

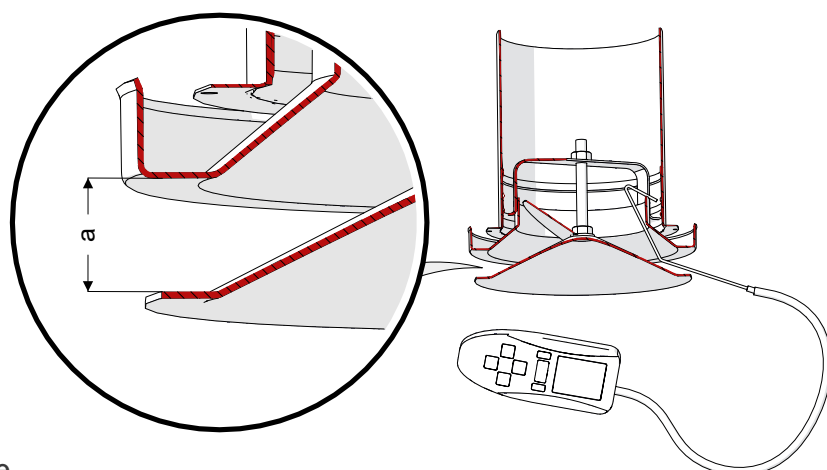


Commissioning guide

Sisukord

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DSS



$$Q_v = k \sqrt{\Delta p_m}$$

K-value

DSS 100					
a, mm	3	6	9	12	15
k-value	1,3	2,5	3,8	5,0	5,3

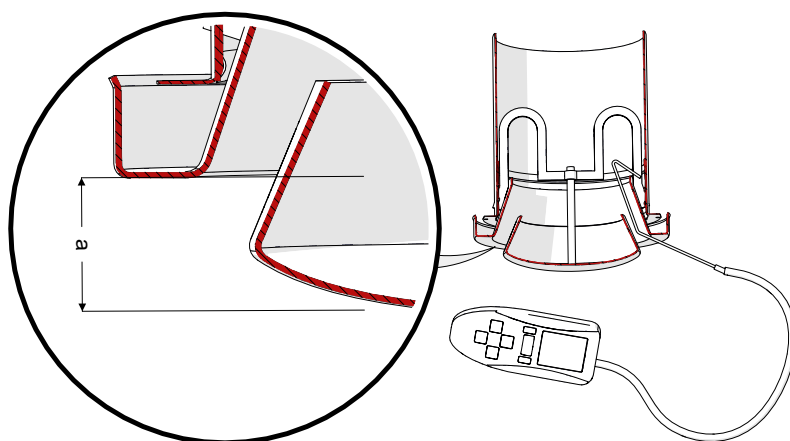
DSS 125					
a, mm	3	6	9	12	16
k-value	1,6	3,3	4,9	6,3	8,1

DSS 160					
a, mm	3	6	9	12	15
k-value	1,8	4,1	6,2	8,2	10,6

DSS 100 (with sector plate)					
a, mm	3	6	9	12	15
k-value	1,5	2,7	3,3	4,2	4,6

DSS 160 (with sector plate)					
a, mm	3	6	9	12	15
k-value	2,3	3,9	4,9	5,8	6,6

DSE



$$Q_v = k \sqrt{\Delta p_m}$$

K-value

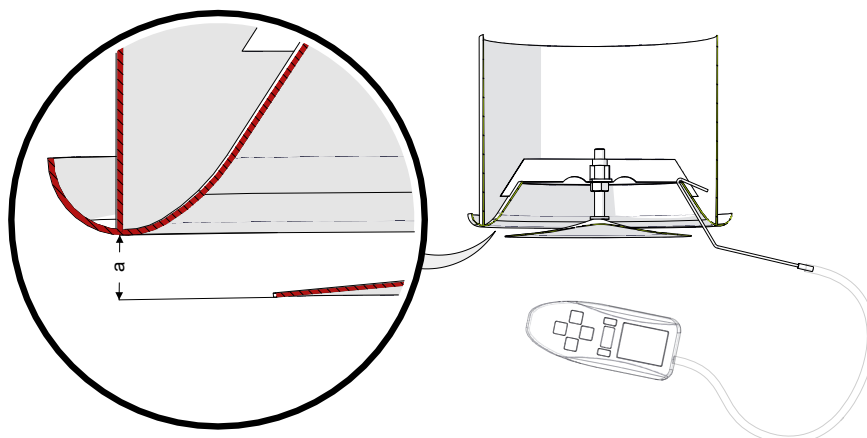
DSE 100								
a, mm	-9	-6	-3	0	3	6	9	12
k-value	0,79	1,08	1,36	1,65	1,94	2,25	2,55	2,81

DSE 125									
a, mm	-12	-9	-6	-3	0	3	6	9	12
k-value	0,6	0,95	1,3	1,65	2	2,4	2,8	3,2	3,6

DSE 160										
a, mm	-12	-9	-6	-3	0	3	6	9	12	15
k-value	1,1	1,55	2	2,45	2,9	3,5	4,1	4,65	5,2	5,7

DSE 200										
a, mm	-6	-3	0	3	6	9	12	15	18	20
k-value	0,48	1,07	1,66	2,41	3,16	3,94	4,72	5,48	6,24	6,79

DVP

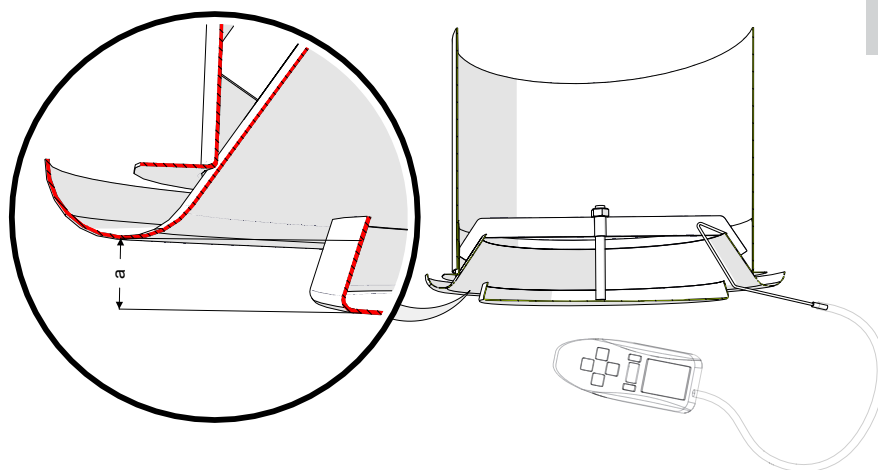


$$Q_v = k\sqrt{\Delta p_m}$$

K-value

a, mm	0	3	6	9	12	15	18	21
DVP 100	1,45	2,50	3,10	3,95	4,10			
DVP 125	2,50	3,65	4,40	5,45	6,40	7,45		
DVP 160	4,40	5,30	7,30	8,70	9,95	11,85		
DVP 200	4,05	6,05	8,25	10,25	12,00	15,30	17,45	
DVP 250	6,15	8,90	10,90	12,95	15,25	18,05	20,75	23,85

