

## AFD

### Low Velocity Unit



- Horizontal low velocity air supply at floor level
- Flow pattern in an angle of 180 degrees enables large airflow rates with low residual velocities in occupied zone
- Detachable front panel and metallic internal structure enable cleaning of the unit and ductwork
- Circular duct connection with integral gasket on top/bottom

#### Product Models & Accessories

- Model with stainless steel (AISI 316) design
- Model with thick front panel (1.5 mm)
- Duct cover
- Installation base

#### MATERIAL AND FINISHING

PART	MATERIAL	NOTE
Front panel	Perforated galvanised steel	Stainless steel AISI 316 as option
Casing	Galvanised steel	Stainless steel AISI 316 as option
Flow equalisation element	Perforated galvanised steel	
Cover strip	Plastic PVC	
Spigot	Galvanised steel	
Gasket	Rubber compound	
Installation frame	Galvanised steel	
Duct cover	Galvanised steel	Stainless steel AISI 316 as option
Finishing	Polyester-epoxy-painted RAL 9010 / 30% gloss	Special colours available

## QUICK SELECTION

qv	l/s m <sup>3</sup> /h	20	30	40	60	80	100	140	180	250	350	450	600	800	1000	1200
AFD-100	LpA	16	24	31	42											
	ΔPst	3	7	13	30											
	ΔPtot	7	16	29	65											
	L0,2 (-3 °C 1.1 m)	< 0.5	< 0.5	< 0.5	< 0.5											
	L0,2 (- 3 °C)	< 0.5	< 0.5	0,5	1,5											
AFD-125	LpA		16	22	33	42										
	ΔPst		4	7	15	26										
	ΔPtot		7	13	29	52										
	L0,2 (-3 °C 1.1 m)		< 0.5	< 0.5	< 0.5	< 0.5										
	L0,2 (- 3 °C)		0,9	1,1	0,8	1,8										
AFD-160	LpA				22	27	33	43								
	ΔPst				3	5	8	16								
	ΔPtot				8	15	23	45								
	L0,2 (-3 °C 1.1 m)				< 0.5	< 0.5	< 0.5	< 0.5								
	L0,2 (- 3 °C)				1,1	1,3	1,6	2,2								
AFD-200-600	LpA				14	21	27	40								
	ΔPst				7	12	18	36								
	ΔPtot				9	16	24	48								
	L0,2 (-3 °C 1.1 m)				< 0.5	< 0.5	< 0.5	< 0.5								
	L0,2 (- 3 °C)				1,1	1,4	1,6	1,9								
AFD-200-1200	LpA						19	27	35							
	ΔPst						3	6	10							
	ΔPtot						9	18	29							
	L0,2 (-3 °C 1.1 m)						< 0.5	< 0.5	0,6							
	L0,2 (- 3 °C)						1,6	2,2	2,5							
AFD-250-800	LpA						20	28	35							
	ΔPst						7	14	23							
	ΔPtot						10	19	31							
	L0,2 (-3 °C 1.1 m)						< 0.5	< 0.5	< 0.5							
	L0,2 (- 3 °C)						1,8	2,3	2,5							
AFD-250-1200	LpA						20	26	36							
	ΔPst						4	7	14							
	ΔPtot						9	15	29							
	L0,2 (-3 °C 1.1 m)						< 0.5	< 0.5	0,6							
	L0,2 (- 3 °C)						2,7	3,1	3,5							
AFD-315-1200	LpA							26	36	44						
	ΔPst							9	19	31						
	ΔPtot							16	31	51						
	L0,2 (-3 °C 1.1 m)							0,6	1,3	2,2						
	L0,2 (- 3 °C)							2,7	3,5	4,3						
AFD-315-1800	LpA							24	32	40						
	ΔPst							3	6	11						
	ΔPtot							9	18	31						
	L0,2 (-3 °C 1.1 m)							0,7	1,6	2,2						
	L0,2 (- 3 °C)							4,2	4,6	5,2						
AFD-400-1200	LpA							21	28	37						
	ΔPst							8	14	24						
	ΔPtot							13	21	38						
	L0,2 (-3 °C 1.1 m)							1,1	2,0	3,2						
	L0,2 (- 3 °C)							3,6	4,3	5,3						
AFD-400-1800	LpA							20	25	33	42					
	ΔPst							2	4	6	11					
	ΔPtot							7	11	20	35					
	L0,2 (-3 °C 1.1 m)							1,6	2,2	2,9	4,4					
	L0,2 (- 3 °C)							3,6	4,2	5,0	6,4					
AFD-500	LpA							22	26	33	40	46				
	ΔPst							4	7	12	19	27				
	ΔPtot							7	12	22	34	49				
	L0,2 (-3 °C 1.1 m)							1,7	2,5	3,8	5,3	6,8				
	L0,2 (- 3 °C)							4,2	4,9	6,0	7,1	7,9				

