

1972-

Halton Control Guide Collection

Halton Säättöpas Kokoelma

Halton Collection de Guide de Réglage

Halton Injusteringsguide Kollektion

Инструкция по регулированию



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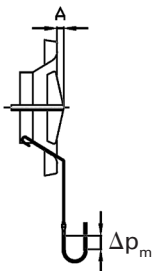
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$$q_v = k \times \sqrt{\Delta p_m}$$

URA



exhaust air
poistoilma
extraction
frånluft
Вытяжка

20/HCG/0210

ø 100 1970-1976

A	k
-12	0,62
-9	1,01
-6	1,4
-3	1,75
0	2,20
3	2,50
6	2,85
9	2,83
12	3,30
15	3,61

ø 150 1970-1976

A	k
-6	1,12
-3	1,73
0	2,45
3	2,90
6	3,40
9	4,11
12	4,72

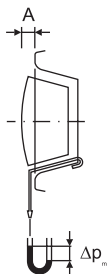
ø 200 1977-1978

A	k
+3	1,21
6	2,35
9	3,22
12	4,15
15	5,18
18	6,15
21	7,40
24	8,80

$$q_v = k \times \sqrt{\Delta p_m}$$

URH, UHA, URH-S

(FRH 1999 ->)



exhaust air
poistoilma
extraction
frånluft
Вытяжка

20/HCG/3000/0906

ø 100 1978-1987

A	k
-15	0,52
-12	0,76
-9	0,95
-6	1,18
-3	1,38
0	1,60
3	1,90
6	2,16
9	2,43
12	2,72

ø 100 1988-1996

A	k
-12	0,55
-9	0,75
-6	0,97
-3	1,19
0	1,42
3	1,70
6	2,00
9	2,25
12	2,50

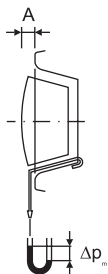
ø 100 1997-2001

A	k
-15	0,43
-12	0,63
-9	0,83
-6	1,02
-3	1,22
0	1,42
3	1,65
6	1,88
9	2,11
12	2,33

$$q_v = k \times \sqrt{\Delta p_m}$$

URH, UHA, URH-S

(FRH 1999 ->)



exhaust air
poistoilma
extraction
frånluft
Вытяжка

ø 125 1980-1987

A	k
-15	0,41
-12	0,70
-10	0,90
-7	1,18
-5	1,35
-3	1,53
0	1,96
3	2,27
5	2,45
10	3,00
15	3,58

ø 125 1988-1996

A	k
-12	0,65
-9	0,93
-6	1,23
-3	1,59
0	1,89
3	2,19
6	2,58
9	2,92
12	3,20
15	3,58

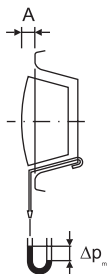
ø 125 1997-2001

A	k
-15	0,65
-12	0,92
-9	1,22
-6	1,53
-3	1,84
0	2,17
3	2,52
6	2,83
9	3,14
12	3,46
15	3,77

$$q_v = k \times \sqrt{\Delta p_m}$$

URH, UHA, URH-S

(FRH 1999 ->)



exhaust air
poistoilma
extraction
frånluft
Вытяжка

20/HCG/0210

ø 150 1990-1996

A	k
-12	1,01
-9	1,33
-6	1,75
-3	2,14
0	2,56
3	2,98
6	3,29
9	3,74
12	4,24
15	4,47
18	4,95

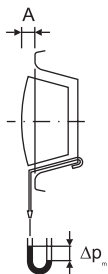
ø 150 1997-2001

A	k
-12	1,17
-9	1,53
-6	1,91
-3	2,34
0	2,73
3	3,16
6	3,58
9	4,01
12	4,46
15	4,87
18	5,28

$$q_v = k \times \sqrt{\Delta p_m}$$

URH, UHA, URH-S

(FRH 1999 ->)



exhaust air

poistoilma

extraction

frånluft

Вытяжка

ø 160 1978-1987

A	k
-15	0,80
-12	1,18
-10	1,40
-5	2,12
-3	2,32
0	2,75
3	3,20
5	3,54
10	4,23
15	5,07

ø 160 1988-1996

A	k
-12	1,00
-9	1,28
-6	1,62
-3	2,09
0	2,46
3	2,95
6	3,35
9	3,77
12	4,38
15	4,73
18	5,20

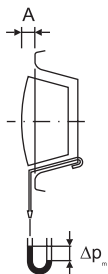
ø 160 1997-2001

A	k
-12	1,16
-9	1,51
-6	1,90
-3	2,31
0	2,75
3	3,25
6	3,73
9	4,22
12	4,67
15	5,12
18	5,58

$$q_v = k \times \sqrt{\Delta p_m}$$

URH, UHA, URH-S

(FRH 1999 ->)



exhaust air

poistoilma

extraction

frånluft

Вытяжка

ø 200 1980-1982

A	k
-18	1,10
-15	1,57
-10	2,33
-5	3,31
-3	3,59
0	4,11
3	4,56
5	5,00
10	6,17
15	7,17
18	7,75

20/HCG/0210

ø 200 1983-1987

A	k
0	1,00
3	1,60
5	2,37
10	3,75
15	5,30
20	6,95
25	8,25
30	9,80

ø 200 1988-1996

A	k
3	1,52
6	2,02
9	2,83
12	3,58
15	4,24
20	5,48
25	6,60

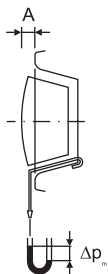
ø 200 1997-2001

A	k
3	1,78
6	2,46
9	3,24
12	3,97
15	4,69
20	5,88
25	6,95

$$q_v = k \times \sqrt{\Delta p_m}$$

URH, UHA, URH-S

(FRH 1999 ->)



supply air

tuloilma

soufflage

tilluft

Приток

20/HCG/0210

ø 100 1978-1987

A	k
-9	0,90
-6	1,18
-3	1,40
0	1,77
3	2,29
6	2,74
9	2,98
12	3,35

ø 125 1978-1987

A	k
-9	1,18
-6	1,58
-3	1,96
0	2,32
3	2,96
6	3,35
9	3,69
12	4,00
15	4,40

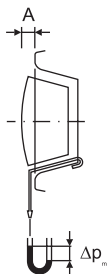
ø 160 1978-1987

A	k
-9	1,58
-6	1,98
-3	2,54
0	2,98
3	3,80
6	4,39
9	4,74
12	5,27
15	5,76

$$q_v = k \times \sqrt{\Delta p_m}$$

URH, UHA, URH-S

(FRH 1999 ->)



supply air

tuloilma

soufflage

tilluft

Приток

ø 200 1978-1.2.1983

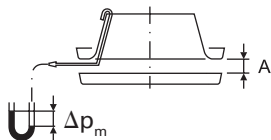
A	k
-12	2,37
-9	3,01
-6	3,78
-3	4,24
0	4,78
3	5,50
6	6,32
9	7,27
12	7,62
15	8,25
18	8,94