DVS

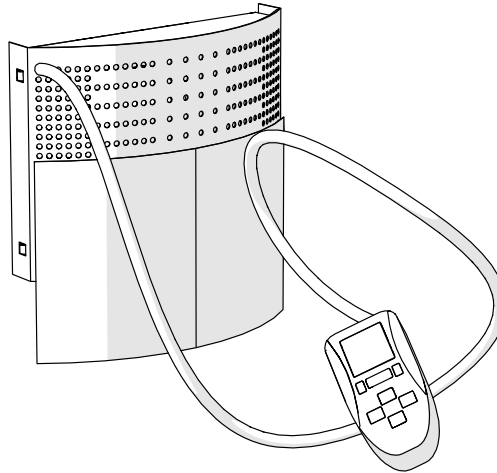


$$Q_v = k\sqrt{\Delta p_m}$$

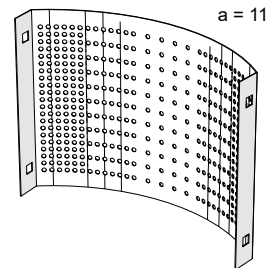
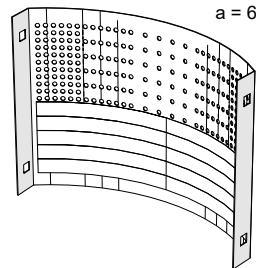
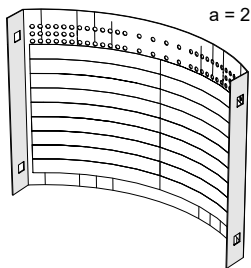
K-value

a, mm	-12	-9	-6	-3	0	3	6	9	12
DVS 100		0,45	0,80	1,20	1,50	1,80	2,25	2,65	2,95
DVS 125	0,80	1,25	1,65	2,10	2,60	3,00	3,45	4,00	4,50
DVS 160	2,10	2,35	3,00	3,70	4,20	4,95	5,45	6,25	6,90
DVS 200	3,15	3,90	4,75	5,15	6,25	7,40	8,25	8,95	10,00
DVS 250	5,85	6,95	8,05	9,45	10,30	10,85	12,35	13,75	15,50

DSK/DSK-P



$$Q_v = k \sqrt{\Delta p_m}$$



K-value

a	11	9	7	5	3	2
DSK-P 100	5,34	4,32	3,12	2,15	1,30	0,87

a	9	7	5	3	2
DSK-P2 100	2,16	1,56	1,08	0,65	0,49

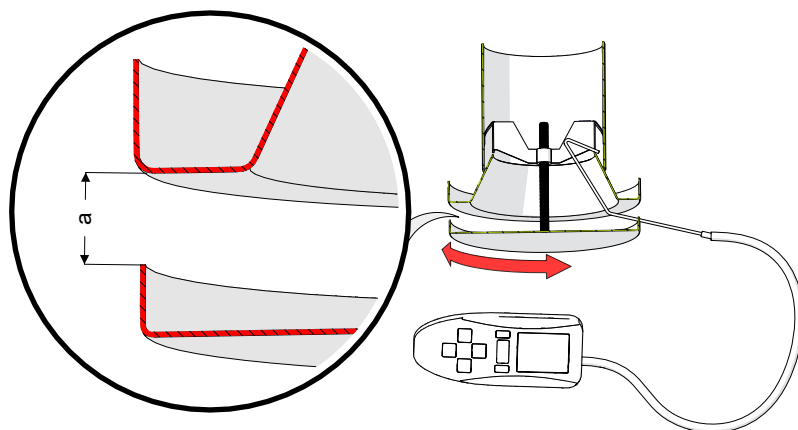
a	10	9	7	5	3	2
DSK-P 125	4,68	3,95	3,08	2,16	1,30	0,89

a	16	14	12	10	8	6	4	2
DSK 160	13,58	11,59	9,85	8,13	6,54	4,76	3,17	1,59

a	19	16	13	10	7	4
DSK 200	17,47	14,95	11,72	8,92	6,09	3,47

SFU

$$Q_v = k_v \sqrt{\Delta p_m}$$



K-value

SFU 100, supply air

a, mm	6	9	12
k-value	2,40	3,70	4,25

SFU 125, supply air

a, mm	6	9	12	15	18
k-value	2,40	3,70	4,25	5,60	6,85

SFU 160, supply air

a, mm	6	9	12	15	18
k-value	3,50	5,55	6,70	8,55	9,80

SFU 200, supply air

a, mm	6	9	12	15	18
k-value	4,75	7,05	8,50	9,75	11,05

SFU 100, exhaust air

a, mm	6	9	12	15	18
k-value	1,90	2,95	4,00	4,35	4,40

SFU 125, exhaust air

a, mm	6	9	12	15	18
k-value	2,15	3,60	4,20	5,30	6,35

SFU 160, exhaust air

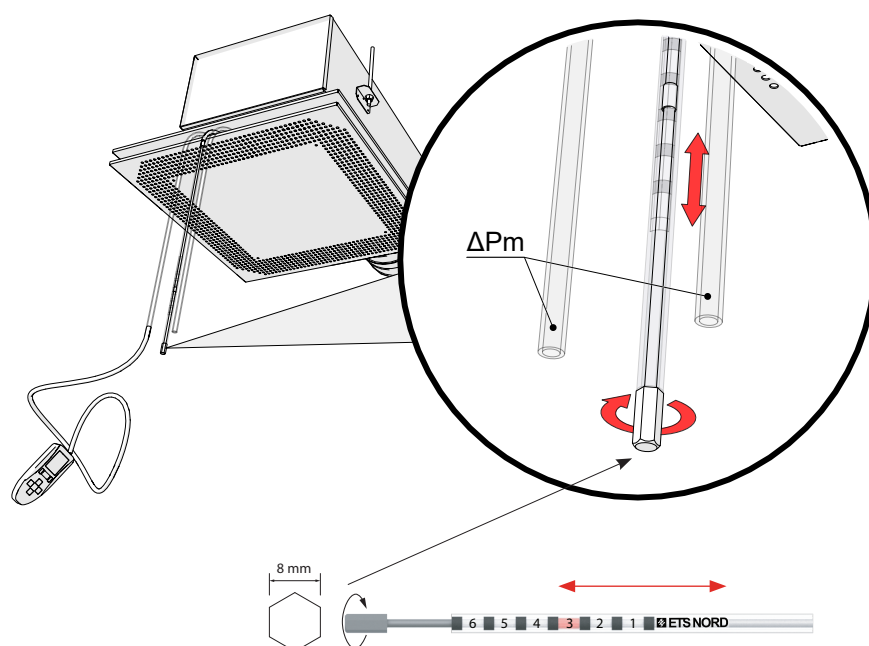
a, mm	6	9	12	15	18
k-value	3,55	5,00	6,40	7,60	8,55

