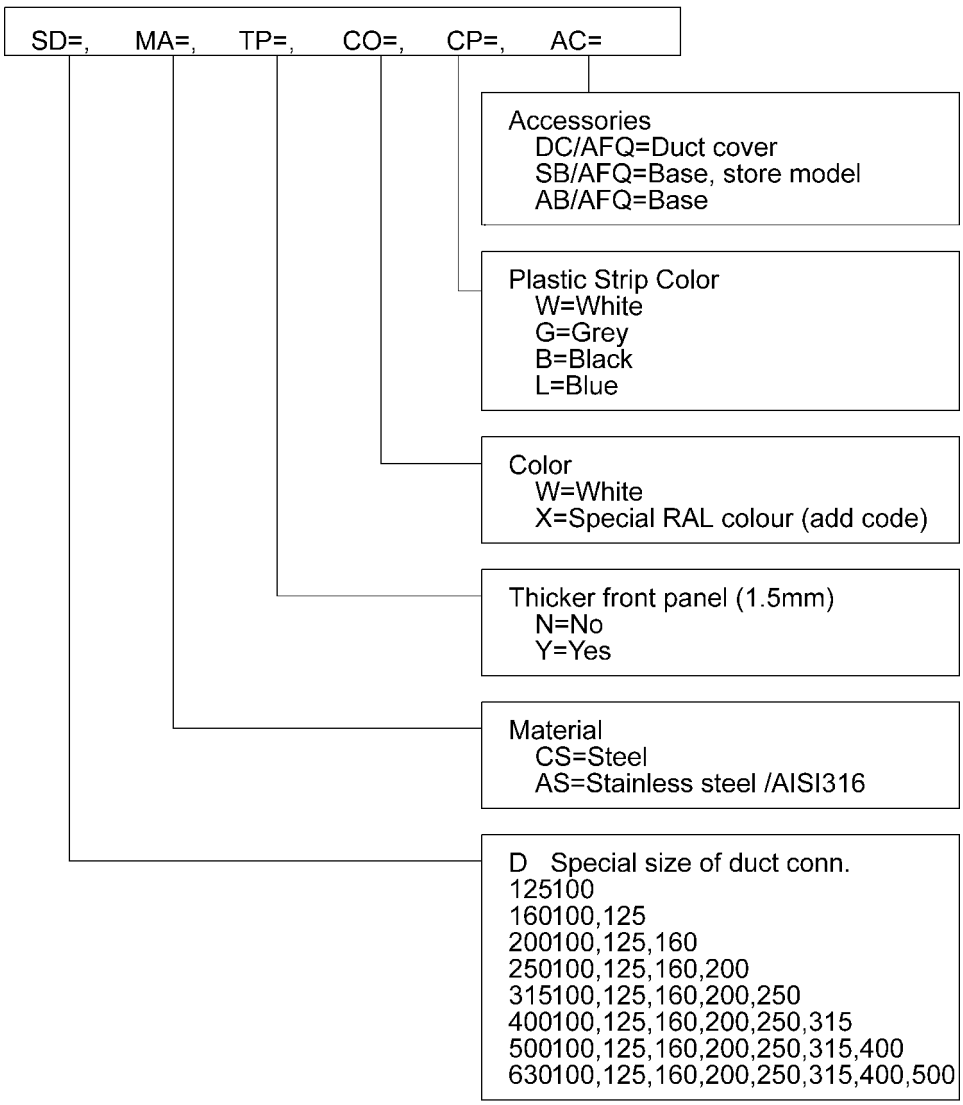
Air distribution into the occupied zone shall be over the entire surface area, with uniform low velocity and noise, even with large airflow rates.

A large range of accessories (duct cover, base, cover list) shall be available.

