Performance test

The performance test is carried out by measuring the pressure difference between the inlet and outlet of the fans. Subsequently, the pressure difference is used to read the airflow through the curve in the figure or to calculate the airflow using the equations respect to the type of air handling unit.

We highly recommend following the performance test procedure in Airlinq® Service Tool.

Before the measurement of the pressure difference is carried out it is important that:

- There are new clean filters in the air handling unit
- The air handling unit is operating at 100 % airflow and the control voltages are stabilised. Be aware, of that the stabilisation can take a few minutes
- The air handling unit is not in any system condition such as Low Temp. process or Condensation process, because it influences the airflow.

AM/AMC 150 – generation 2 (9000100102/9040100102)

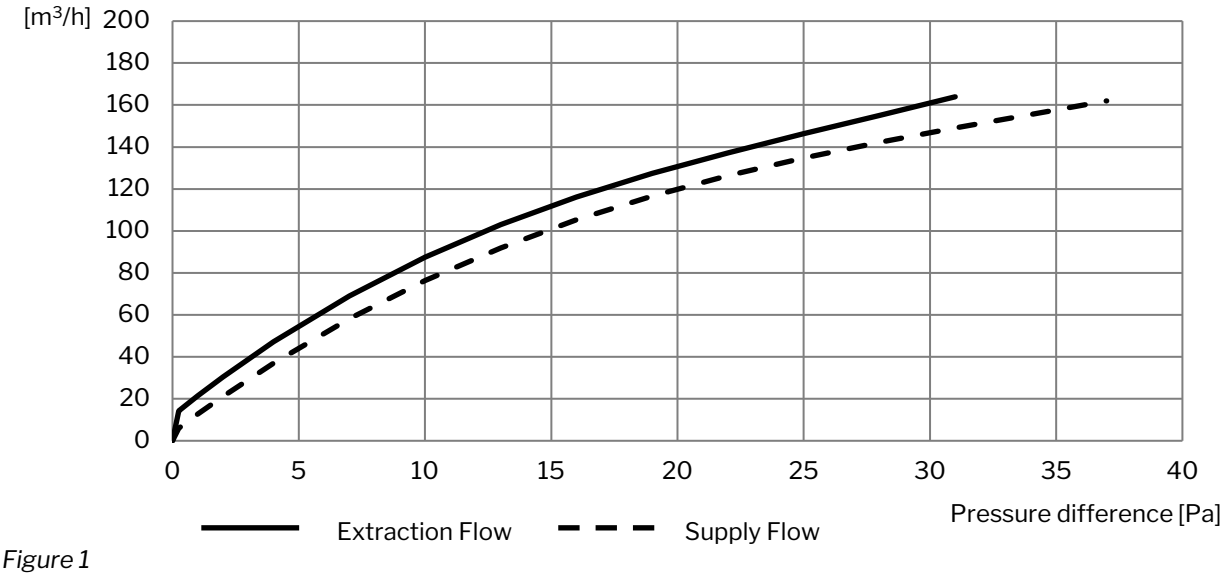


Figure 1

In equation 1.1 and 1.2, $\dot{V}$ is the airflow and Δp is the pressure difference in Pa.

	Extraction flow:	Supply flow:	
1.1:	$\dot{V} = 29.8 * (\Delta p)^{0.5}$	$\dot{V} = 27.6 * (\Delta p)^{0.5}$	[m^3/h]
1.2:	$\dot{V} = 8.3 * (\Delta p)^{0.5}$	$\dot{V} = 7.7 * (\Delta p)^{0.5}$	[l/s]

If you have an AM150 or AMC150 generation 2 where the fans have been replaced to a newer type, please use the data for generation 3 or 4 given below depending on fan type.

AM150 – generation 3 (9000100103)

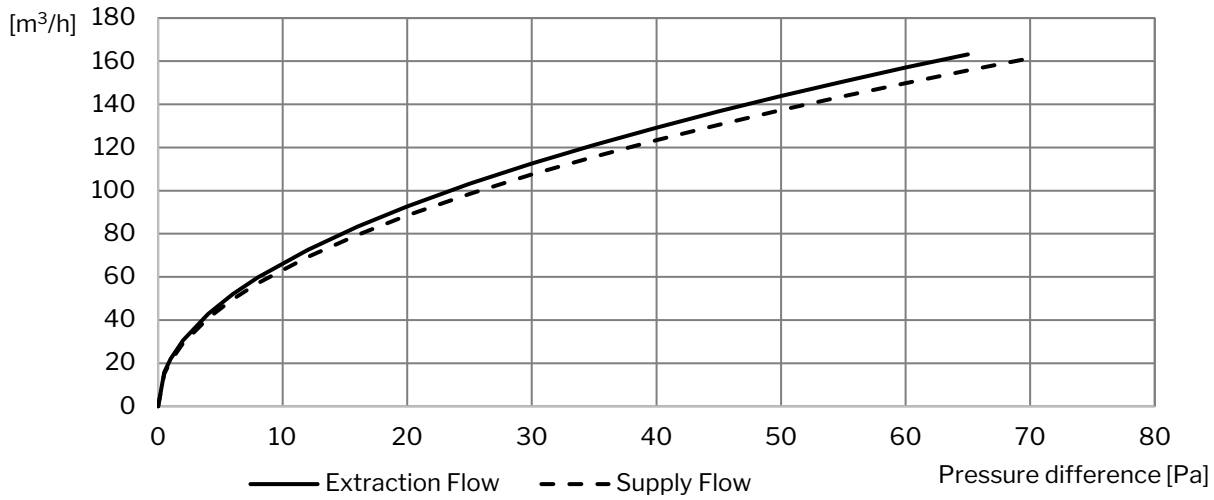


Figure 2

In equation 2.1 and 2.2, $\dot{V}$ is the airflow and Δp is the pressure difference in Pa.

	Extraction flow:	Supply flow:	
2.1:	$\dot{V} = 22.0 * (\Delta p)^{0.48}$	$\dot{V} = 21.0 * (\Delta p)^{0.48}$	[m³/h]
2.2:	$\dot{V} = 6.11 * (\Delta p)^{0.48}$	$\dot{V} = 5.83 * (\Delta p)^{0.48}$	[l/s]

AMC 150 – generation 3 (9040100103)

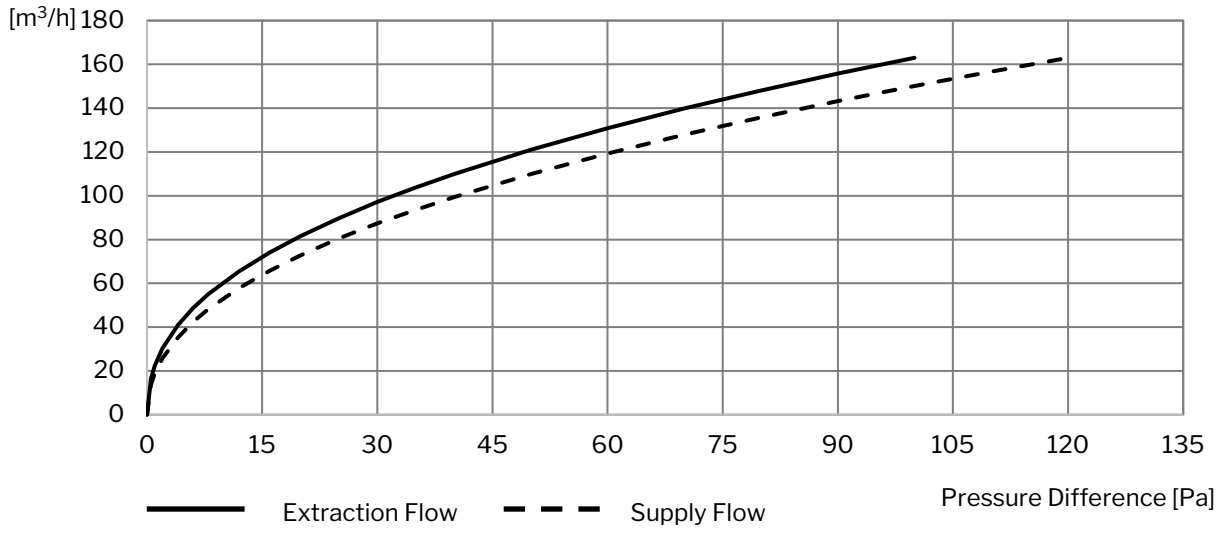


Figure 3

In equation 3.1 and 3.2, $\dot{V}$ is the airflow and Δp is the pressure difference in Pa.