ø 200 1.10.1983-1987

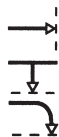
A	k
0	1,34
3	2,36
6	3,89
9	4,70
12	5,38
15	5,98
18	6,45
21	7,12
25	8,00

$$q_v = k \times \sqrt{\Delta p_m}$$

ULA



supply air
tuloilma
soufflage
tilluft
Приток



20/HCG/0210

1985-1987

∅ 100 360°

A	k
3	1,80
6	3,11
9	4,13
12	4,78

1985-1987

∅ 100 180°

A	k
3	1,48
6	2,00
9	2,26
12	2,76
15	3,23

1988-2001

∅ 100 360°



A	k
3	1,58
6	3,35
9	4,00
12	4,52
15	4,95

1988-2001

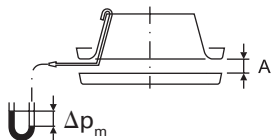
∅ 100 360°



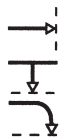
A	k
3	1,48
6	3,14
9	3,75
12	4,23
15	4,64

$$q_v = k \times \sqrt{\Delta p_m}$$

ULA



supply air
tuloilma
soufflage
tilluft
Приток



20/HCG/0210

1988-2001

∅ 100 180°



A	k
3	1,37
6	2,20
9	2,46
12	2,80
15	3,00

1988-2001

∅ 100 180°



A	k
3	1,31
6	2,11
9	2,36
12	2,68
15	2,87

1985-1987

∅ 125 360°

A	k
3	1,90
6	4,00
9	5,53
12	7,38
15	8,37

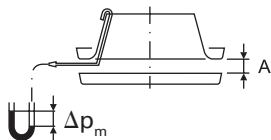
1985-1987

∅ 125 360°

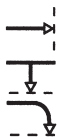
A	k
3	1,67
6	3,00
9	3,60
12	3,89
15	4,36

$$q_v = k \times \sqrt{\Delta p_m}$$

ULA



supply air
tuloilma
soufflage
tilluft
Приток



20/HCG/0210

1988-2001

∅ 125 360°



A	k
3	2,60
6	3,68
9	5,16
12	6,71
15	7,12

1988-2001

∅ 125 360°



A	k
3	2,49
6	3,52
9	4,95
12	6,43
15	6,82

1988-2001

∅ 125 180°



A	k
3	1,79
6	3,00
9	3,50
12	4,00
15	4,50

1988-2001

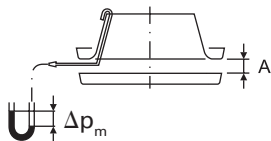
∅ 125 180°



A	k
3	1,57
6	2,63
9	3,07
12	3,51
15	3,95

$$q_v = k \times \sqrt{\Delta p_m}$$

ULA



supply air
tuloilma
soufflage
tilluft
Приток



20/HCG/0210

1985-1987

∅ 160 360°

A	k
3	2,28
6	4,74
9	6,93
12	8,96
15	11,20
20	14,00

1985-1987

∅ 160 180°

A	k
3	2,09
6	3,35
9	4,01
12	4,74
15	5,16
20	6,20

1988-2001

∅ 160 360°



A	k
3	2,58
6	4,47
9	6,71
12	8,94
15	11,18
20	13,48

1988-2001

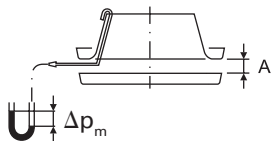
∅ 160 360°



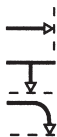
A	k
3	2,52
6	4,56
9	6,55
12	8,73
15	10,91
20	13,16

$$q_v = k \times \sqrt{\Delta p_m}$$

ULA



supply air
tuloilma
soufflage
tilluft
Приток



20/HCG/0210

1988-2001

∅ 160 180°



A	k
3	1,79
6	3,00
9	3,87
12	4,74
15	5,59
20	6,32

1988-2001

∅ 160 180°



A	k
3	1,76
6	2,96
9	3,82
12	4,67
15	5,51
20	6,23

1985-1987

∅ 200 360°

A	k
3	2,55
6	5,27
9	7,07
12	10,24
15	12,60
20	15,81

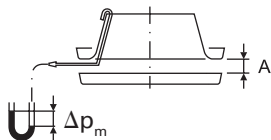
1985-1987

∅ 160 180°

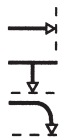
A	k
3	2,34
6	3,69
9	4,33
12	5,12
15	5,81
20	6,74

$$q_v = k \times \sqrt{\Delta p_m}$$

ULA



supply air
tuloilma
soufflage
tilluft
Приток



20/HCG/0210

1988-2001

∅ 200 360°



A	k
3	2,68
6	6,39
9	9,49
12	11,18
15	14,14
20	16,97

1988-2001

∅ 200 360°



A	k
3	2,43
6	5,79
9	8,59
12	10,12
15	12,80
20	15,36

1988-2001

∅ 200 180°



A	k
3	2,83
6	3,87
9	5,66
12	6,76
15	8,49
20	9,49

1988-2001

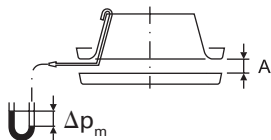
∅ 200 180°



A	k
3	2,86
6	3,91
9	5,71
12	6,83
15	8,57
20	9,58

$$q_v = k \times \sqrt{\Delta p_m}$$

ULA



exhaust air
poistoilma
extraction
frånluft
Вытяжка



20/HCG/0210

1985-1987

ø 100

A	k
3	1,64
6	3,08
9	4,00
12	4,52
15	5,00

1988-2001

ø 100

A	k
3	1,30
6	2,41
9	3,28
12	4,06
15	4,57



1988-2001

ø 100

A	k
3	1,36
6	2,51
9	3,42
12	4,23
15	4,77



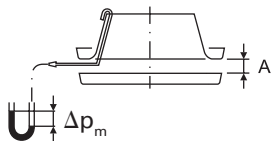
1985-1987

ø 125

A	k
3	2,01
6	3,48
9	4,50
12	5,70
15	6,75

$$q_v = k \times \sqrt{\Delta p_m}$$

ULA



exhaust air
poistoilma
extraction
frånluft
Вытяжка



20/HCG/0210

1988-2001

ø 125



A	k
3	1,48
6	3,31
9	4,26
12	5,25
15	6,33

1988-2001

ø 125



A	k
3	1,51
6	3,38
9	4,35
12	5,36
15	6,46

1985-1987

ø 160

A	k
3	2,28
6	4,15
9	5,98
12	7,22
15	8,43

1988-2001

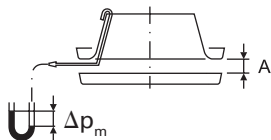
ø 160



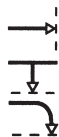
A	k
3	1,85
6	4,12
9	5,26
12	6,56
15	7,55