LpA values presented with room attenuation 4 dB (red 10m<sup>2</sup> - sab). When using room attenuation 8 dB (red 10m<sup>2</sup> - sab):

LpA - 4dB.

LpA-weighted sound pressure level, reduced by total equivalent absorption surface of 10m<sup>2</sup>, dB(A) red 10m<sup>2</sup> - sab

ΔPst Static pressure drop, Pa

ΔPtot Total pressure drop, Pa

L<sub>0,2</sub> (-3 °C 1.1 m) Throw length, m when residual velocity of supply air jet 0,2 m/s, ΔT -3 °C in 1,1 m height

L<sub>0,2</sub> (- 3 °C) Throw length, m when residual velocity of supply air jet 0,2 m/s, ΔT -3 °C

Room temperature (Tr) = 24 °C

Supply air temperature (Ta) = 21 °C



ACCESSORY	CODE	DESCRIPTION
Duct cover (1)	DC	Standard lengths 1000 / 1500 / 2000 mm
Installation base (2)	AB	Standard height 50 mm for sizes 200 ... 315
Installation base (2)	AB	Standard height 100 mm for sizes 400 ... 800
Installation base high model	SB	Standard height 200 mm Dimensions = (unit size+ 60 mm) High (store) model

## Accessories

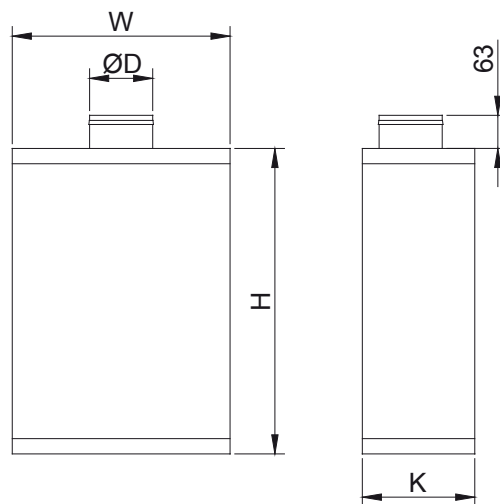
### Product models and options

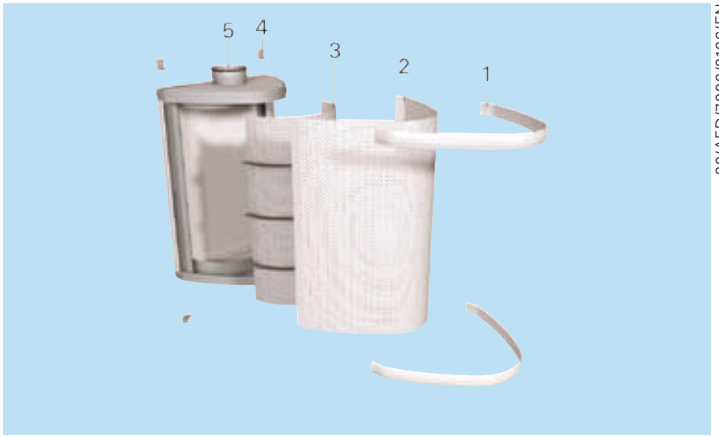
- Model with stainless steel (AISI 316) design
- Thick front panel (1,5 mm)
- Duct cover (DC) made of perforated steel (same as AFD)
- Smaller than standard duct connection
- Cover strip in white, grey, black or blue colour

## DIMENSIONS

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

- AB installation base: height = 50 mm (100 ... 315), and 100 mm (400...500).
- SB installation base, high model: height = 200 mm,  $W=W+120$ ,  $K=K+60$ .