	Extraction flow:	Supply flow:	
3.1:	$\dot{V} = 22.5 * (\Delta p)^{0.43}$	$\dot{V} = 18.9 * (\Delta p)^{0.45}$	[m^3/h]
3.2:	$\dot{V} = 6.25 * (\Delta p)^{0.43}$	$\dot{V} = 5.25 * (\Delta p)^{0.45}$	[l/s]

AM 150 – generation 4 (9000150104), without CC150

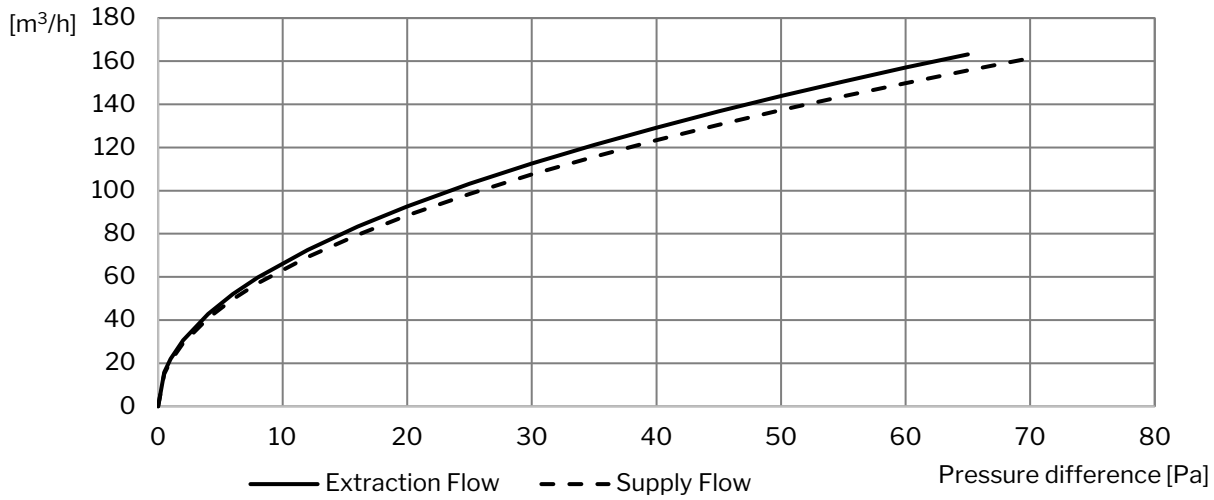


Figure 4

In equation 4.1 and 4.2, $\dot{V}$ is the airflow and Δp is the pressure difference in Pa.

	Extraction flow:	Supply flow:	
4.1:	$\dot{V} = 22.0 * (\Delta p)^{0.48}$	$\dot{V} = 21.0 * (\Delta p)^{0.48}$	[m³/h]
4.2:	$\dot{V} = 6.11 * (\Delta p)^{0.48}$	$\dot{V} = 5.83 * (\Delta p)^{0.48}$	[l/s]

AM 150 – generation 4 (9000150104), with CC150

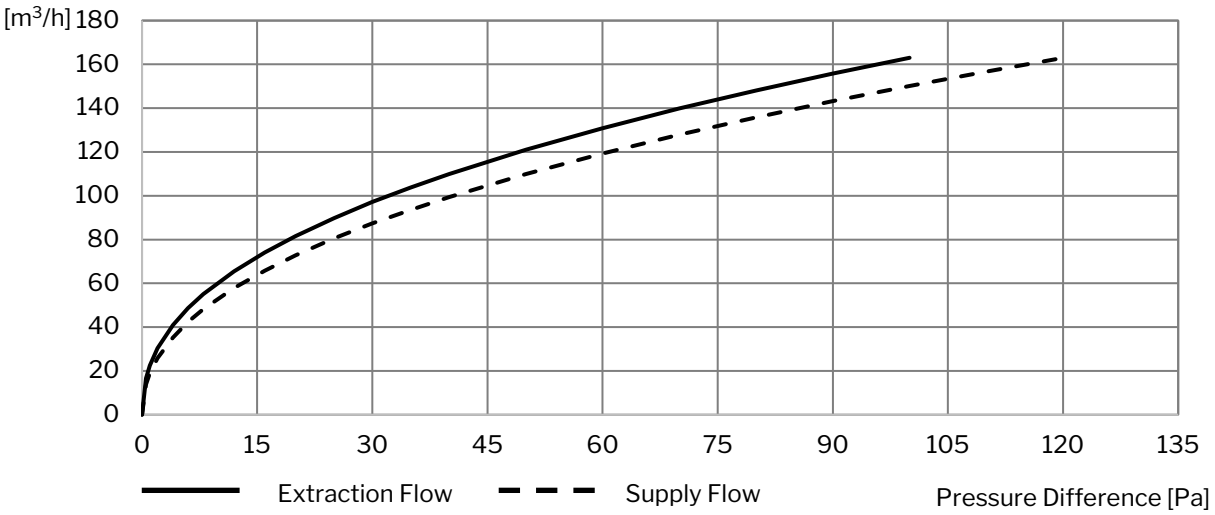


Figure 5

In equation 5.1 and 5.2, $\dot{V}$ is the airflow and Δp is the pressure difference in Pa.

	Extraction flow:	Supply flow:	
5.1:	$\dot{V} = 22.5 * (\Delta p)^{0.43}$	$\dot{V} = 18.9 * (\Delta p)^{0.45}$	[m^3/h]
5.2:	$\dot{V} = 6.25 * (\Delta p)^{0.43}$	$\dot{V} = 5.25 * (\Delta p)^{0.45}$	[l/s]