$$q_v = k \times \sqrt{\Delta p_m}$$

ULA



exhaust air
poistoilma
extraction
frånluft
Вытяжка



20/HCG/0210

1988-2001

ø 160



A	k
3	1,48
6	3,31
9	4,26
12	5,25
15	6,33

1985-1987

ø 200

A	k
3	2,26
6	4,49
9	6,45
12	9,04
15	11,95

1988-2001

ø 200



A	k
3	2,92
6	5,14
9	6,94
12	8,74
15	11,03

1988-2001

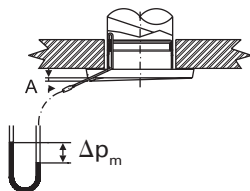
ø 200



A	k
3	3,13
6	5,51
9	7,44
12	9,37
15	11,83

$$q_v = k \times \sqrt{\Delta p_m}$$

ULC

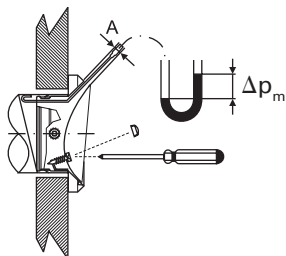


supply air
tuloilma
soufflage
tilluft
Приток

ø 100 1993-2005

A	k
3	0,75
4	1,11
5	1,56
6	1,90
8	2,32
10	2,77
11	3,16
12	3,53
13	3,88

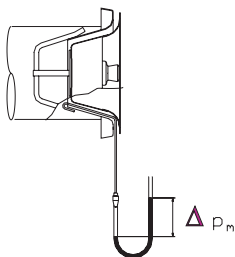
ULE



ø 100 1993-2005

A	k
3	0,80
4	1,05
5	1,30
6	1,49
7	1,74
8	1,98
10	2,48
12	2,96
15	3,50

$$q_v = k \times \sqrt{\Delta p_m}$$

ULS

supply air

tuloilma

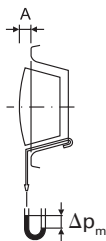
soufflage

tilluft

Приток

ø 100 1993-2001

A	k
3,5	1,06
6,5	1,44
11	1,95

URS

exhaust air

poistoilma

extraction

frånluft

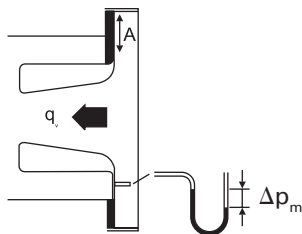
Вытяжка

ø 100 1998-2005

A	k
-15	0,5
-12	0,8
-10	1,0
-5	1,4
0	1,9
5	2,3
10	2,8

$$q_v = k \times \sqrt{\Delta p_m}$$

EVA



exhaust air
poistoilma
extraction
frånluft
Вытяжка

20/HCG/0210

300x150 1990-2001

A	k
0	1,90
1	2,68
2	4,02
3	5,77
4	7,07
5	9,00
6	10,61
7	12,50

500x150 1990-2001

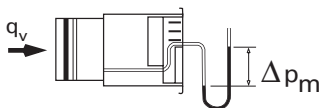
A	k
0	3,54
1	5,66
2	8,49
3	11,18
4	14,14
5	16,43
6	18,97
7	21,00

800x150 1990-2001

A	k
0	6,00
1	10,95
2	14,61
3	18,26
4	23,57
5	28,00
6	32,27
7	35,00

$$q_v = k \times l_{\text{eff}} \sqrt{\Delta p_m}$$

TLA



supply air
tuloilma
soufflage
tilluft
Приток

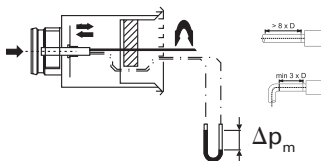
1985-1989

	TLA	k
80	300x100	4,00
100	400x150	5,47
125	500x100	8,75
160	500x200	12,00
160	600x200	16,01
200	800x250	20,58

1990-1996

	TLA	k
80	300x100	4,50
100	400x150	7,50
125	500x100	10,60
160	500x200	15,70
200	800x250	26,40

TLB/TLC



supply air
tuloilma
soufflage
tilluft
Приток

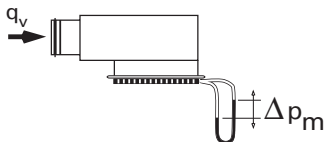
1994-2001

	k
80	3,8
100	6,2
125	10,5
160	18,8
200	27,8

1994-2001

	k
80	4,3
100	6,8
125	12,9
160	22,4
200	32,9

$$q_v = k \times l_{\text{eff}} \sqrt{\Delta p_m}$$

TKA

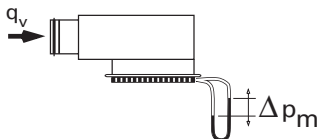
supply air
tuloilma
soufflage
tilluft
Приток

1985-1989

TKA	k
80	3,1
100	4,8
125	7,8
160	13,2
200	20,9
250	32,4

1990-1992

TKA	k
80	3,7
100	5,3
125	9,5
160	14,4
200	24,0
250	36,0

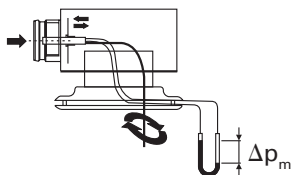
TKB/TKC

supply air
tuloilma
soufflage
tilluft
Приток

1993


TKA	k
80	3,7
100	5,3
125	8,9
160	15,7
200	25,5
250	40,7

$$q_v = k \times \sqrt{\Delta p_m}$$


TKB/TKC

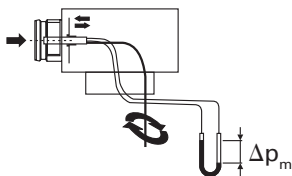
supply air
tuloilma
soufflage
tilluft
Приток


1994-1998

TKB/TKC (TRH)	k	
80	3,7	
100	6,5	
125	10,8	
160	19,4	
200	29,7	
250	48,8	


1994-1998

TKB/TKC (TRH)	k	
80	4,3	
100	7,5	
125	12,6	
160	21,9	
200	31,0	
250	51,5	

**1999-2001**

TKB/TKC (TRi/S)	k	
100	6,0	
125	9,9	
160	16,9	
200	28,3	
250	47,9	
315	78,6	

1999-2001

TKB/TKC (TRi/S)	k	
100	7,5	
125	12,6	
160	21,9	
200	31,0	
250	51,5	
315		

$$q_v = k \times \sqrt{\Delta p_m}$$

TKB

exhaust air
poistoilma
extraction
frånluft

1996-2005

Вытяжка

Duct connection	Diff. connection	k
80	160	8,8
100	160	8,8
125	250	21,8
160	250	21,8
200	400	51,2
250	400	53,2
315	400	52,8