SFU 200, exhaust air

a, mm	6	9	12	15	18
k-value	4,30	6,40	7,85	9,75	11,20

DEK

$$Q_v = k_v \sqrt{\Delta p_m}$$

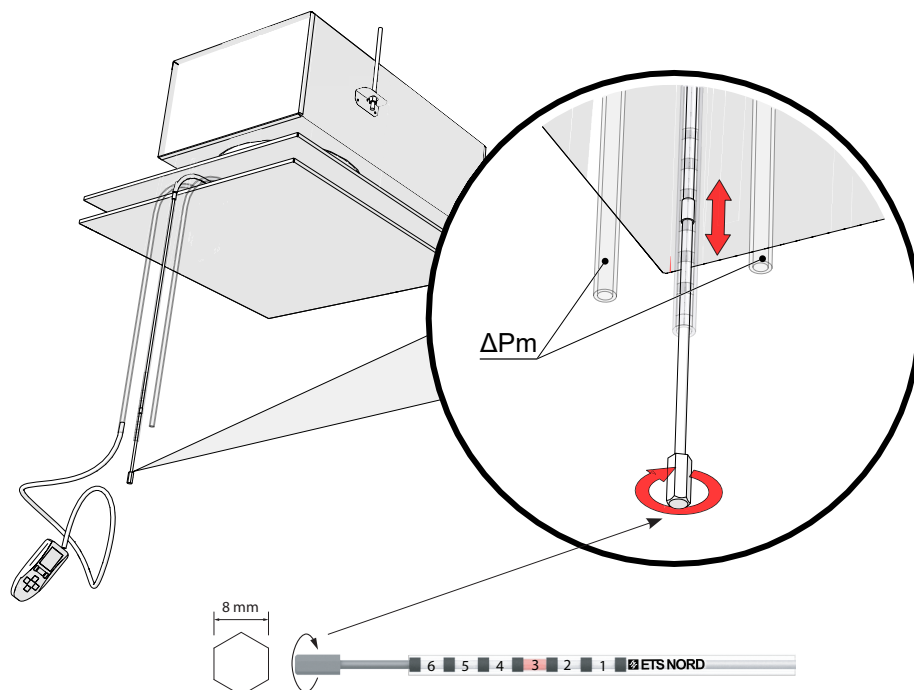


DEK + SKDM k-value

Nominal size	Position							
	1	2	3	4	5	6	7	8
DEK 100 + SKDM 100/100	2	3,8	5,4	6,6				
DEK 125 + SKDM 100/125	2	3,8	5,4	6,6				
DEK 160 + SKDM 125/160	2,1	4	5,8	7,4	8,8	10		
DEK 200 + SKDM 160/200	3,5	6,7	9,6	12,2	14,6	16,7		
DEK 250 + SKDM 200/250	5,5	10,5	15,1	19,2	22,9	26,1		
DEK 315 + SKDM 250/315	6,4	12,5	18,1	23,4	28,3	32,8		
DEK 400 + SKDM 315/400	7,5	14,7	21,5	28	34,2	40,1	45,8	50,9

DEP

$$Q_v = k_v \sqrt{\Delta p_m}$$



Supply

DEP + SKDM k-value

Nominal size	Position							
	1	2	3	4	5	6	7	8
DEP 125 + SKDM 100/125	2,15	3,92	5,43	6,46				
DEP 160 + SKDM 125/160	2,38	4,18	5,86	7,26	8,43	9,22		
DEP 200 + SKDM 160/200	3,6	6,68	9,45	11,7	13,8	15,5		
DEP 250 + SKDM 200/250	4,85	9,51	14,4	19,3	23,8	27,6		
DEP 315 + SKDM 250/315	6,69	12,4	17,9	22,7	26,4	29		
DEP 400 + SKDM 315/400	6,98	14	20,6	26,9	31,9	36,5	40,1	43,2

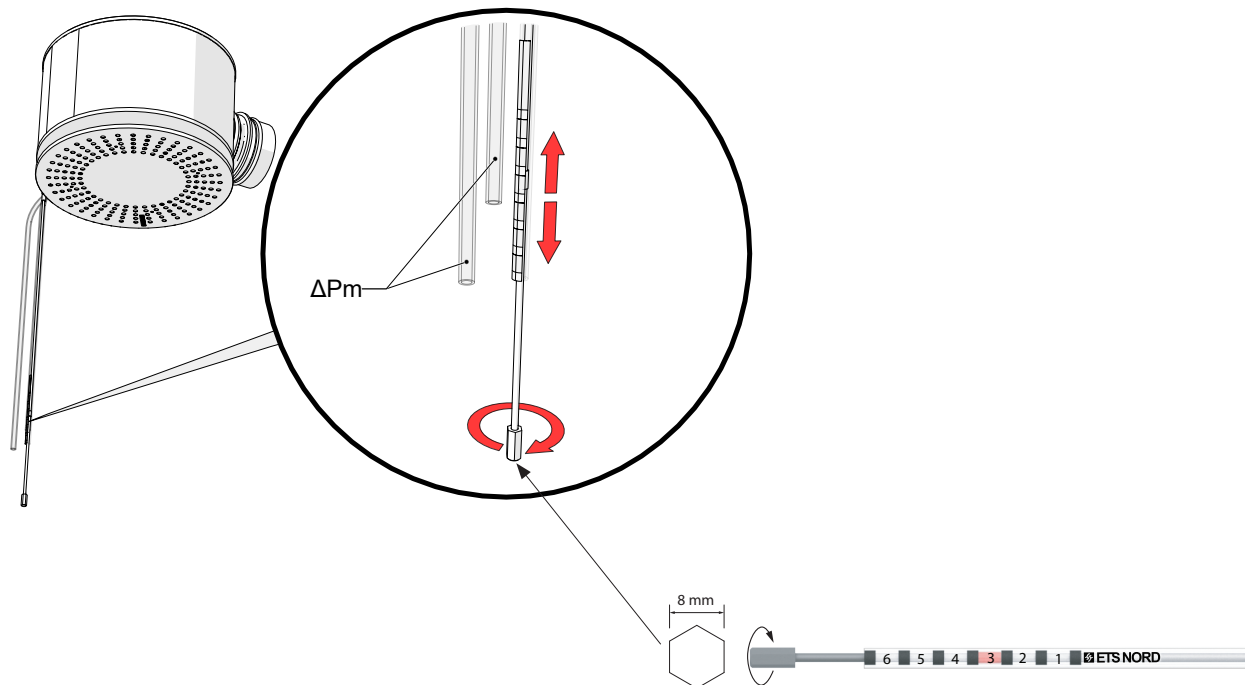
Exhaust

DEP + SKDM K-value

Nominal size	Position							
	1	2	3	4	5	6	7	8
DEP 125 + SKDM 100/125	2,12	4,07	6,08	8,16				
DEP 160 + SKDM 125/160	2,22	4,19	6,33	8,65	11,2	13,2		
DEP 200 + SKDM 160/200	3,37	6,73	10,4	14,1	17,9	21		
DEP 250 + SKDM 200/250	5,16	9,83	14,2	17,9	20,8	22,3		
DEP 315 + SKDM 250/315	6,73	12,3	18,5	24,4	30,3	32,4		
DEP 400 + SKDM 315/400	5,76	14,8	21,5	28,3	34,8	40,6	45,2	48,1