AM 150 – generation 6 (9000150106), without CC150

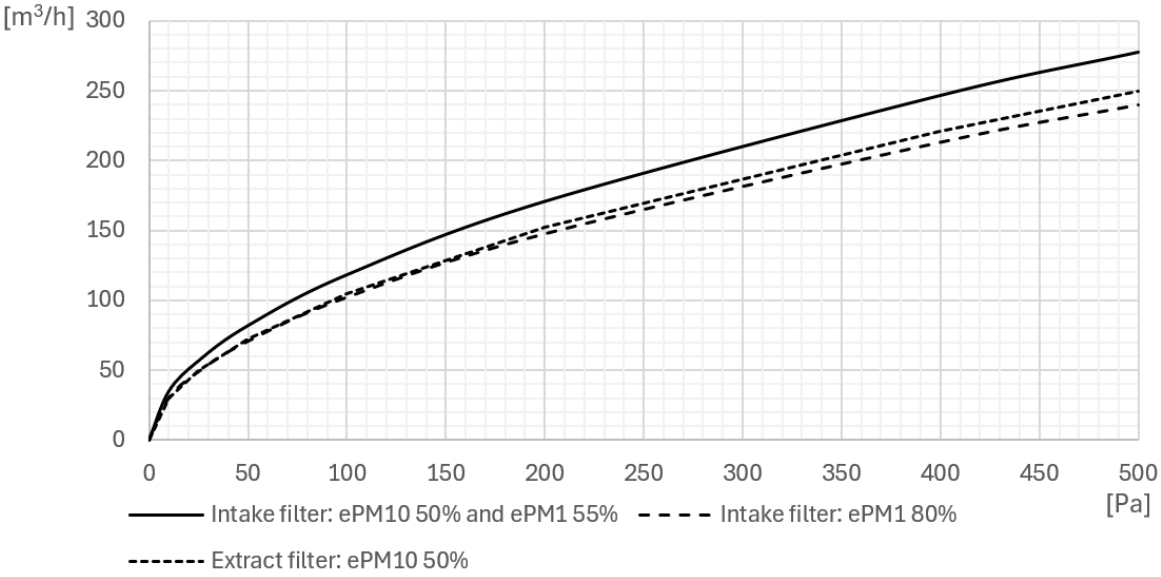


Figure 6

In equation 6.1 to 6.6, $\dot{V}$ is the airflow and Δp is the pressure difference in Pa.

Filter configuration (extract + intake): ePM10 50% + ePM10 50%

	Extraction flow:	Supply flow:	
6.1:	$\dot{V} = 8.7 * (\Delta p)^{0.54}$	$\dot{V} = 10.3 * (\Delta p)^{0.53}$	[m³/h]
6.2:	$\dot{V} = 2.4 * (\Delta p)^{0.54}$	$\dot{V} = 2.86 * (\Delta p)^{0.53}$	[l/s]

Filter configuration (extract + intake): ePM10 50% + ePM1 55%

	Extraction flow:	Supply flow:	
6.3:	$\dot{V} = 8.7 * (\Delta p)^{0.54}$	$\dot{V} = 10.3 * (\Delta p)^{0.53}$	[m³/h]
6.4:	$\dot{V} = 2.4 * (\Delta p)^{0.54}$	$\dot{V} = 2.86 * (\Delta p)^{0.53}$	[l/s]

Filter configuration (extract + intake): ePM10 50% + ePM1 80%

	Extraction flow:	Supply flow:	
6.5:	$\dot{V} = 8.7 * (\Delta p)^{0.54}$	$\dot{V} = 8.9 * (\Delta p)^{0.53}$	[m³/h]
6.6:	$\dot{V} = 2.4 * (\Delta p)^{0.54}$	$\dot{V} = 2.47 * (\Delta p)^{053}$	[l/s]

AM 300 H/V – generation 2 (9010300102 / 9010300202)

The following figure and equations for AM 300 H/V are applicable for both extraction and supply.

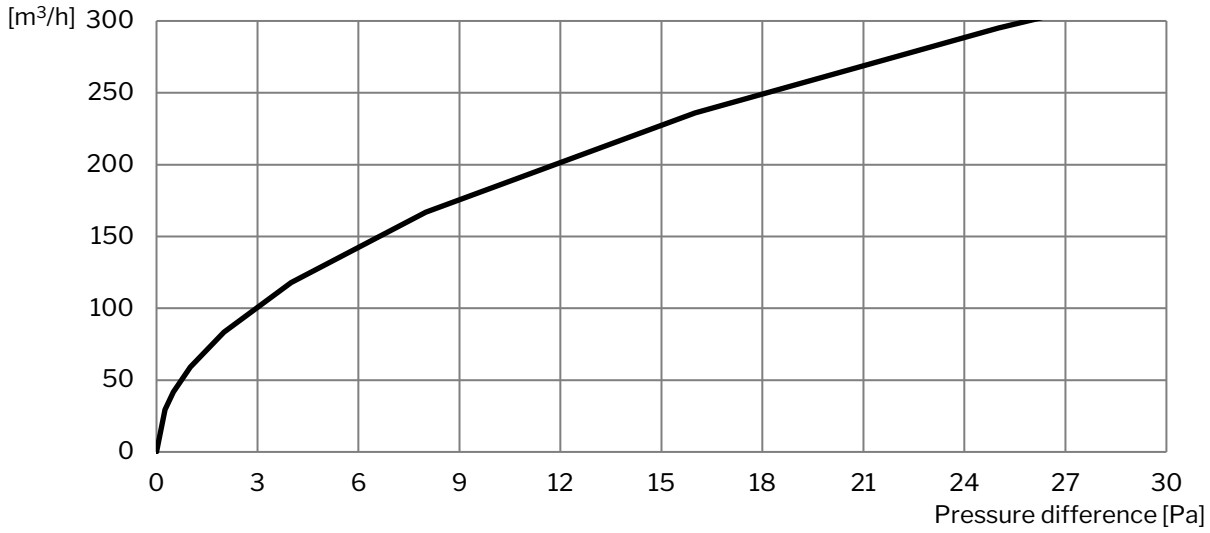


Figure 7

In equation 7.1 and 7.2, $\dot{V}$ is the airflow and Δp is the pressure difference in Pa.

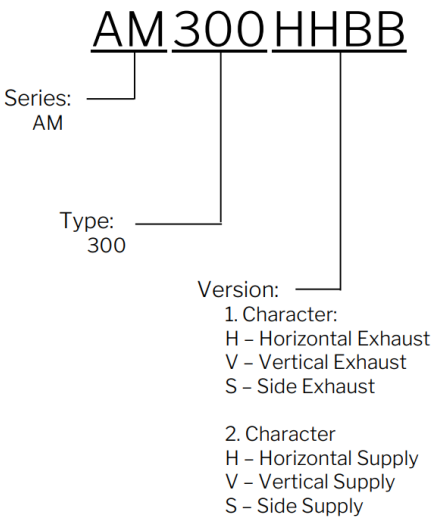
7.1: $\dot{V} = 59.0 * (\Delta p)^{0.5}$ [m^3/h]

7.2: $\dot{V} = 16.4 * (\Delta p)^{0.5}$ [l/s]

AM 300 (9000300001) with serial number from 3000551 or below

Figure 8.1 and equation 8.1 to 8.6 for AM 300 are applicable extraction flow depending on position of exhaust connection.

Figure 8.2 and equation 8.7 to 8.12 for AM 300 are applicable supply flow depending on position of supply connection.