TKC

exhaust air
poistoilma
extraction
frånluft

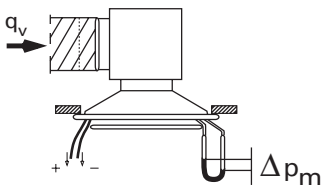
1996-2005

Вытяжка

Duct connection	Diff. connection	k
80	160	8,8
100	160	8,8
125	250	21,8
160	250	21,8
200	400	51,2
250	400	53,2
315	400	52,8

$$q_v = k \times \sqrt{\Delta p_m}$$

PRH

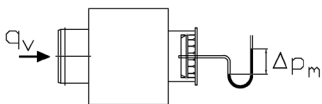


supply air
tuloilma
soufflage
tilluft
Приток

1994-1998

PRH	k
100	4,0
125	6,4
160	10,7
200	17,5
250	26,0
315	43,0
400	60,0

PRG+TS+HV



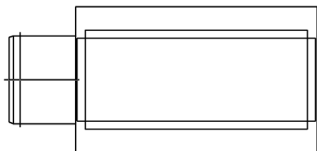
0°	$\Delta p_m = \Delta p$
30°	$\Delta p_m = 1,05 \Delta p$
60°	$\Delta p_m = 1,18 \Delta p$
90°	$\Delta p_m = 1,33 \Delta p$

1985-1987

A	k
200x100	8,7
300x100	14,0
400x100	17,4
500x100	23,7
300x150	21,6
400x150	31,3
500x150	39,5
800x150	58,0
500x200	54,0
600x200	58,0

$$q_v = k \times \sqrt{\Delta p_m}$$

PRG-1+TS+HV



supply air
tuloilma
soufflage
tilluft
Приток

1988-1991

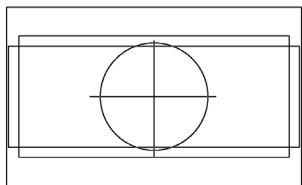
A	k
150x100	5,1
200x100	9,1
300x100	13,5
400x100	17,1
500x100	23,7
300x150	21,5
400x150	31,6
500x150	41,8
600x150	45,6
800x150	60,9
300x200	31,6
400x200	37,3
500x200	53,8
600x200	60,9
1000x200	93,7

1992-1996

A	k
150x100	5,06
200x100	9,13
300x100	14,14
400x100	16,90
500x100	25,00
300x150	20,12
400x150	33,54
500x150	42,43
600x150	50,00
800x150	56,92
300x200	33,54
400x200	35,78
500x200	50,60
600x200	56,92
1000x200	91,25

$$q_v = k \times \sqrt{\Delta p_m}$$

PRG-2+TS+HV



supply air
tuloilma
soufflage
tilluft
Приток

1988-1991

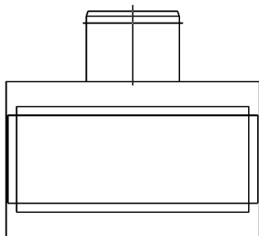
A	k
150x100	6,4
200x100	9,1
300x100	14,1
400x100	17,9
500x100	24,0
600x100	24,0
200x150	11,8
300x150	22,1
400x150	31,6
500x150	36,5
600x150	59,6
1000x150	76,1
400x200	44,7
500x200	50,0
600x200	63,9
800x200	84,5
600x300	94,9

1992-1996

A	k
150x100	6,39
200x100	9,13
300x100	14,14
400x100	15,81
500x100	22,14
600x100	22,14
200x150	11,1
300x150	20,08
400x150	28,46
500x150	40,00
600x150	60,00
1000x150	76,06
400x200	45,00
500x200	50,00
600x200	63,64
800x200	79,05
600x300	98,99

$$q_v = k \times \sqrt{\Delta p_m}$$

PRG-3+TS+HV



supply air
tuloilma
soufflage
tilluft
Приток

20/HCG/3000/0906

1988-1991

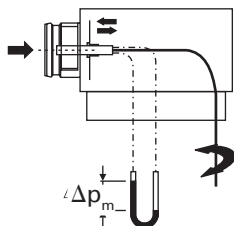
A	k
200x100	8,0
300x100	14,0
400x100	16,4
500x100	35,4
300x150	20,9
400x150	29,8
500x150	35,4
600x150	35,4
800x150	52,8
300x200	25,6
500x200	48,0
600x200	59,8
800x200	67,1
500x300	67,1
600x300	85,7
800x300	99,0

1992-1996

A	k
200x100	8,22
300x100	14,14
400x100	17,68
500x100	34,64
300x150	20,12
400x150	30,00
500x150	34,64
600x150	34,64
800x150	55,90
300x200	27,39
500x200	50,00
600x200	59,76
800x200	75,00
500x300	75,00
600x300	84,85
800x300	94,87

$$q_v = k \times \sqrt{\Delta p_m}$$

PRL



supply air
tuoliilma
soufflage
tilluft
Приток

20/HCG/3000/0906

1997-1998



PRL	k
200x100 125	8,22
300x100 160	14,14
400x100 160	17,68
500x100 200	34,64
300x150 200	20,12
400x150 250	30,00
500x150 250	34,64
800x150 315	34,64
400x200 315	55,90
500x200 315	27,39
800x200 315	50,00

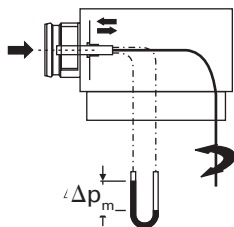
1997-1998



PRL	k
200x100 125	12,6
300x100 160	21,7
400x100 160	21,7
500x100 200	33,9
300x150 200	33,9
400x150 250	55,5
500x150 250	50,1
800x150 315	83,3
400x200 315	55,5
500x200 315	83,3
800x200 315	83,3

$$q_v = k \times \sqrt{\Delta p_m}$$

PRL-P



exhaust air
poistoilma
extraction
frånluft
Вытяжка

20/HCG/3000/0906

1997-1998

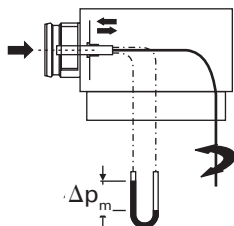
WDD, TS-HV	k
200x100 125	13,4
300x100 160	19,7
400x100 160	26,6
500x100 200	34,8
300x150 200	32,7
400x150 250	39,9
500x150 250	52,3
800x150 315	94,4
400x200 315	58,6
500x200 315	77,7
800x200 315	130,8

1997-1998

ALE, FLU	k
200x100 125	9,2
300x100 160	14,3
400x100 160	20,2
500x100 200	25,8
300x150 200	23,8
400x150 250	30,4
500x150 250	38,6
800x150 315	67,1
400x200 315	42,9
500x200 315	56,1
800x200 315	92,4

$$q_v = k \times \sqrt{\Delta p_m}$$

PRI/S



supply air
tuloilma
soufflage
tilluft
Приток

1999-2001



PRI/S	k
200x100 125	10,1
300x100 160	17,0
400x100 160	17,0
500x100 200	27,7
300x150 200	27,8
400x150 250	47,2
500x150 250	46,2
600x150 250	45,8
800x150 315	80,8
400x200 250	51,2
500x200 315	92,9
600x200 315	82,7
800x200 315	79,3