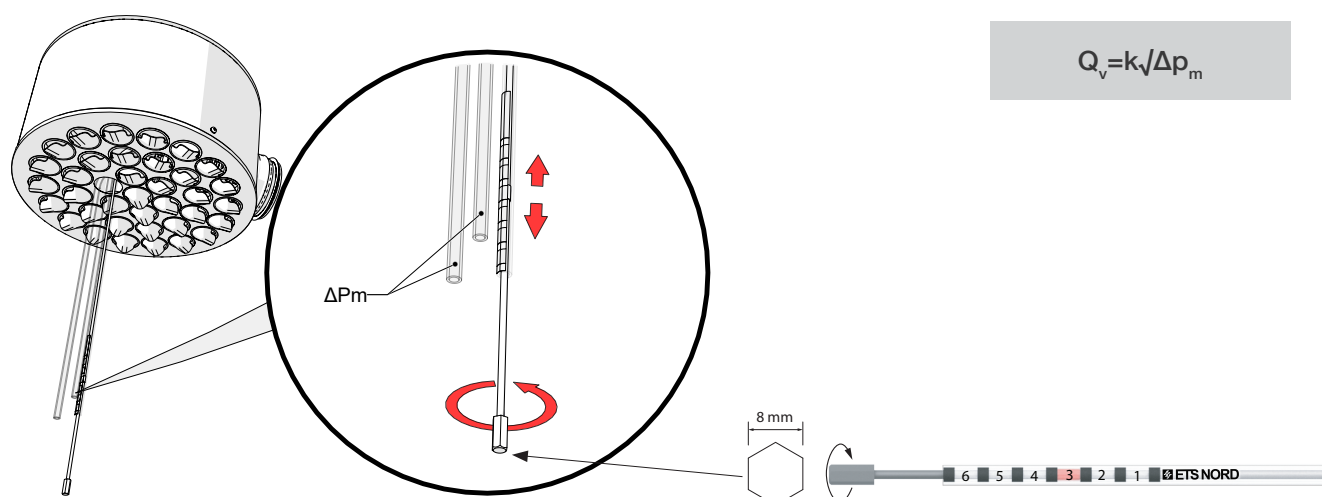
DEN

$$Q_v = k\sqrt{\Delta p_m}$$



K-value

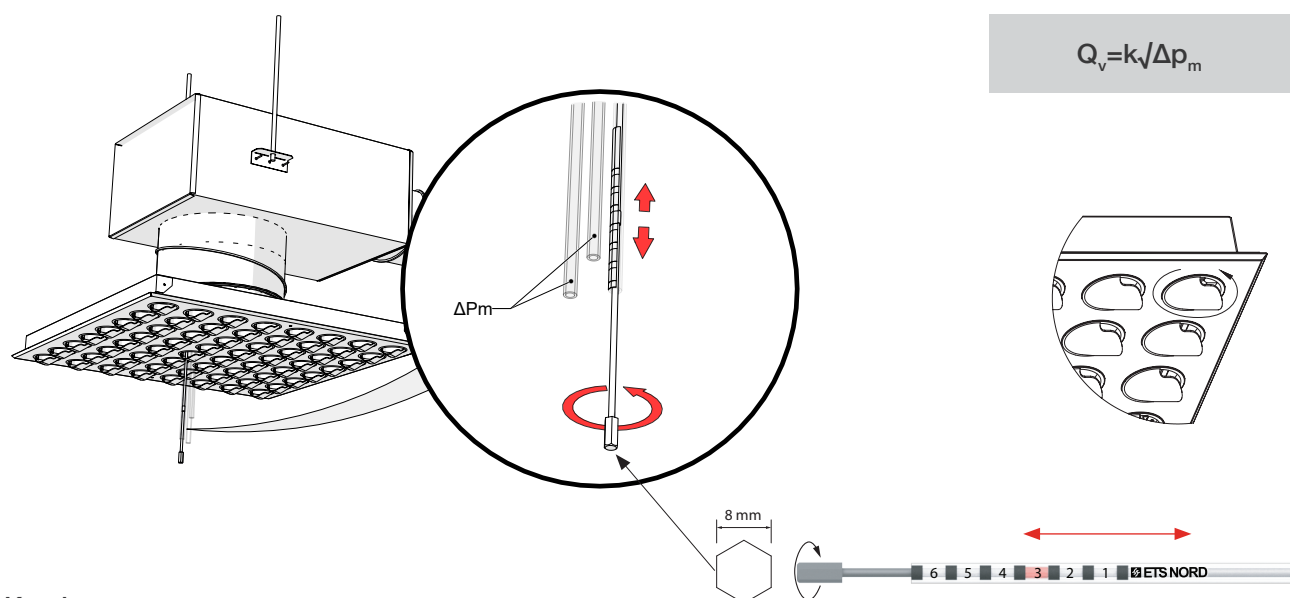
Nominal size	Position							
	1	2	3	4	5	6	7	8
DEN 100	2,2	3,7	5,4	6,7				
DEN 125	1,85	3,65	5,35	7,25	8,60	9,80		
DEN 160	3,3	5,6	9,1	13	14,7	17		
DEN 200	5,2	10	15,1	21,3	26,1	29,3		
DEN 250	8,7	16,6	24,2	33,7	40,6	43,5		
DEN 315	7,8	18	27,9	36,1	47,5	56,5	86,4	91,3

DEZ

K-value

Nominal size	Position							
	1	2	3	4	5	6	7	8
DEZ 100	2,0	4,0	5,9	7,5				
DEZ 125	2,1	4,1	6,0	7,9	9,5	10,7		
DEZ 160	3,5	6,7	9,9	12,9	15,6	17,7		
DEZ 200	5,1	9,9	14,7	19,4	23,6	26,8		
DEZ 250	6,3	12,5	18,5	24,4	30,0	35,3		
DEZ 315	7,4	14,2	21,5	29,0	36,0	43,1	50,0	56,4