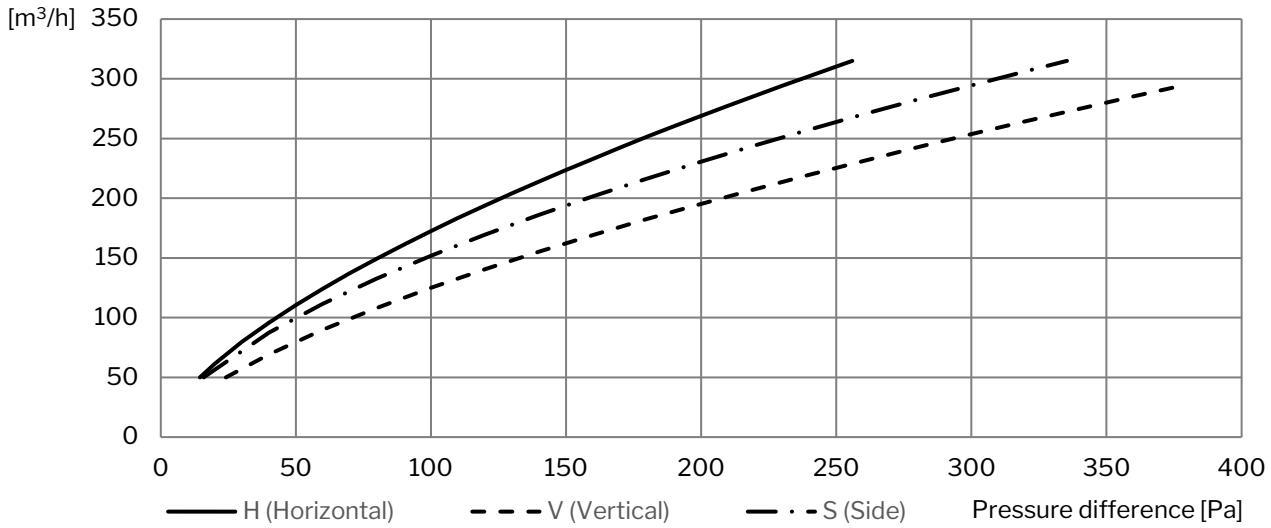


Figure 8.1: Extraction flow depending on pressure difference and position of exhaust connection (H, V, S).

In equation 8.1 to 8.6, $\dot{V}$ is the airflow and Δp is the pressure difference in Pa.

		Extraction flow:	
8.1:	For H (Horizontal) exhaust:	$\dot{V} = 9.01 * (\Delta p)^{0.641}$	[m³/h]
8.2:	For H (Horizontal) exhaust:	$\dot{V} = 2.502 * (\Delta p)^{0.641}$	[l/s]
8.3:	For V (Vertical) exhaust:	$\dot{V} = 6.44 * (\Delta p)^{0.644}$	[m³/h]
8.4:	For V (Vertical) exhaust:	$\dot{V} = 1.789 * (\Delta p)^{0.644}$	[l/s]
8.5:	For S (Side) exhaust:	$\dot{V} = 9.45 * (\Delta p)^{0,603}$	[m³/h]
8.6:	For S (Side) exhaust:	$\dot{V} = 2.625 * (\Delta p)^{0.603}$	[l/s]

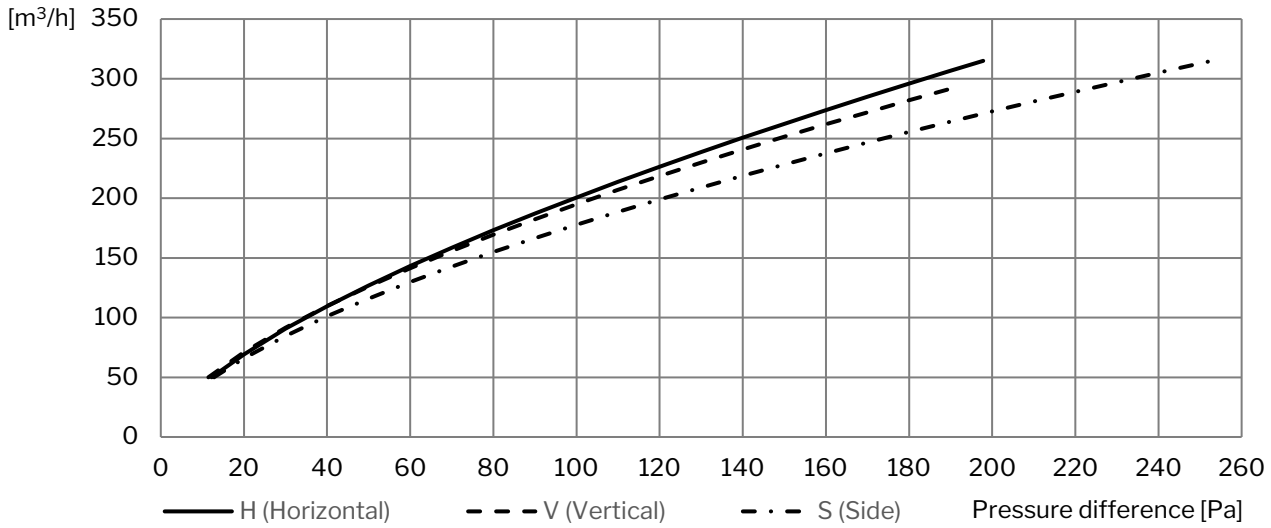


Figure 8.2: Supply flow depending on pressure difference and position of supply connection (H, V, S).

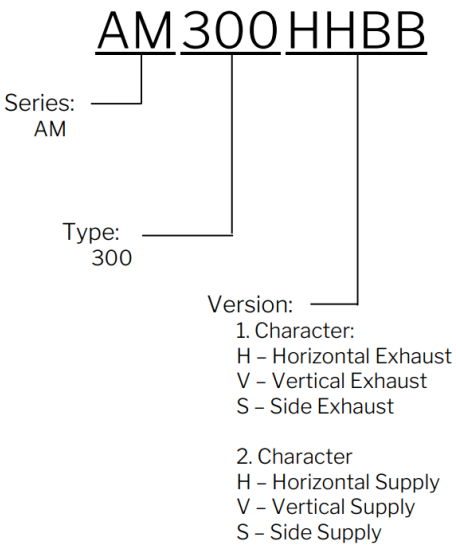
In equation 7.7 to 7.12, $\dot{V}$ is the airflow and Δp is the pressure difference in Pa.

		Supply flow:	
8.7:	For H (Horizontal) supply:	$\dot{V} = 9.56 * (\Delta p)^{0.661}$	[m³/h]
8.8:	For H (Horizontal) supply:	$\dot{V} = 2.656 * (\Delta p)^{0.661}$	[l/s]
8.9:	For V (Vertical) supply:	$\dot{V} = 10.81 * (\Delta p)^{0.628}$	[m³/h]
8.10:	For V (Vertical) supply:	$\dot{V} = 3.003 * (\Delta p)^{0.628}$	[l/s]
8.11:	For S (Side) supply:	$\dot{V} = 10.37 * (\Delta p)^{0,617}$	[m³/h]
8.12:	For S (Side) supply:	$\dot{V} = 2.881 * (\Delta p)^{0.617}$	[l/s]

AM 300 (9000300001) with serial number from 3000552 or higher

Figure 9.1 and equation 9.1 to 9.6 for AM 300 are applicable extraction flow depending on position of exhaust connection.

Figure 9.2 and equation 9.7 to 9.12 for AM 300 are applicable supply flow depending on position of supply connection.