### Function

Air is supplied into the space through the front panel of the unit, normally at a slightly lower temperature than the room.

The supply air flows down to floor level and gradually pervades at low velocity level the occupied space before finally rising up due to the convection of warm surfaces.

The low velocity flow pattern is semi-circular (180°).

Openable and cleanable unit with non-clogging design.

Note: The flow pattern data has been defined for floor installation.

### Servicing

Open the front panel (2) by first removing the plastic strips (1) and unscrewing the screws.

Pull out the front panel.

If required, the flow equalisation element (3) can be detached by unscrewing the screws.

Pull out the inner structure.

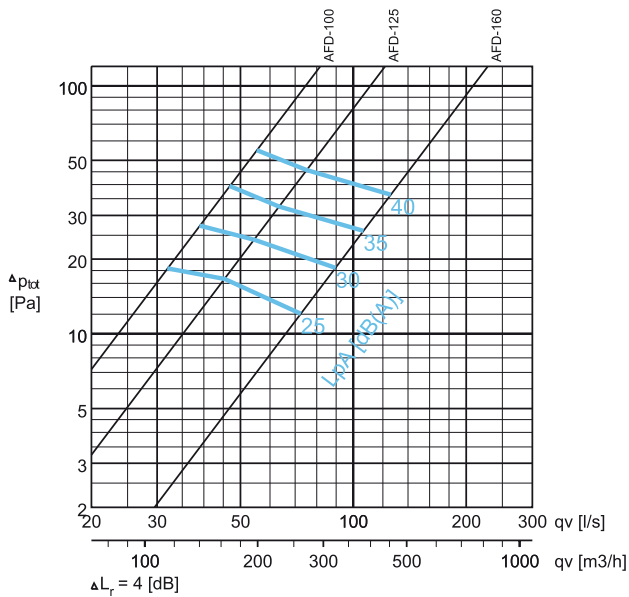
Wipe the parts with a brush or a damp cloth, instead of immersing in water.

After cleaning reassemble in reverse order.

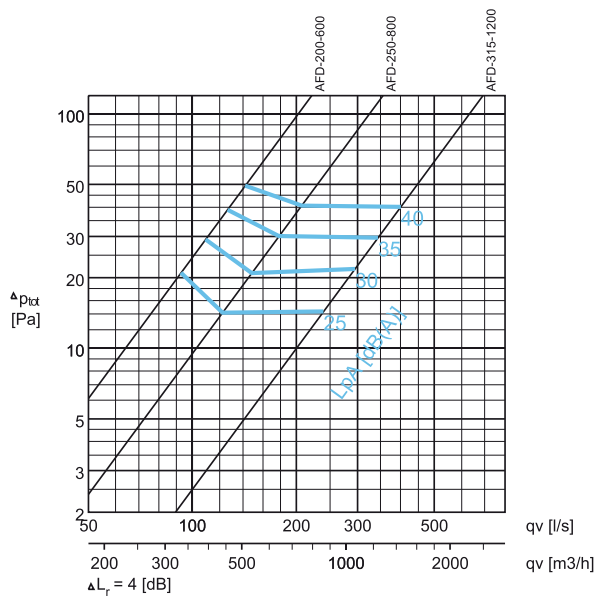
CODE	DESCRIPTION
1	Cover strips
2	Front panel
3	Flow equalization element
4	Assembly brackets
5	Casing