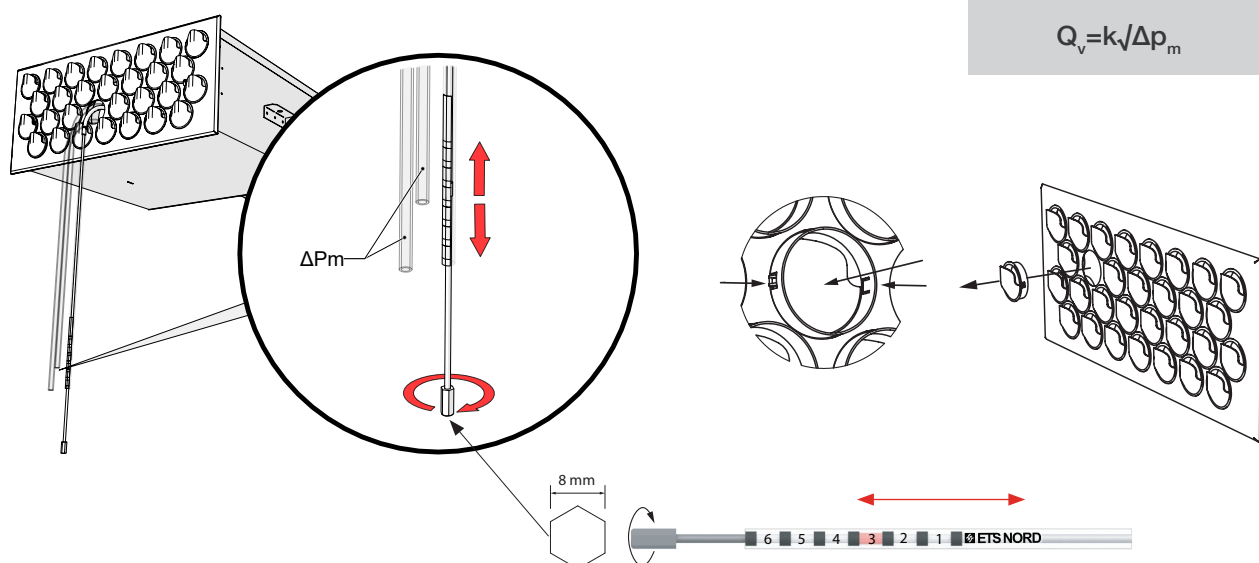
DKZ



K-value

DKZ+SKDM	Position							
	1	2	3	4	5	6	7	8
DKZ 125-300/450/600	2,1	3,8	5,2	6,3				
DKZ 160-300/450/600	2,2	4,1	5,8	7,3	8,5	9,6		
DKZ 200-450/600	3,6	6,8	9,6	12,1	14,2	15,9		
DKZ 250-600	5,6	10,7	15,1	19,0	22,2	24,9		
DKZ 315-600	6,6	12,8	18,4	23,5	28,1	32,1	35,7	38,7
DKZ 400-600	7,8	15,1	22,0	28,4	34,5	40,1	45,2	49,9

DRZ



$$Q_v = k \sqrt{\Delta p_m}$$

K-value

DRZ BxH	Position							
	1	2	3	4	5	6	7	8
400x150	2,1	3,8	5,4	6,9				
400x200	2,2	4,0	5,7	7,3	8,9	10,4		
500x200	3,6	6,7	9,5	12,2	14,8	17,2		
600x250	5,5	10,0	14,2	18,2	22,1	25,8		
750x300	6,9	12,7	18,1	23,2	28,1	32,9	37,5	42,0

DSP

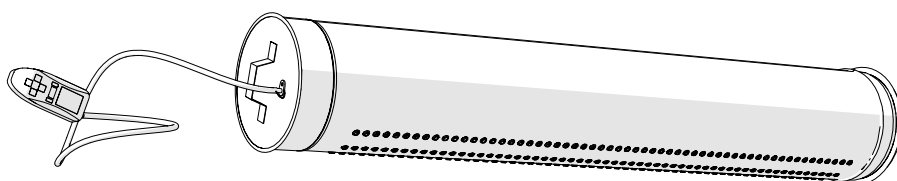
$$qv = l / s$$

$\sqrt{\Delta p}$ = measured pressure difference,

Pa k-value = 0,030

Qty = number of open nozzles

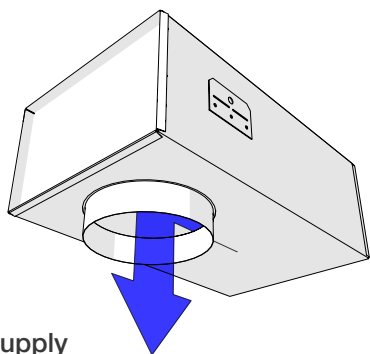
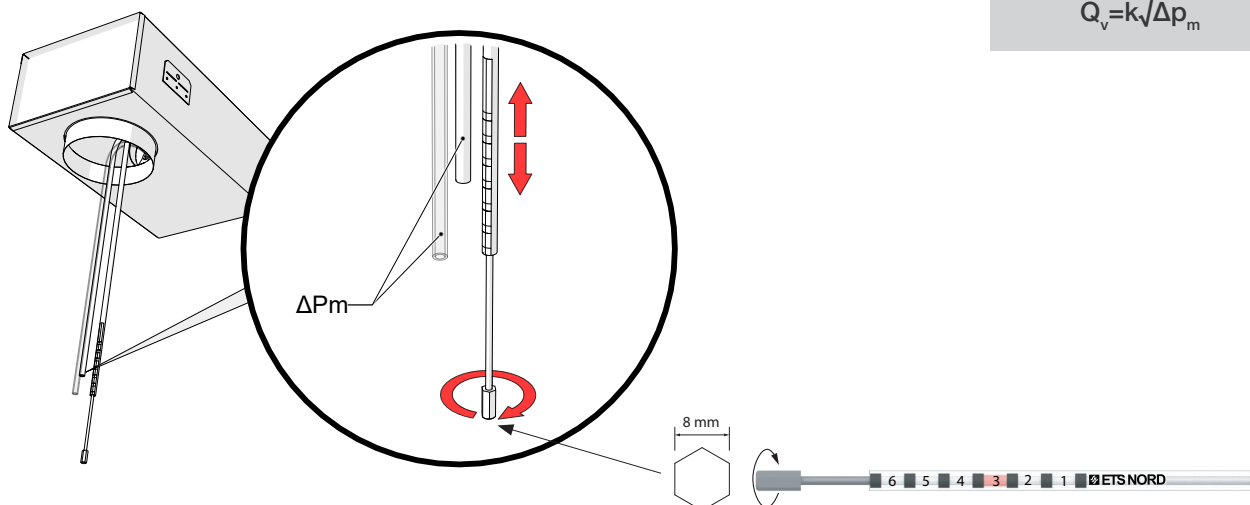
$$q_v = \sqrt{\Delta p} \times 0,030 \times \text{quantity}$$



Nominal size	Quantity of nozzles
DSP 160-600	96
DSP 200-600	144
DSP 250-600	192
DSP 315-600	240
DSP 400-600	288
DSP 500-600	336
DSP 160-1250	236
DSP 200-1250	354
DSP 250-1250	472
DSP 315-1250	590
DSP 400-1250	708
DSP 500-1250	826