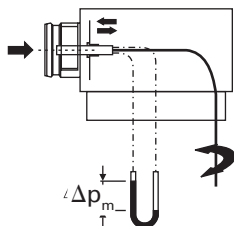
1999-2001



PRI/S	k
200x100 125	12,6
300x100 160	21,7
400x100 160	21,7
500x100 200	33,9
300x150 200	33,9
400x150 250	55,5
500x150 250	50,1
600x150 250	51,1
800x150 315	83,3
400x200 250	55,5
500x200 315	83,3
600x200 315	93,1
800x200 315	83,3

$$q_v = k \times \sqrt{\Delta p_m}$$

PRI/E



exhaust air
poistoilma
extraction
frånluft
Вытяжка

20/HCG/0210

1999-2001

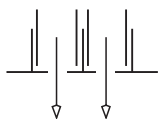
WDD, TS-HV	k
200x100 125	12,4
300x100 160	19,7
400x100 160	26,9
500x100 200	33,1
300x150 200	31,1
400x150 250	43,3
500x150 250	54,5
600x150 250	61,9
800x150 315	86,9
400x200 315	53,7
500x200 315	65,3
600x200 315	85,6
800x200 315	116,4

ALE, FLU	k
200x100 125	9,9
300x100 160	14,2
400x100 160	18,3
500x100 200	19,1
300x150 200	21,9
400x150 250	30,7
500x150 250	39,0
600x150 250	52,6
800x150 315	54,9
400x200 315	39,9
500x200 315	62,9
600x200 315	72,3
800x200 315	84,2

AGC	k
300x100 160	17,9
500x100 250	30,8
400x150 250	40,5
400x200 250	58,0
500x200 315	71,7
600x200 315	88,9

$$q_v = k \times \sqrt{\Delta p_m}$$

PLL+TLL (TPL)



(1...10)



1...10

Sivulle puhallus: rakojen lukumäärä ilman sulkuja.
Suoraan puhallus: rakojen lukumäärä suluissa.

Inblåsning åt sidan: antal spalter utan parenteser.
Rak inblåsning: antal spalter i parenteser.

The throw directed sideways:
number of slots without parentheses.
The throw directed ahead:
number of slots in parentheses.

300-1x125 1985-1991

A	k
1	2,8
(1)	3,81
3	4,24
2-3 (2.3)	4,95
(4)	5,98

supply air
tuloilma
soufflage
tilluft
Приток

600-1x125 1985-1991

A	k
1	4,95
2 (1)	8,94
3.4 (2)	11,79
6-10 (3-10)	14,61

600-1x200 1985-1991

A	k
3	16,00
(4)	20,00
(3)	22,63
5.6 (4)	25,46
8.10 (5-10)	30,43

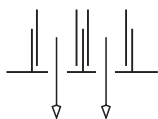
900-1x160 1985-1991

A	k
1	8,40
2(1)	13,42
3	16,00
4 (2.3)	18,26
6-10 (4-10)	20,83

900-2x200 1985-1991

A	k
3	20,28
4	25,56
4.6 (3)	36,51
8.10 (4-10)	52,95

$$q_v = k \times \sqrt{\Delta p_m}$$

PLL+TLL (TPL)

(1...10)



1...1(

Sivulle puhallus: rakojen lukumäärä ilman sulkuja.
Suoraan puhallus: rakojen lukumäärä suluissa.

Inblåsning åt sidan: antal spalter utan parenteser.
Rak inblåsning: antal spalter i parenteser.

The throw directed sideways:
number of slots without parentheses.
The throw directed ahead:
number of slots in parentheses.

1200-1x200	1985-1991
A	k
1	13,42
2 (1)	17,89
4 (2)	23,60
6-10 (4-10)	27,04

1200-2x200	1985-1991
A	k
3	28,46
4	37,27
5-10 (3)	49,50
(4-10)	59,16

supply air
tuloilma
soufflage
tilluft
Приток

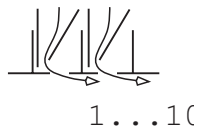
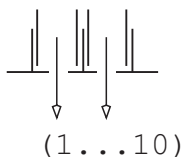
1500-1x200	1985-1991
A	k
1	14,23
2 (1)	21,54
3.4 (2)	28,46
6-10 (4-10)	33,33

1500-2x250	1985-1991
A	k
3	38,73
4	49,02
5.6 (3)	63,25
8.10 (4)	74,54
(5-10)	91,29

1800-1x200	1985-1991
A	k
1	16,71
2 (1)	24,12
3 (2)	29,81
4-10 (3-10)	34,30

1800-2x250	1985-1991
A	k
3	49,50
4	63,64
5.6	78,26
8 (3)	100,00
(4,5)	118,32
10 (6-10)	135,22

$$q_v = k \times \sqrt{\Delta p_m}$$

PLL+TLL (TPL)

Sivulle puhallus: rakojen lukumäärä ilman sulkuja.
Suoraan puhallus: rakojen lukumäärä suluissa.

Inblåsning åt sidan: antal spalter utan parenteser.
Rak inblåsning: antal spalter i parenteser.

The throw directed sideways:
number of slots without parentheses.
The throw directed ahead:
number of slots in parentheses.

supply air
tuloilma
soufflage
tilluft
Приток

600-1x125 1992-1996

A	k
1	5,00
2 (1)	8,33
3.4 (2)	11,34
6-10 (3-10)	14,14

600-1x200 1992-1996

A	k
3	15,81
(4)	20,12
(3)	22,36
5.6 (4)	25,00
8.10 (5-10)	30,00

900-1x160 1992-1996

A	k
1	8,16
2 (1)	13,42
3	15,81
4 (2.3)	18,26
6-10 (4-10)	21,10

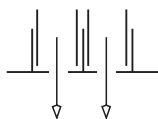
900-2x200 1992-1996

A	k
3	22,36
4	23,72
4.6 (3)	36,51
8.10 (4-10)	56,57

300-1x125 1992-1996

A	k
1	2,83
(1)	3,68
3	4,74
2-3 (2.3)	4,95
(4)	6,32

$$q_v = k \times \sqrt{\Delta p_m}$$

PLL+TLL (TPL)

(1...10)



1...1(

Sivulle puhallus: rakojen lukumäärä ilman sulkuja.
Suoraan puhallus: rakojen lukumäärä suluissa.

Inblåsning åt sidan: antal spalter utan parenteser.
Rak inblåsning: antal spalter i parenteser.

The throw directed sideways:
number of slots without parentheses.
The throw directed ahead:
number of slots in parentheses.