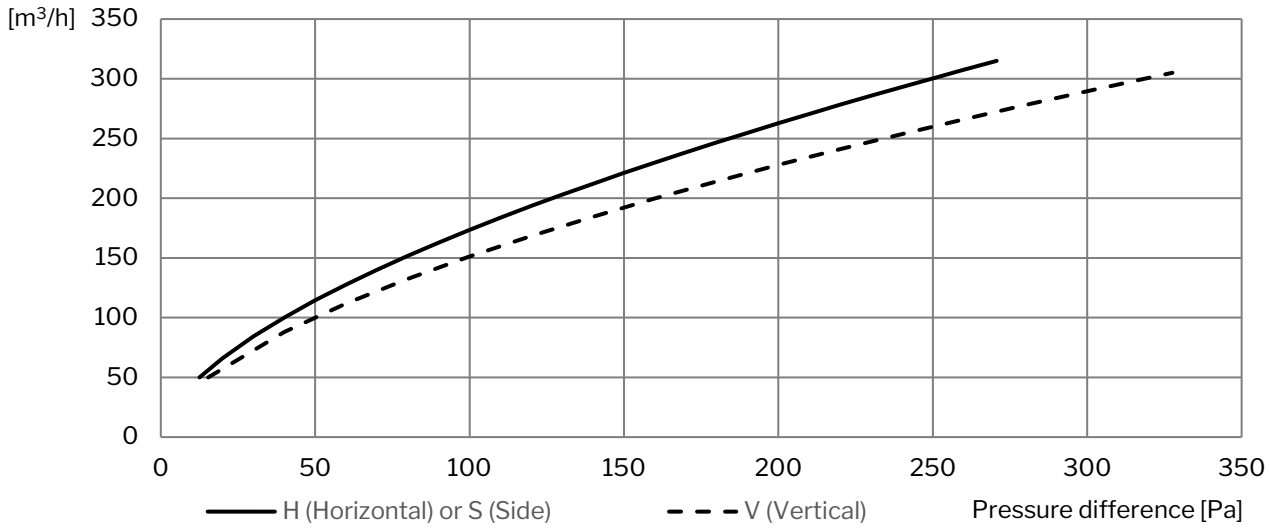


Figure 9.1: Extraction flow depending on pressure difference and position of exhaust connection (H, V, S).

In equation 9.1 to 9.6, $\dot{V}$ is the airflow and Δp is the pressure difference. in Pa

		Extraction flow:	
9.1:	For H (Horizontal) exhaust:	$\dot{V} = 10.997 * (\Delta p)^{0.599}$	[m³/h]
9.2:	For H (Horizontal) exhaust:	$\dot{V} = 3.055 * (\Delta p)^{0.599}$	[l/s]
9.3:	For V (Vertical) exhaust:	$\dot{V} = 9.948 * (\Delta p)^{0.591}$	[m³/h]
9.4:	For V (Vertical) exhaust:	$\dot{V} = 2.763 * (\Delta p)^{0.591}$	[l/s]
9.5:	For S (Side) exhaust:	$\dot{V} = 10.997 * (\Delta p)^{0,599}$	[m³/h]
9.6:	For S (Side) exhaust:	$\dot{V} = 3.055 * (\Delta p)^{0.599}$	[l/s]

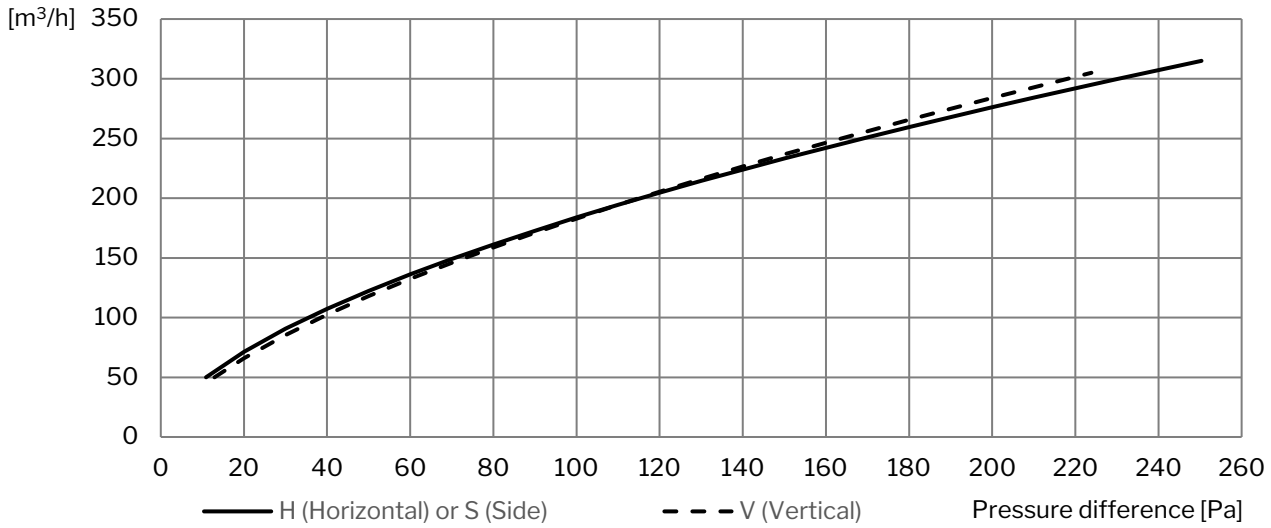


Figure 9.2: Supply flow depending on pressure difference and position of supply connection (H, V, S).

In equation 9.7 to 9.12, $\dot{V}$ is the airflow and Δp is the pressure difference in Pa.

		Supply flow:	
9.7:	For H (Horizontal) supply:	$\dot{V} = 12.313 * (\Delta p)^{0.587}$	[m³/h]
9.8:	For H (Horizontal) supply:	$\dot{V} = 3.420 * (\Delta p)^{0.587}$	[l/s]
9.9:	For V (Vertical) supply:	$\dot{V} = 9.872 * (\Delta p)^{0.634}$	[m³/h]
9.10:	For V (Vertical) supply:	$\dot{V} = 2.742 * (\Delta p)^{0.634}$	[l/s]
9.11:	For S (Side) supply:	$\dot{V} = 12.313 * (\Delta p)^{0,587}$	[m³/h]
9.12:	For S (Side) supply:	$\dot{V} = 3.420 * (\Delta p)^{0.587}$	[l/s]

AM 500 H

The following figure and equations for AM 500 H are applicable for both extraction and supply.

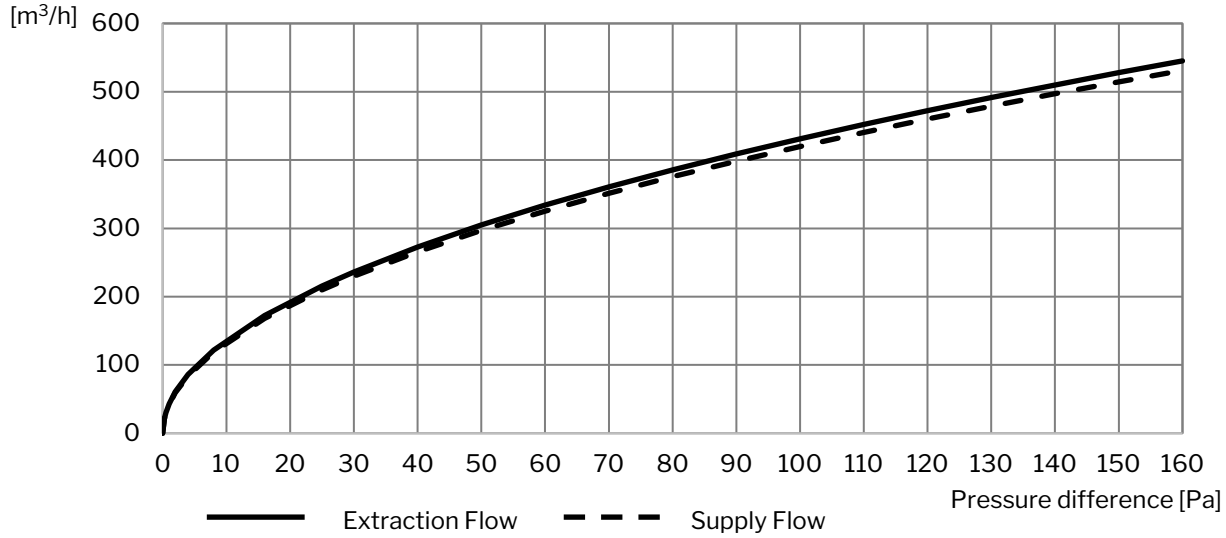


Figure 10

In equation 10.1 and 10.2, $\dot{V}$ is the airflow and Δp is the pressure difference in Pa.