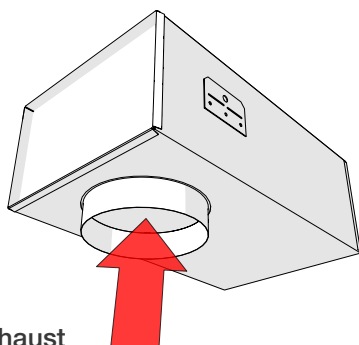
SKDM

$$Q_v = k_v \sqrt{\Delta p_m}$$



SKDM Supply

Ød	Position														
	s=1	s=1,5	s=2	s=2,5	s=3	s=3,5	s=4	s=4,5	s=5	s=5,5	s=6	s=6,5	s=7	s=7,5	s=8
100	1,6	2,3	2,9	3,8	4,6	5,5	6,3								
125	1,7	2,4	3,0	3,9	4,7	5,6	6,4	7,2	8,0	8,7	9,3				
160	3,0	4,6	6,2	7,8	9,4	10,9	12,3	13,5	14,6	15,7	16,7				
200	5,0	7,8	10,5	12,7	14,9	16,9	18,8	20,3	21,7	22,7	23,6				
250	5,6	10,6	15,5	19,3	23,0	26,9	30,7	34,6	38,4	42,2	46,0				
315	9,5	13,9	18,3	22,5	26,6	31,1	35,5	40,0	44,4	47,7	51,0	54,3	57,5	60,3	63,0

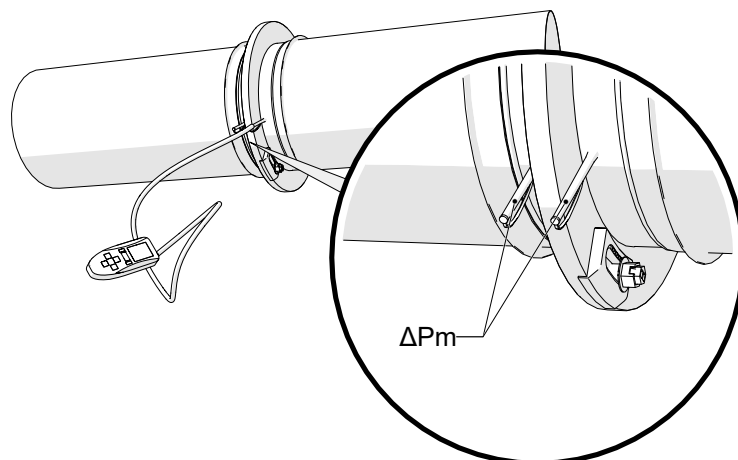


SKDM Exhaust

Ød	Position														
	s=1	s=1,5	s=2	s=2,5	s=3	s=3,5	s=4	s=4,5	s=5	s=5,5	s=6	s=6,5	s=7	s=7,5	s=8
100	2,14	3,1	4,1	5,1	6,13	7,1	8,04								
125	2,23	3,2	4,19	5,2	6,24	7,4	8,54	9,7	10,8	11,9	12,9				
160	3,39	5,1	6,72	8,5	10,3	12,2	14,1	15,9	17,7	19,5	21,2				
200	4,87	7,2	9,62	12,1	14,6	17,2	19,7	22,2	24,6	26,9	29,1				
250	6,64	9,6	12,5	15,5	18,4	21,4	24,3	27,1	29,9	30,5	31,1				
315	5,84	9,9	14	17,4	20,7	23,7	26,6	29,4	32,1	35,1	38	41,9	45,7	53	59,3

KRI

$$Q_v = k \sqrt{\Delta p_m}$$

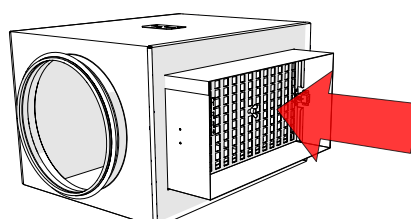
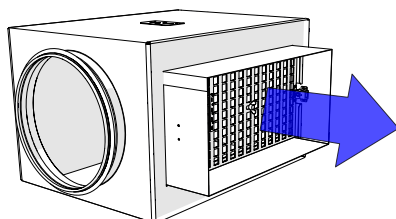
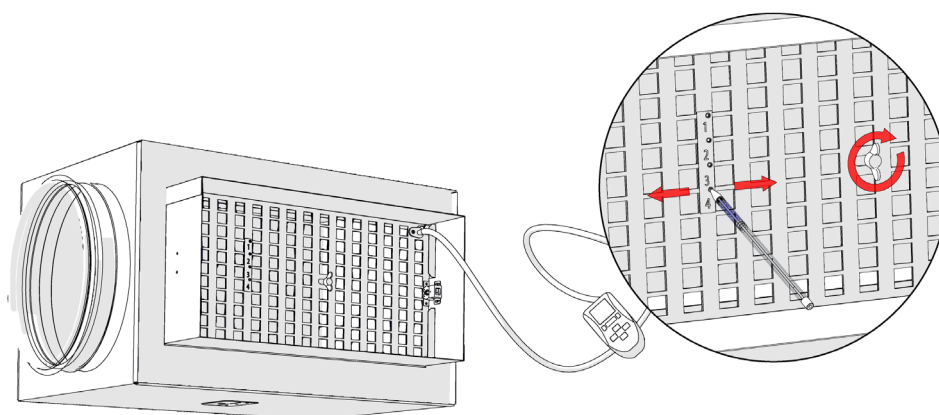


K-value

d	Position							
	1	2	3	4	5	6	7	8
KRI 100	8,30	6,69	5,56	3,95	3,10	2,44	1,70	1,28
KRI 125	16,04	12,07	9,77	7,28	5,33	4,07	3,13	
KRI 160	24,59	17,13	14,75	12,32	9,63	7,68	5,62	4,52
KRI 200	50,06	34,92	25,94	20,38	15,15	11,74	8,69	5,12
KRI 250	71,29	51,58	43,48	34,13	25,96	20,23	15,43	12,04
KRI 315	120,63	70,06	58,67	45,15	37,96	30,98	22,53	17,10
KRI 400	136,92	107,28	92,46	69,22	54,08	40,41	32,29	23,16
KRI 500	232,76	182,76	151,46	118,60	94,41	71,93	55,31	38,02
KRI 630	456,76	313,77	254,76	172,55	130,95	97,35	74,27	56,13
KRI 800	523,64	438,36	368,57	314,43	228,73	177,91	137,23	104,82