1200-1x200	1992-1996
A	k
1	13,42
2 (1)	17,68
4 (2)	25,46
6-10 (4-10)	30,43

1200-2x200	1992-1996
A	k
3	28,58
4	36,74
5-10 (3)	49,49
(4-10)	55,47

supply air
tuloilma
soufflage
tilluft
Приток

1500-1x200	1992-1996
A	k
1	14,23
2 (1)	20,41
3.4 (2)	28,46
6-10 (4-10)	33,81

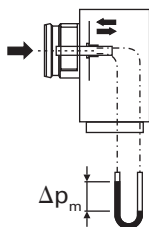
1500-2x250	1992-1996
A	k
3	40,00
4	46,48
5.6 (3)	63,90
8.10 (4)	76,06
(5-10)	94,87

1800-1x200	1992-1996
A	k
1	16,43
2 (1)	28,35
3 (2)	31,62
4-10 (3-10)	33,54

1800-2x250	1992-1996
A	k
3	49,49
4	63,90
5.6	78,26
8 (3)	100,62
(4,5)	109,54
10 (6-10)	127,28

$$q_v = k \times \sqrt{\Delta p_m}$$

SLL+PLL=SPL

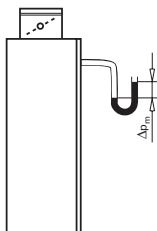


supply air
tuloilma
soufflage
tilluft
Приток

1997-2005

Pituus Längd Lenght Longueur	Rako Spalt Slot Fente	∅ D	>6xD k	min. 3xD k
572	1	1 x 160	19	22
	2-3	1 x 200	28	32
	4	1 x 250	49	51
872	1	1 x 160	19	22
	2-3	1 x 200	28	32
	4	1 x 250	49	51
1172	1	1 x 160	19	22
	2-3	1 x 200	28	32
	4	1 x 250	49	51
1472	1	2 x 160	19	22
	2-3	2 x 200	28	32
	4	2 x 250	49	51
1772	1	2 x 160	19	22
	2-3	2 x 200	28	32
	4	2 x 250	49	51

$$q_v = k \times \sqrt{\Delta p_m}$$

LVA

supply air
tuloilma
soufflage
tilluft
Приток

1988-1990

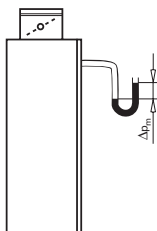
ø	k
160	14,85
200	28,87
315	63,25
400	106,90

1992

ø	k
200	48,11
250	72,17
315	115,47
400	187,08

1993

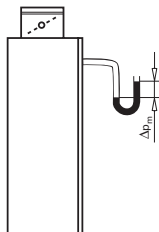
ø	k
160	14,43
200	48,11
250	72,17
315	115,47
400	187,08

LOVAIR (LVA UUSI)**1990-1991**

ø	k
200	47,14
250	68,82
315	109,11
400	180,74

$$q_v = k \times \sqrt{\Delta p_m}$$

LVD



supply air
tuloilma
soufflage
tilluft
Приток

1988-1991

∅	k
200	47,14
315	82,16
400	125,00

1992

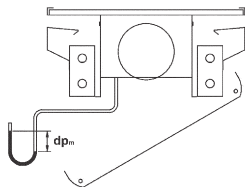
∅	k
200	47,43
315	82,16
400	126,49

1993

∅	k
100	6,71
125	13,42
160	13,42
200	47,43
250	56,92
315	82,16
400	126,49

$$q_v = k \times \sqrt{\Delta p_m}$$

CBE

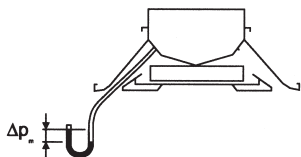


2003-2006

CBE	k/m
CBE / A	0,63
CBE / B	0,98
CBE / C	1,28
CBE / D	1,82

20/HCG/0210

CBC

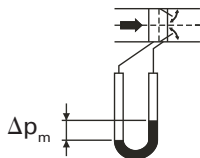


1999-2005

CBC	k/m
CBC/A	0,83
CBC/B	1,24
CBC/C	1,67
CBC/D	2,29
CBC/E,J	0,62
CBC/F,K	0,84
CBC/G,M	1,15

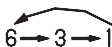
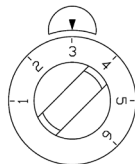
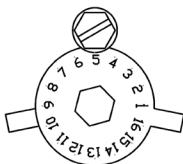
$$q_v = k \times l_{\text{eff}} \sqrt{\Delta p_m}$$

PRA



1978-1983/peltinen

1984-1999/muovinen



SÄÄTÄSUUNTA
REGLERING DIREKTION
ADJUSTMENT DIRECTION

∅ 80

1984-1999

A	k
1	0,86
2	1,30
3	2,00
4	3,10
5	4,70
6	7,40

∅ 100

1978-1983

A	k
1	1,0
2	1,4
3	2,2
4	3,4
5	5,8
6	11,2

∅ 100

1984-1999

A	k
1	1,8
2	2,55
3	3,6
4	5,1
5	7,1
6	9,9

∅ 125

1978-1983

A	k
1	1,8
2	2,0
3	3,1
4	5,0
5	8,6
6	14,9

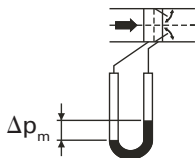
∅ 125

1984-1999

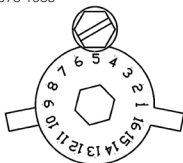
A	k
1	2,6
2	3,7
3	5,2
4	7,2
5	10,0
6	13,9

$$q_v = k \times \sqrt{\Delta p_m}$$

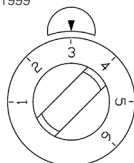
PRA



1978-1983



1984-1999



20/HCG/3000/0906



ø 150

1978-1983

A	k
1	1,8
3	2,6
4	4,0
5	5,8
6	8,2
7	11,2
8	15,0
9	27,5

ø 150

1984-1999

A	k
1	3,8
2	5,3
3	7,5
4	10,4
5	14,4
6	19,6

ø 160

1978-1983

A	k
1	2,3
2	2,8
3	3,5
4	4,7
5	6,5
6	9,3
7	12,7
8	18,2
9	27,5

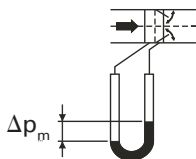
ø 160

1984-1999

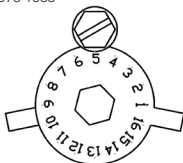
A	k
1	4,5
2	6,3
3	8,7
4	11,8
5	16,2
6	22,4

$$q_v = k \times \sqrt{\Delta p_m}$$

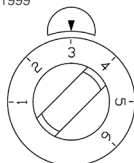
PRA



1978-1983



1984-1999



20/HCG/3000/0906



∅ 200

1978-1983

A	k
1	3,7
3	4,0
4	5,1
5	6,9
6	9,0
7	12,5
8	16,1
9	22,0
10	30,5

∅ 200

1984-1999

A	k
1	6,6
2	9,2
3	13,0
4	18,1
5	25,3
6	35,0

∅ 250

1984-1999

A	k
1	9,7
2	13,8
3	19,4
4	26,8
5	37,5
6	52,0

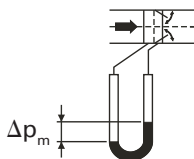
∅ 250

1978-1983

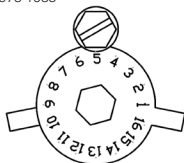
A	k
1	5,0
3	8,0
4	10,0
5	14,5
6	21,0
7	29,0
8	36,0
9	50,0
10	65,0
11	80,0

$$q_v = k \times \sqrt{\Delta p_m}$$

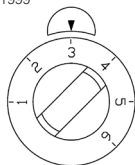
PRA



1978-1983



1984-1999



20/HCG/3000/0906



ø 300 1978-1983

A	k
1	7,9
3	10,4
4	14,5
5	20,5
6	27,5
7	39,0
8	52,5
9	72,5
10	97,5
11	128,0
12	156,5