	Extraction flow:	Supply flow:	
10.1:	$\dot{V} = 43.1 * (\Delta p)^{0.5}$	$\dot{V} = 42.0 * (\Delta p)^{0.5}$	[m^3/h]
10.2:	$\dot{V} = 12.0 * (\Delta p)^{0.5}$	$\dot{V} = 11.6 * (\Delta p)^{0.5}$	[l/s]

AM 500 V

The following figure and equations for AM 500 V are applicable for both extraction and supply.

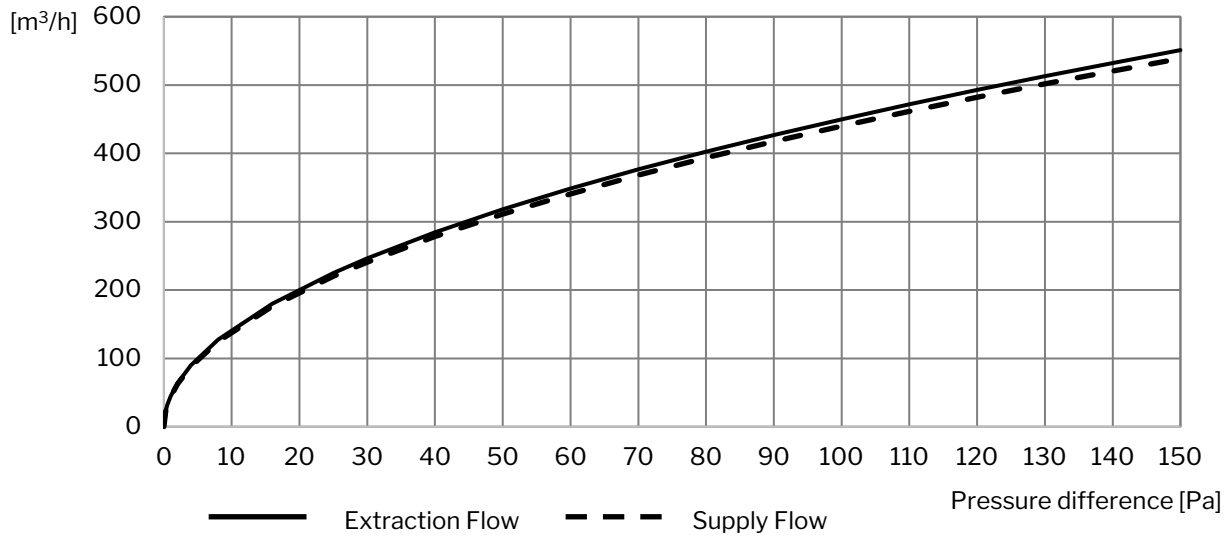


Figure 11

In equation 11.1 and 11.2, $\dot{V}$ is the airflow and Δp is the pressure difference in Pa.

	Extraction flow:	Supply flow:	
11.1:	$\dot{V} = 45.0 * (\Delta p)^{0.5}$	$\dot{V} = 44.0 * (\Delta p)^{0.5}$	[m³/h]
11.2:	$\dot{V} = 12.5 * (\Delta p)^{0.5}$	$\dot{V} = 12.2 * (\Delta p)^{0.5}$	[l/s]

AM 800 H/V

The following figure and equations for AM 800 H/V are applicable for both extraction and supply.

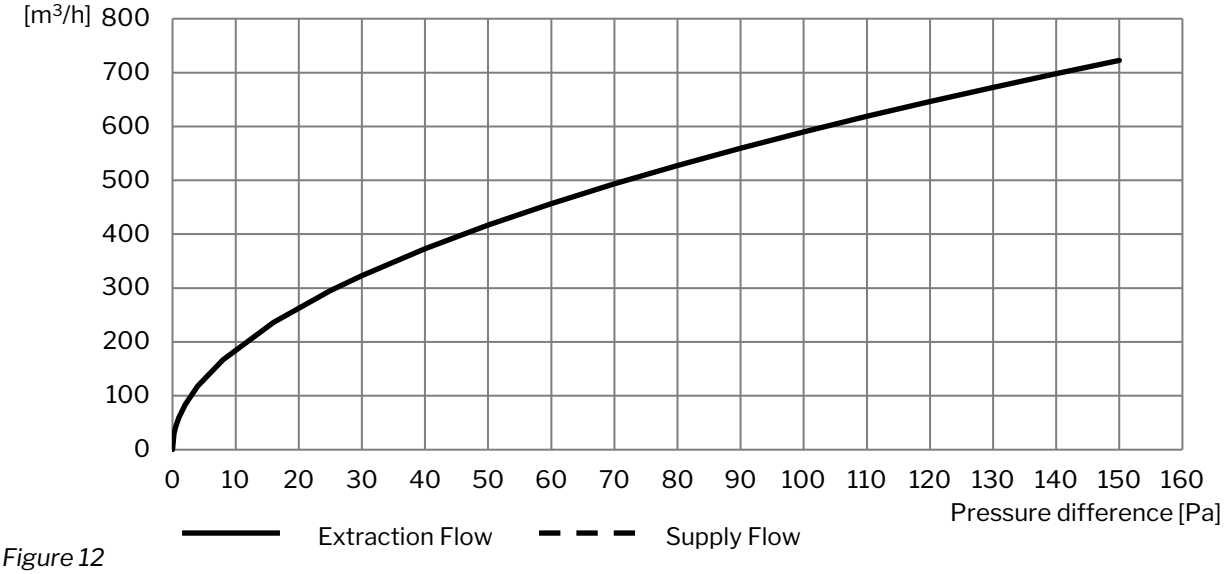


Figure 12

In equation 12.1 and 12.2, $\dot{V}$ is the airflow and Δp is the pressure difference in Pa.

12.1: $\dot{V} = 59.0 * (\Delta p)^{0.5}$ [m³/h]

12.2: $\dot{V} = 16.4 * (\Delta p)^{0.5}$ [l/s]

AM 900 HM – generation 3 (9020900103)