PRODUCT CODE



Specifics and accessories



Example

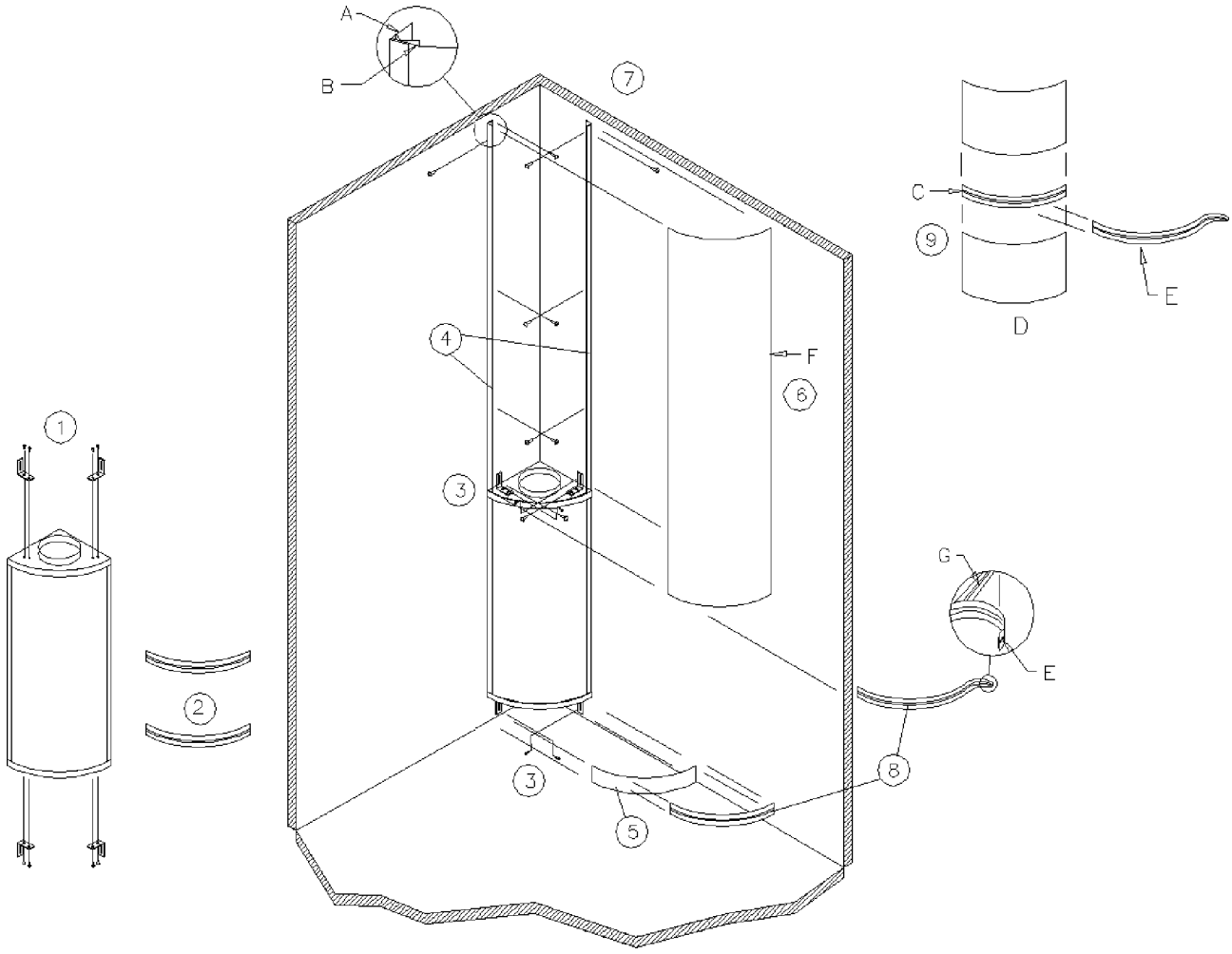
AFQ-160; SD=125;MA=CS;TP=Y;CO=W;AC=DC

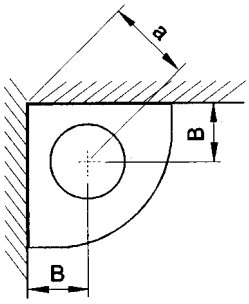
INSTALLATION

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 :

   Locate DC duct cover section (F) on top flange (G) of AF unit and firmly push into support brackets fixed to wall (B).
7. Secure DC duct cover with screws through cover into support brackets.
8. 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.

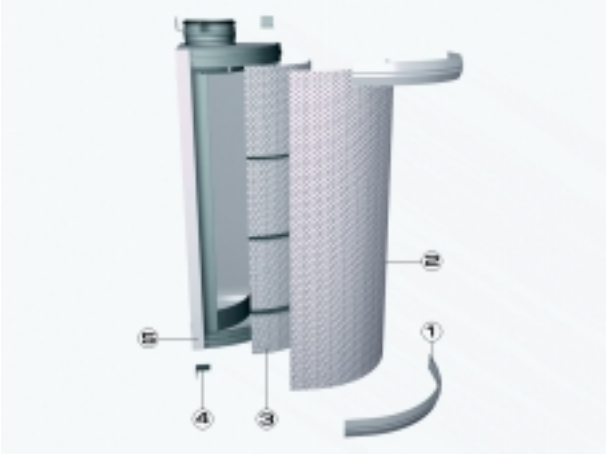




	a	B
AFQ-100	123	87
AFQ-125	140	99
AFQ-160	151	107
AFQ-200	191	135
AFQ-250	229	162
AFQ-315	274	194
AFQ-400	335	237
AFQ-500	421	298
AFQ-630	511	361

SERVICE

To remove 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