Pressure drop and sound data, supply

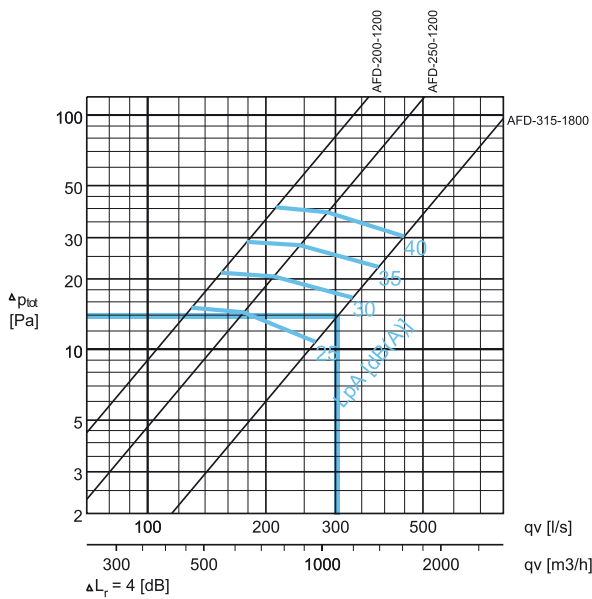
AFD-100, AFD-125, AFD-160



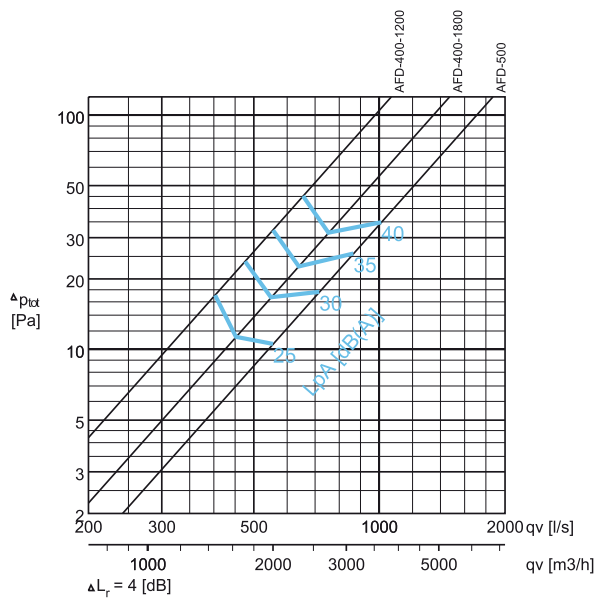
AFD-200-600, AFD250-800, AFD-315-1200



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



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



Selection example :

- Requirements :     qv = 300 l/s
- LpA ≤ 30 dB(A)
- Selection :         AFD-315-1800
- Δptot = 14 Pa
- LpA = 27 dB(A)

## SOUND LEVEL DATA, SUPPLY

	qv		$\Delta P_{st}$ (Pa)	$\Delta P_{tot}$ (Pa)	F (Hz)								LpA [dB(A)]	NR	NC
	(l/s)	(m <sup>3</sup> /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-250-600	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

LpA values presented with room attenuation 4 dB (red 10m<sup>2</sup> - sab). When using room attenuation 8 dB (red 10m<sup>2</sup> - sab): LpA - 4dB.  
NR/NC noise criteria

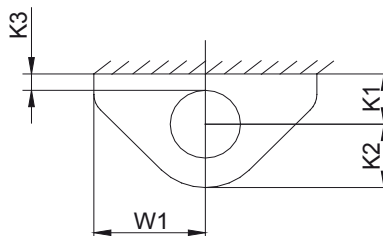
## Installation

Perform the installation in the numerical order.