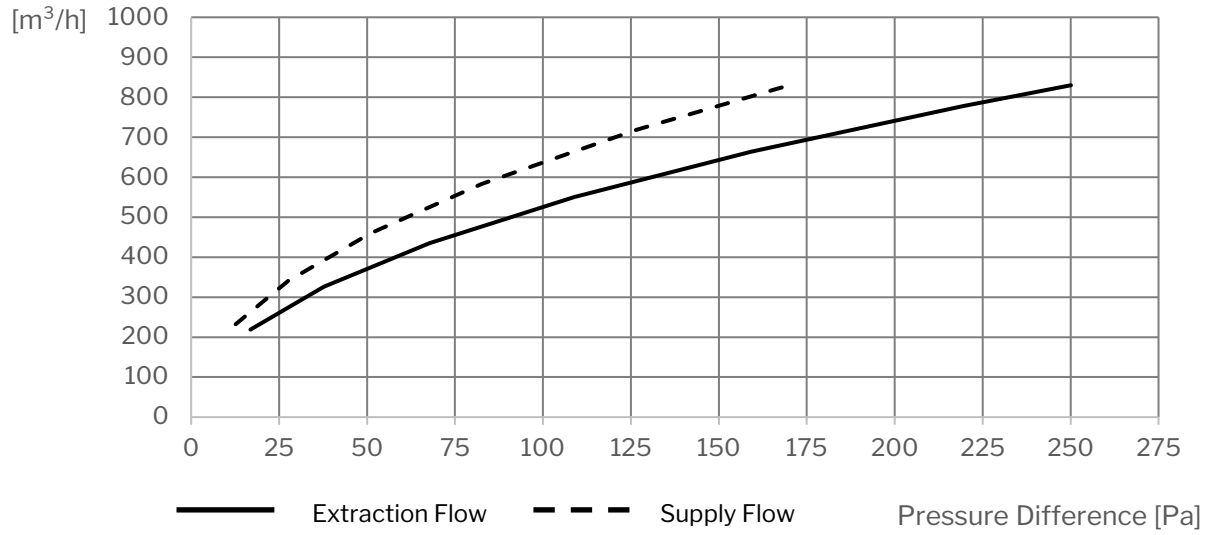


Figure 13

In equation 13.1 and 13.2, $\dot{V}$ is the airflow and Δp is the pressure difference in Pa.

	Extraction flow:	Supply flow:	
13.1:	$\dot{V} = 54.25 * (\Delta p)^{0.494}$	$\dot{V} = 67.01 * (\Delta p)^{0.49}$	[m³/h]
13.2:	$\dot{V} = 15.07 * (\Delta p)^{0.494}$	$\dot{V} = 18.61 * (\Delta p)^{0.49}$	[l/s]

AM 900 VM – generation 3 (9020900203)

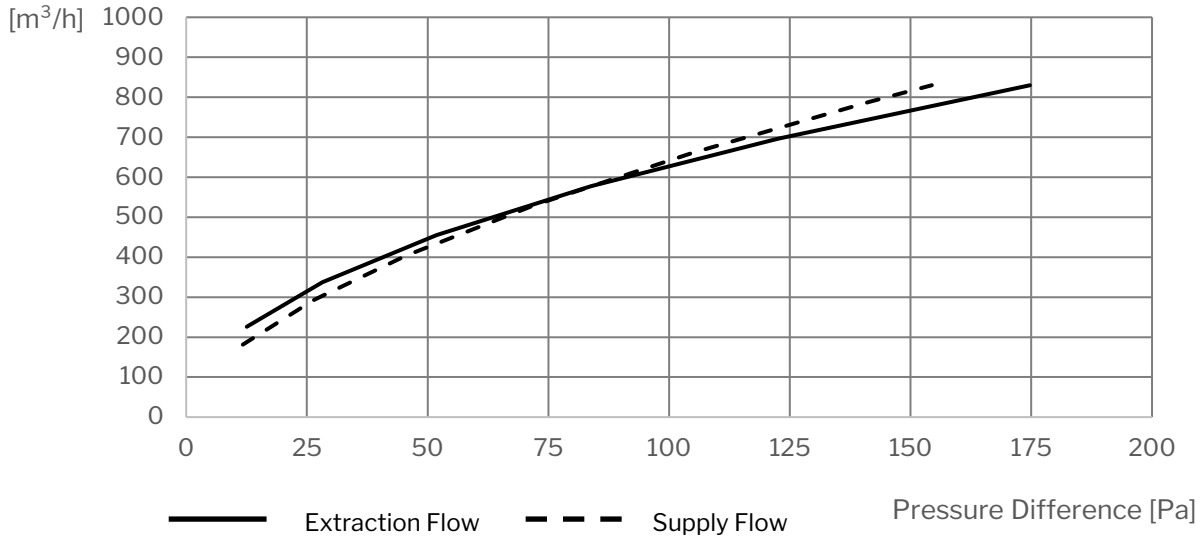


Figure 14

In equation 14.1 and 14.2, $\dot{V}$ is the airflow and Δp is the pressure difference in Pa.

	Extraction flow:	Supply flow:	
14.1:	$\dot{V} = 42.44 * (\Delta p)^{0.59}$	$\dot{V} = 64.77 * (\Delta p)^{0.494}$	[m³/h]
14.2:	$\dot{V} = 11.79 * (\Delta p)^{0.59}$	$\dot{V} = 17.99 * (\Delta p)^{0.494}$	[l/s]

AM 1000

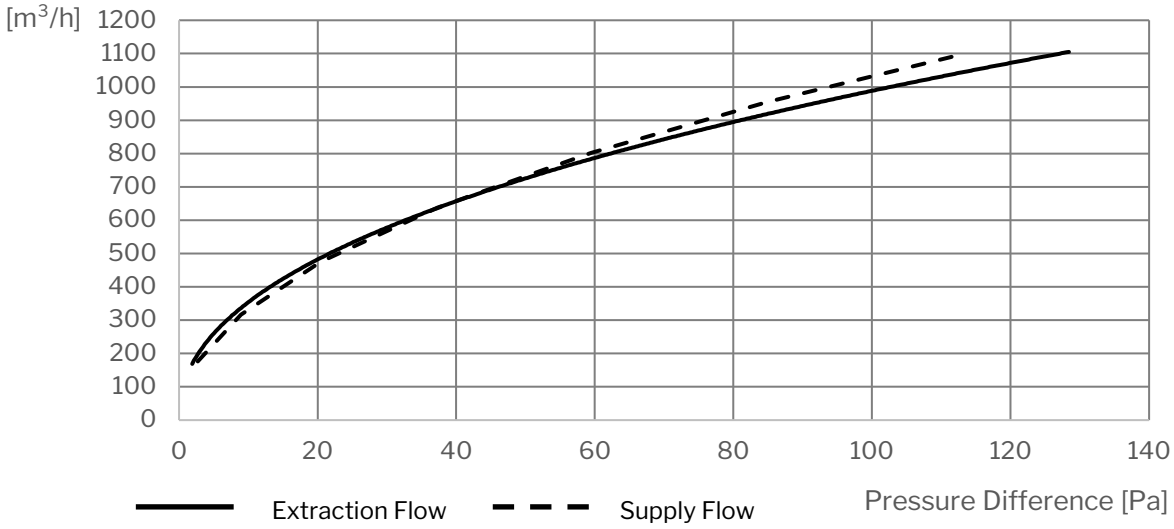


Figure 15

In equation 15.1 and 15.2, $\dot{V}$ is the airflow and Δp is the pressure difference in Pa.