ø 300 1984-1999

A	k
1	15,5
2	21,5
3	30,0
4	41,5
5	58,5
6	81,5

ø 315 1984-1999

A	k
1	16,2
2	22,5
3	31,5
4	44,0
5	61,0
6	86,0

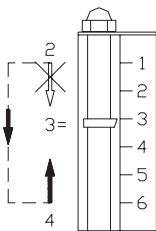
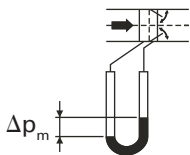
ø 315 1978-1983

A	k
1	10,0
3	12,0
4	16,0
5	21,0
6	29,0
7	37,0
8	49,0
9	65,0
10	90,0
11	145,0

$$q_v = k \times \sqrt{\Delta p_m}$$

PRA

20/HCG/3000/0906



SÄTTÄSUUNTA
REGLERING DIREKTION
ADJUSTMENT DIRECTION

ø 350	1978-1983
A	k
0	8,1
0,5	12,0
1	16,0
1,5	26,5
2	47,5
2,5	82,0
3	200,0

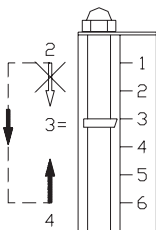
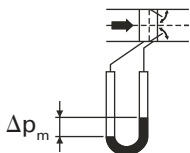
ø 350	1984-1999
A	k
1	17,3
2	24,5
3	35,4
4	50,0
5	70,7
6	100,0

ø 400	1978-1983
A	k
0,5	19,8
1	27,0
1,5	37,5
2	54,0
2,5	82,0
3	132,0
3,5	225,0

ø 400	1984-1999
A	k
1	20,5
2	26,5
3	36,0
4	55,0
5	86,0
6	137,0

$$q_v = k \times \sqrt{\Delta p_m}$$

PRA



SAATÄSUUNTA
REGLERING DIREKTION
ADJUSTMENT DIRECTION

ø 500	1978-1983
A	k
0,5	27,5
1	39,5
1,5	59,5
2	88,0
2,5	128,0
3	180,0
3,5	260,0

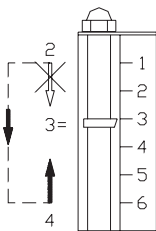
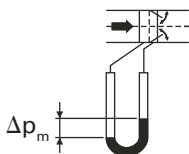
ø 500	1984-1999
A	k
0,5	41,0
1	63,0
1,5	89,0
2	120,0
2,5	155,0
3	205,0
3,5	285,0
4	408,0
4,5	633,0

ø 600	1978-1983
A	k
0,5	19,8
1	27,0
1,5	37,5
2	54,0
2,5	82,0
3	132,0
3,5	225,0

ø 600	1984-1999
A	k
1	20,5
2	26,5
3	36,0
4	55,0
5	86,0
6	137,0

$$q_v = k \times \sqrt{\Delta p_m}$$

PRA



SAATÄSUUNTA
REGLERING DIREKTION
ADJUSTMENT DIRECTION

∅ 630 1978-1983

A	k
0,5	41,5
1	64,0
1,5	91,0
2	119,0
2,5	151,0
3	203,0
3,5	265,0
4	405,0
4,5	566,0

∅ 630 1984-1999

A	k
1	65,0
2	90,0
3	115,0
4	154,0
5	202,0
6	265,0

∅ 800 1978-1983

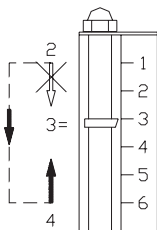
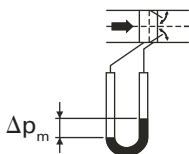
A	k
0	133,0
0,5	160,0
1	183,0
1,5	218,0
2	255,0
2,5	313,0
3	395,0
3,5	466,0
4	600,0
4,5	790,0
5	1000,0

∅ 800 1984-1999

A	k
1	98,0
2	137,0
3	198,0
4	280,0
5	393,0
6	570,0

$$q_v = k \times \sqrt{\Delta p_m}$$

PRA



SÄÄTÄSUUNTA
REGLERING DIREKTION
ADJUSTMENT DIRECTION

Ø 1000 1978-1983

A	k
0	182,0
0,5	202,0
1	236,0
1,5	273,0
2	313,0
2,5	348,0
3	405,0
3,5	495,0
4	585,0
4,5	712,0
5	875,0
5,5	1080,0
6	1340,0

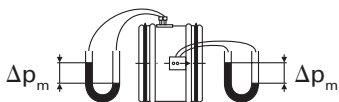
20/HCG/0210

Ø 1000 1984-1999

A	k
1	144,0
2	220,0
3	310,0
4	440,0
5	620,0
6	890,0

$$q_v = k \times \sqrt{\Delta p_m}$$

MSD



$$\frac{\Delta p_1 + \Delta p_2}{2} = \Delta p_m$$

1985-2000

A	k
100	7,13
125	11,30
160	18,80
200	30,00
250	47,30
315	76,30
400	125,00
500	198,00
630	319,00
800	521,00
1000	825,00

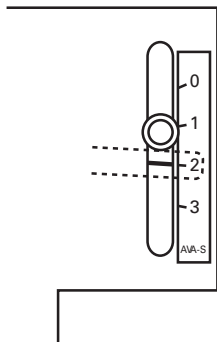
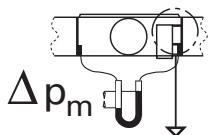
20/HCG/0210

2001-2005

A	k
100	6,50
125	10,50
160	18,50
200	29,00
250	47,50
315	77,00
400	127,00
500	200,00

$$q_v = k \times \sqrt{\Delta p_m}$$

AVA-S



ø 100	1990-1993
A	k
1	0,80
2	1,27
3	1,69

ø 125	1990-1993
A	k
1	1,00
2	1,67
3	2,37

ø 160	1990-1993
A	k
1	1,55
2	2,64
3	3,84

ø 200	1990-1993
A	k
1	1,86
2	3,16
3	5,16

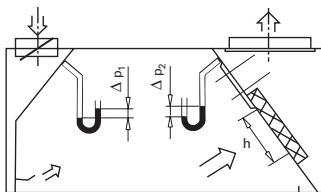
ø 250	1990-1993
A	k
1	2,61
2	5,00
3	8,00

ø 315	1990-1993
A	k
1	4,35
2	8,37
3	13,52

20/HCG/0210

$$q_v = k \times \sqrt{\Delta p_m}$$

KVA



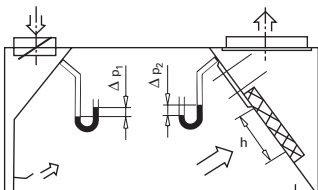
capture air
sieppausilma
jet de captation
kapningsluft
Отсечные струи