SKRM

$$Q_v = k_v \sqrt{\Delta p_m}$$

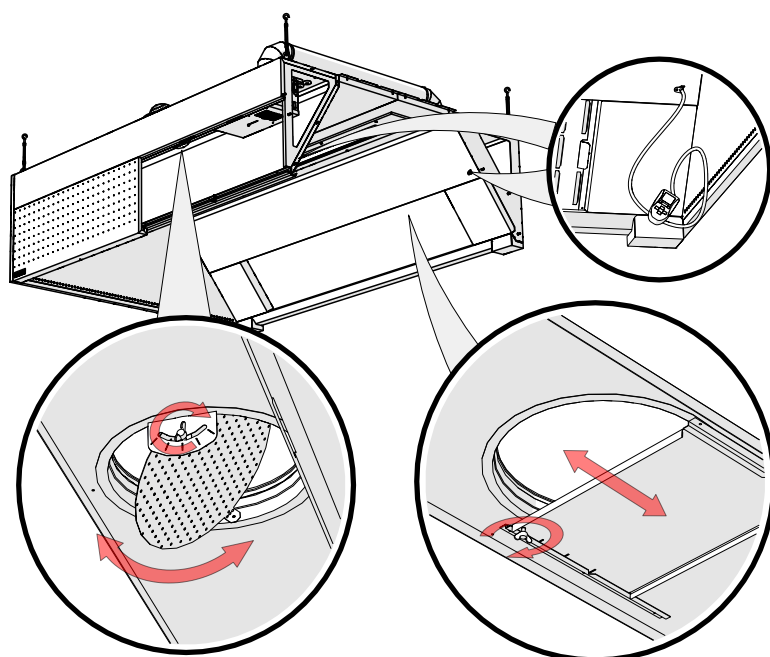


Ax B	Position			
	s = 1	s = 2	s = 3	s = 4
200x100	3,7	5,1	7,7	10,5
200x150	5,0	7,3	11,5	16,1
300x100	5,2	7,5	11,6	16,2
300x150	7,3	11,1	17,9	25,3
300x200	9,9	15,2	24,8	35,3
400x100	6,7	9,9	15,6	21,9
400x150	9,7	14,9	24,3	34,6
400x200	13,1	20,4	33,6	48,2
500x150	12,0	18,7	30,7	43,9
500x200	16,2	25,6	42,4	61,0
600x150	13,8	21,4	35,0	49,9
600x200	18,7	29,4	48,4	69,4
800x150	18,5	29,0	47,8	68,5
800x200	25,0	39,8	66,0	95,1
1000x200	31,4	50,2	83,6	120,8

Ax B	Position			
	s = 1	s = 2	s = 3	s = 4
200x100	3,2	4,2	5,6	6,9
200x150	4,5	6,1	8,4	10,5
300x100	4,6	6,2	8,5	10,5
300x150	6,6	9,2	12,9	16,2
300x200	8,9	12,5	17,7	22,3
400x100	6,0	8,2	11,3	14,2
400x150	8,7	12,3	17,4	22,0
400x200	11,7	16,8	23,8	30,1
500x150	10,8	15,4	21,9	27,7
500x200	14,6	21,0	30,0	38,0
600x150	12,5	17,9	25,5	32,2
600x200	16,9	24,4	34,8	44,0
800x150	16,8	24,2	34,5	43,7
800x200	22,6	32,9	47,1	59,8
1000x200	28,4	41,4	59,4	75,5

HR/HZ

NORDcanopy canopies are fitted with measuring nozzles located inside the canopy



$$Q_v = k \sqrt{\Delta p_m}$$

ATTN : During measurement all HFK grease filters and blind plates must be in place and the front panel must be closed.

The supply airflow can be adjusted from the adjustment plate.

The exhaust airflow adjustment plate is located behind the HFK grease filters in the exhaust chamber.

Lock the adjustment plate in place by using the butterfly nuts.

K-value for measuring airflow

Exhaust k-value = 16,6 (per 1 filter)

Supply air	K-value, per 1 m of front panel				
	SPx0	SPx1	SPx2	SPx3	SPxK
Front panel*	-	19,2	32,3	50,4	-
AirGrip	2,4	-	-	-	-
Side panel*	-	-	-	-	6,6

* The supply panel k-values above include the "AirGrip" air capture system k-value.

* If the side panel has perforation, add the side panel k-value to the front panel k-value.

Calculation example:

Supply air canopy L=2 meter with SPx2 front panel.

Calculation of the supply air volume:

Pressure in the supply air chamber is 25 Pa

Front panel SPx2 k-value is 32,3

$$Q_s = 2 \times 32,3 \times \sqrt{25} = 323 \text{ l/s}$$

Calculation of the exhaust air volume:

Pressure in the exhaust air chamber is 25 Pa

4 x HFK grease filter k-value is 16,6

$$Q_e = 4 \times 16,6 \times \sqrt{25} = 332 \text{ l/s}$$

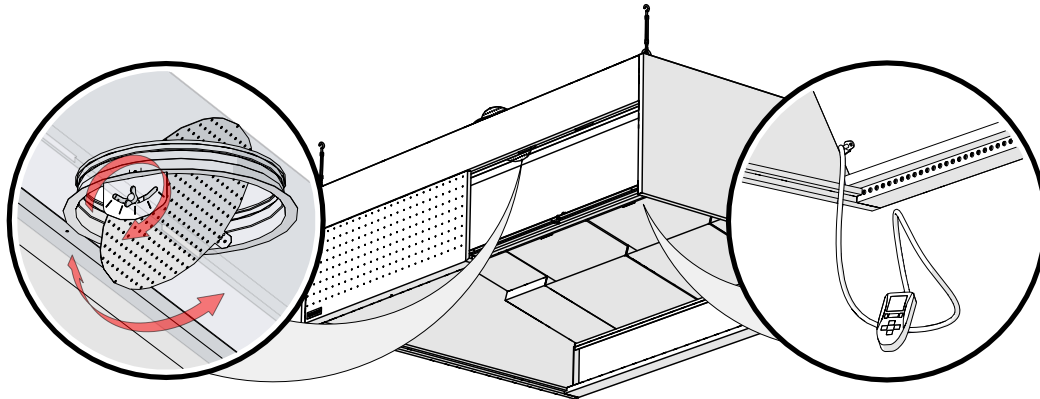
HU

NORDcanopy canopies are fitted with measuring nozzles located inside the canopy.

ATTN: During measurement, HFU steam filters must be fitted and front panel must be closed

Adjust the supply airflow from the adjustment plate.

The supply airflow adjustment plate is located in the supply chamber.



*The supply panels k-value contain the "AirGrip" air nozzle system k-value.

Calculation example:

Supply air canopy L=2 meter with SPx2 front panel.