	Extraction flow:	Supply flow:	
15.1:	$\dot{V} = 126.73 * (\Delta p)^{0.446}$	$\dot{V} = 108.29 * (\Delta p)^{0.49}$	[m³/h]
15.2:	$\dot{V} = 35.20 * (\Delta p)^{0.446}$	$\dot{V} = 30.08 * (\Delta p)^{0.49}$	[l/s]

AM 1200 H

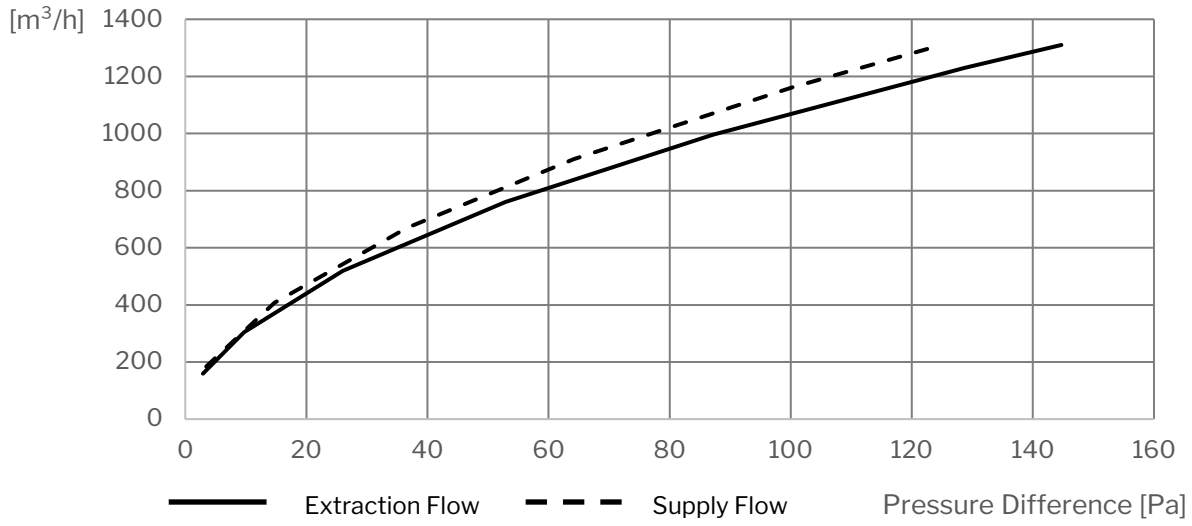


Figure 16

In equation 16.1 and 16.2, $\dot{V}$ is the airflow and Δp is the pressure difference in Pa.

	Extraction flow:	Supply flow:	
16.1:	$\dot{V} = 89.25 * (\Delta p)^{0.54}$	$\dot{V} = 93.43 * (\Delta p)^{0.547}$	[m³/h]
16.2:	$\dot{V} = 24.79 * (\Delta p)^{0.54}$	$\dot{V} = 25.95 * (\Delta p)^{0.547}$	[l/s]

AM 1200 V

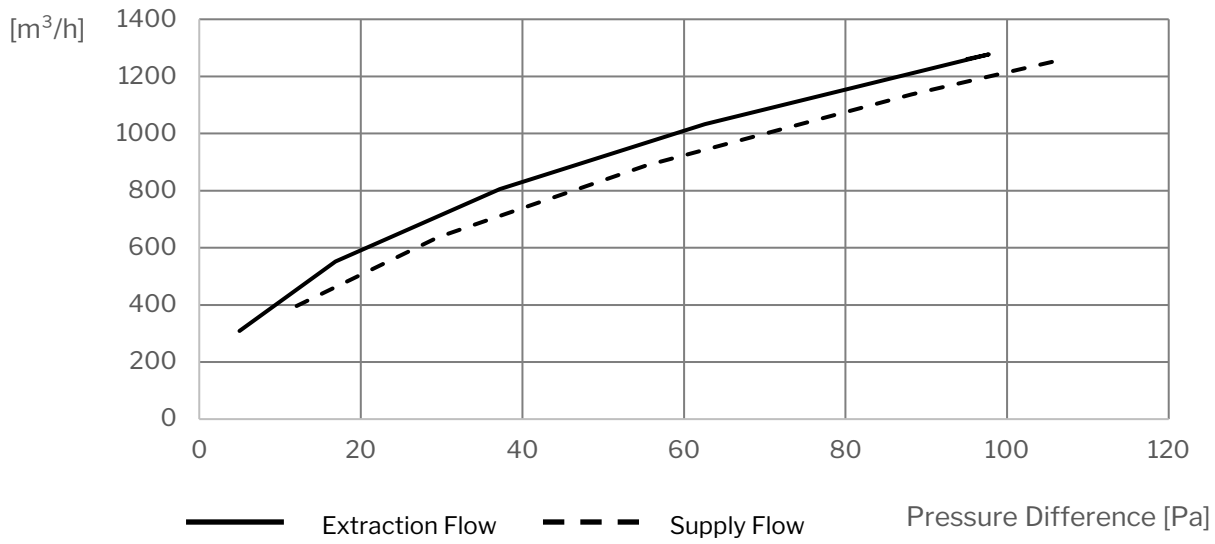


Figure 17

In equation 17.1 and 17.2, $\dot{V}$ is the airflow and Δp is the pressure difference in Pa.

	Extraction flow:	Supply flow:	
17.1:	$\dot{V} = 143.54 * (\Delta p)^{0.477}$	$\dot{V} = 105.89 * (\Delta p)^{0.53}$	[m³/h]
17.2:	$\dot{V} = 39.87 * (\Delta p)^{0.477}$	$\dot{V} = 29.41 * (\Delta p)^{0.53}$	[l/s]

DV 1000

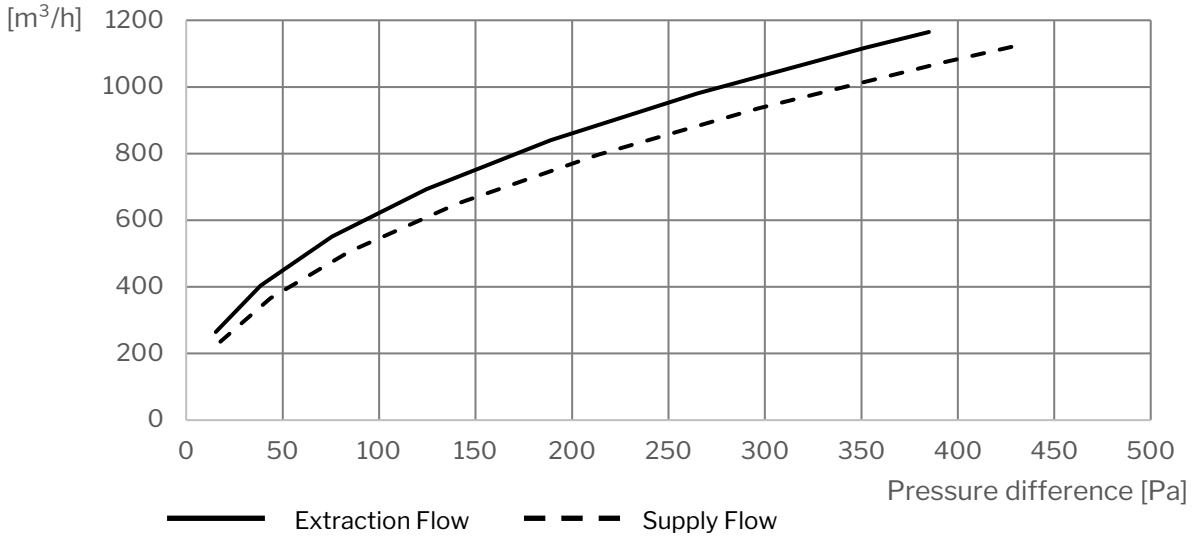


Figure 18

In equation 18.1 and 18.2, $\dot{V}$ is the airflow and Δp is the pressure difference in Pa.

	Extraction flow:	Supply flow:	
18.1:	$\dot{V} = 57.54 * (\Delta p)^{0.49}$	$\dot{V} = 75.32 * (\Delta p)^{0.46}$	[m³/h]
18.2:	$\dot{V} = 15.98 * (\Delta p)^{0.49}$	$\dot{V} = 20.92 * (\Delta p)^{0.46}$	[l/s]