1500	1984-1991
A	k
1	3,04

2000	1984-1991
A	k
1	3,84

2500	1984-1991
A	k
1	4,47

$$q_v = k \times \sqrt{\Delta p_m}$$

KVA

haust air
poistoilma
extraction
frånluft
Вытяжка

1000 1984-1987

A	k
2 h = 145	32,86
2 h = 240	46,29

1000 1988-1991

A	k
2 h = 145	36,51
2 h = 240	47,43

2000 1984-1987

A	k
2 h = 145	44,72
2 h = 240	62,02

2000 1988-1991

A	k
2 h = 145	44,72
2 h = 240	65,09

2500 1984-1987

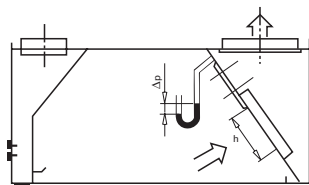
A	k
2 h = 145	55,90
2 h = 240	79,06

2500 1988-1991

A	k
2 h = 145	60,00
2 h = 240	85,75

$$q_v = k \times \sqrt{\Delta p_m}$$

KVB



haust air
poistoilma
extraction
frånluft
Вытяжка

1500

1988-1991

A	k
h = 145	36,51
h = 240	47,43

2000

1988-1991

A	k
2 h = 145	44,72
2 h = 240	64,99

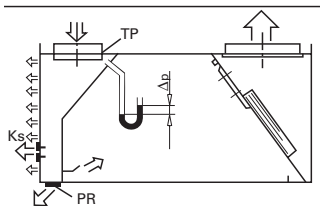
2500

1988-1991

A	k
2 h = 145	59,63
2 h = 240	87,04

$$q_v = k \times \sqrt{\Delta p_m}$$

KVB



supply air
tuloilma
soufflage
tilluft
Приток

1500	1988-1991
H=400	k
1	42,43
2	53,03

1500	1988-1991
H=800	k
1	80,00
2	87,29

2000	1988-1991
H=570	k
1	70,71
2	83,56

2500	1988-1991
H=400	k
1	65,47
2	89,44

2500	1988-1991
H=800	k
1	127,80
2	140,0

1500	1988-1991
H=570	k
1	57,35
2	67,08

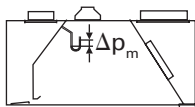
2000	1988-1991
H=400	k
1	51,45
2	70,71

2000	1988-1991
H=800	k
1	100,00
2	111,42

2500	1988-1991
H=570	k
1	90,00
2	104,26

$$q_v = k \times \sqrt{\Delta p_m}$$

KVF/KVI



haust air
poistoilma
extraction
frånluft
Вытяжка

L = 1000 mm

filter (st) sokeita suod, (kpl) filtre aveugle (pcs) blind filters (pcs) Заглушенный фильтр (шт)	k
0	28,5
1	15,7

L = 1500 mm

filter (st) sokeita suod, (kpl) filtre aveugle (pcs) blind filters (pcs) Заглушенный фильтр (шт)	k
0	40,0
1	28,5
2	15,7

L = 2000 mm

filter (st) sokeita suod, (kpl) filtre aveugle (pcs) blind filters (pcs) Заглушенный фильтр (шт)	k
0	53,5
1	40,0
2	28,5

L = 2500 mm

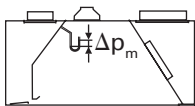
filter (st) sokeita suod, (kpl) filtre aveugle (pcs) blind filters (pcs) Заглушенный фильтр (шт)	k
0	70,0
1	53,5
2	40,0
3	28,5

L = 3000 mm

filter (st) sokeita suod, (kpl) filtre aveugle (pcs) blind filters (pcs) Заглушенный фильтр (шт)	k
0	80,0
1	70,0
2	53,5
3	40,0

$$q_v = k \times \sqrt{\Delta p_m}$$

KVF/KVI



1 = no, ei, nou, nej, Нет

2 = yes, kyllä, oui, ja, Да

1000 1992-2000

H=400	k
1	26,8
2	31,0

1500 1992-2000

H=400	k
1	44,2
2	48,1

2000 1992-2000

H=400	k
1	61,1
2	64,0

2500 1992-2000

H=400	k
1	71,0
2	73,0

3000 1992-2000

H=400	k
1	88,0
2	91,0

supply air
tuloilma
soufflage
tilluft
Приток

1000 1992-2000

H=555	k
1	57,5
2	71,5

1500 1992-2000

H=555	k
1	69,5
2	86,0

2000 1992-2000

H=555	k
1	84,7
2	104,0

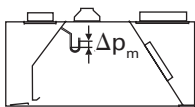
2500 1992-2000

H=555	k
1	106,0
2	122,0

3000 1992-2000

H=555	k
1	127,0
2	145,0

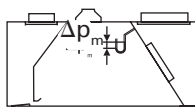
$$q_v = k \times \sqrt{\Delta p_m}$$

KVI

capture air
sieppausilma
jet de captation
kapningsluft
Отсечные струи

1992-2000

L (mm)	k
1000	2,7
1500	4,2
2000	6,0
2500	7,0
3000	8,8

KVF/KVI

capture air
sieppausilma
jet de captation
kapningsluft
Отсечные струи

1992-2000

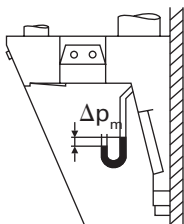
H =400	k
1	5,5
2	6,2
3	7,1
4	8,4
5	9,1

1992-2000

H =555	k
1	7,5
2	8,4
3	9,7
4	11,6
5	12,8

$$q_v = k \times \sqrt{\Delta p_m}$$

KVG



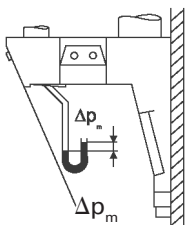
haust air
poistoilma
extraction
frånluft
Вытяжка

1992-2005

L (mm)	k
1200	27,1
1600	40,4
2000	54,6
2400	50,6

20/HCG/0210

KVG



supply air
tuloilma
soufflage
tilluft
Приток

1992-2005

L (mm)	k
1200	27,1
1600	29,6
2000	34,2
2400	39,8

KVG + P + PRA

A	k
1	7,3
6	15,3

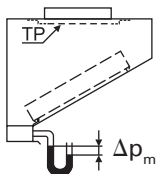
A = PRA:n säätöasento
A = PRA:s reglerings position
A = PRA's adjustment position
A = Position de réglage du PRA

$$q_v = k \times \sqrt{\Delta p_m}$$

1992-2001

A = PRA:n säätöasento	k
1	7,3
6	15,3

KSA-K/KSK



1985-2001

A	k
11	16,9
12	32,0
13	48,1
22	32,5
24	62,2
26	90,9

$$q_v = k \times \sqrt{\Delta p_m}$$

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