Calculation of the supply air volume:

Pressure in the supply air chamber is 25 Pa

Front panel SPx2 k-value is 32,3

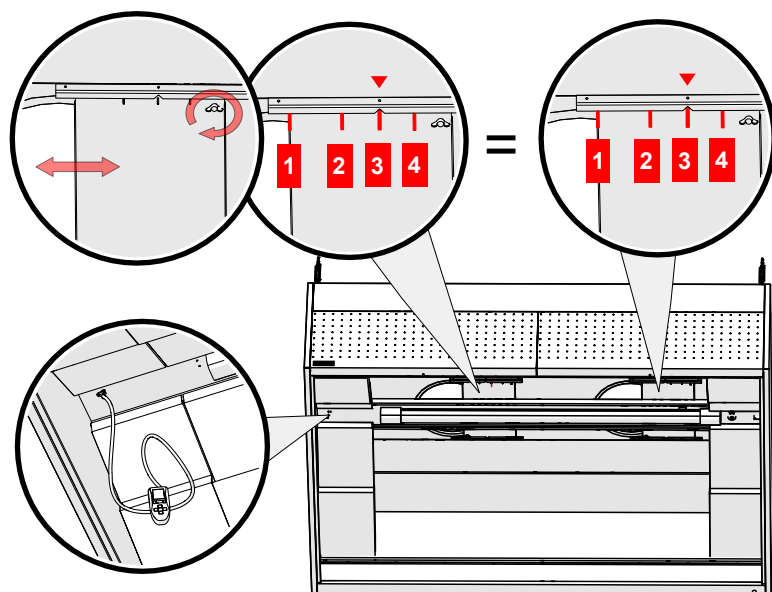
$$Q_s = 2 \times 32,3 \times \sqrt{25} = 323 \text{ l/s}$$

$$Q_v = k \sqrt{\Delta p_m}$$

Front panel per 1m	k-value
SPx0	-
SPx1*	19,2
SPx2*	32,3
SPx3*	50,4
AirGrip	2,4

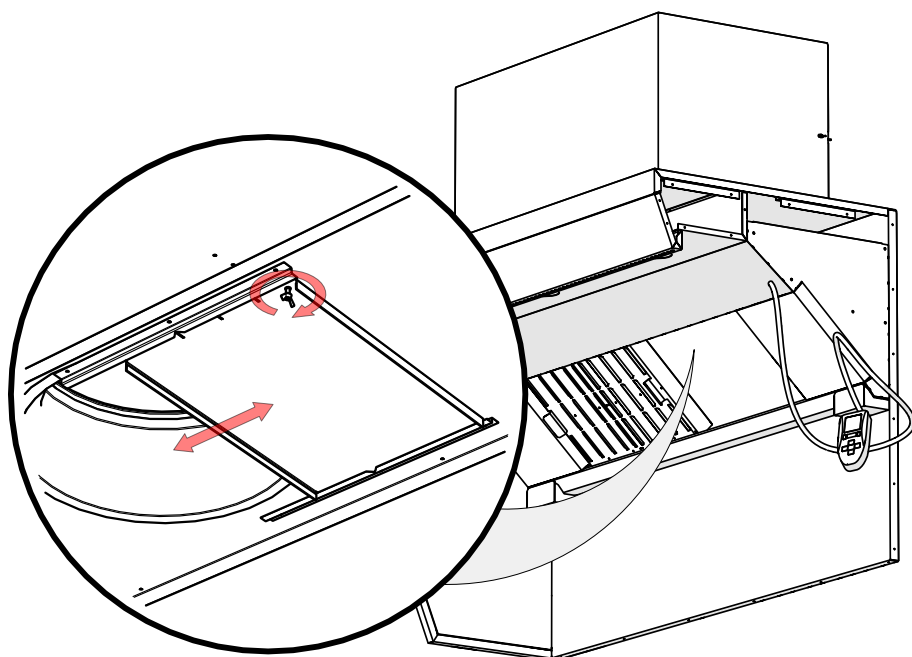
**NB! Adjusting plate located behind HFU condensation plates is used for adjusting exhaust airflow.
For fixing the regulating plate, lock the butterfly nuts!**

L	k-value			
	s=1	s=2	s=3	s=4
1000	38,9	34,4	29,1	25,7
1500	43,8	37,6	30,9	27,0
2000	77,9	68,7	58,1	51,5
2500	83,8	72,7	60,5	53,1
3000	87,7	75,2	61,9	54,0
3500	123,2	107,4	89,7	79,0
4000	155,7	137,5	116,2	102,9
4500	162,3	142,0	118,9	104,8
5000	167,6	145,4	120,9	106,2
5500	171,9	148,2	122,5	107,2
6000	175,3	150,4	123,8	108,0



HG

NORDcanopy canopies are fitted with measuring nozzles located inside the canopy.



$$Q_v = k\sqrt{\Delta p_m}$$

ATTN: During measurement all HFK grease filters and blind plates must be in place and the front panel must be closed

The exhaust airflow can be adjusted from the adjustment plate.

The exhaust airflow adjustment plate is located behind the HFK grease filters in the exhaust chamber.

Lock the adjustment plate in place by using the butterfly nuts.

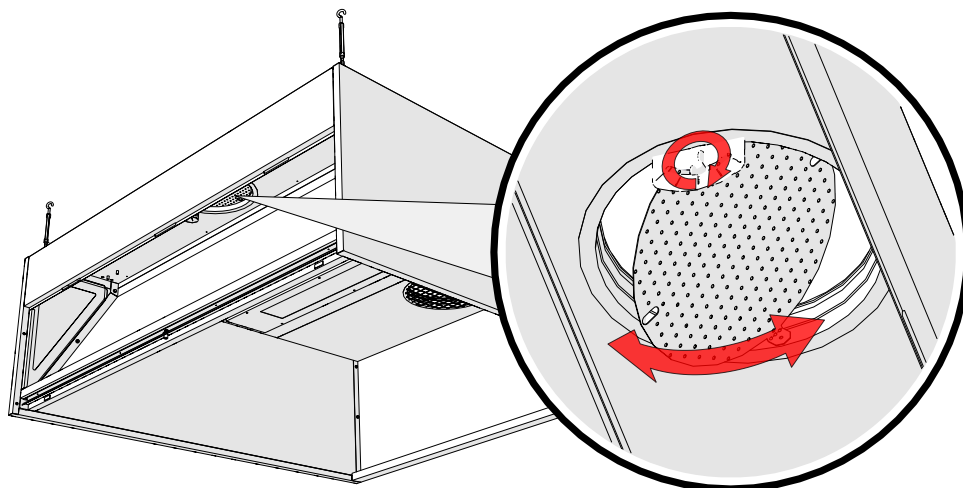
Exhaust k-value = 16,6 (per filter)

HN

Adjust the supply airflow from the adjustment plate.

The supply airflow adjustment plate is located in the supply chamber.

Lock the adjustment plate in place by using the butterfly nuts.



*The supply panels k-value contain the "AirGrip" air nozzle system k-value.

Calculation example:

Supply air canopy L=2 meter with SPx2 front panel.

Calculation of the supply air volume:

Pressure in the supply air chamber is 25 Pa

Front panel SPx2 k-value is 32,3

$$Q_s = 2 \times 32,3 \times \sqrt{25} = 323 \text{ l/s}$$

$$Q_v = k\sqrt{\Delta p_m}$$

Front panel per 1m	k-value
SPx0	-
SPx1*	19,2
SPx2*	32,3
SPx3*	50,4
AirGrip	2,4



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*Let's move the air **together!***