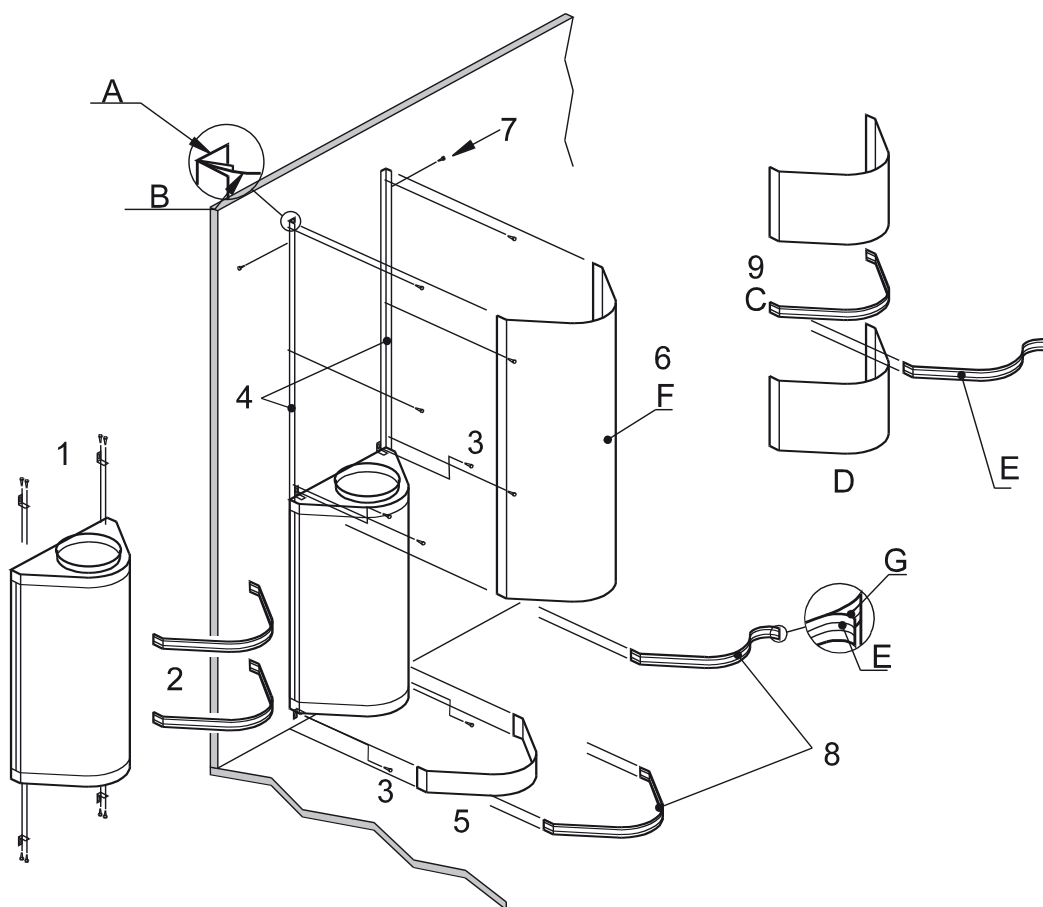
1. Fix mounting brackets (4 places) to low velocity unit.
2. Remove plastic cover strips (E) from unit.
3. Locate unit against wall and secure through mounting brackets.
4. Fix duct cover support brackets (A) to wall between unit and ceiling.
5. Position AS base against lower flange of the unit.
6. After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

## Duct Installation



AFD	W1	K1	K2	K3
100	201	91	114	41
125	214	99	122	36
160	246	120	140	40
200	266	133	152	33
250	305	170	173	45
315	357	202	204	45
400	422	243	248	43
500	500	294	297	44



## Suggested specifications

The low velocity unit shall be made of polyester-epoxy-painted hot galvanised steel, with white (RAL 9010) colour.

The unit shall have a robust maintenance-free, non-clogging structure.

The unit shall comprise a detachable, perforated front panel and a hygienic internal fixed flow equalisation element.

The unit shall have a circular duct connection at the top or bottom depending on the location of the unit.

Assembly brackets shall be included in the delivery.

## Option

The unit shall be equipped with duct cover, installation base and/or coloured cover strip where required.

The front panel of the unit shall be made from galvanised steel of thickness 1.5 mm.

## Product code

AFD-D-H

D = Diameter of duct connection  
100, 125, 160, 200, 250, 315, 400, 500

H = Unit height  
D=100: 600  
D=125: 600  
D=160: 800  
D=200: 600, 1200  
D=250: 800, 1200  
D=315: 1200, 1800  
D=400: 1200, 1800  
D=500: 1800

### Specifics and accessories

SD = Special size of duct connection

N	Not assigned
100	100
125	125
160	160
200	200
250	250
315	315
400	400

MA = Material

CS	Steel
AS	Stainless steel, AISI 316

TP = Front panel thickness 1.5 mm

N	No
Y	Yes

CO = Colour

W	White
X	Special colour

CP = Plastic Strip Colour

W	White
G	Grey
B	Black
L	Blue

AC = Accessories

AB	Base
SB	Installation base/ high model

### Code example

AFD-100-600, SD=N,MA=CS,TP=N,CO=W,CP=W

### Sub products

DC Duct cover (Low velocity units)