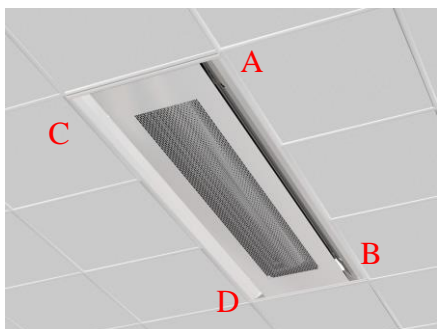## ADJUSTMENT GUIDE FOR PILOT

Principle for determining air flow

- Calculate the total quantity of air on each side of the beam by using the average value of the beam's step indicators (A-D).
- Calculate the average of these air quantities.

*Locations of the Pilot beam's four regulating screws A, B, C and D.*

*Step indicators showing the position of each regulating screw.*

Procedure

1. Read off the number of steps on the indicators for regulating screws A and B.
2. Calculate the average number of steps for A/B: (A+B)/2
3. Read off the number of steps on the indicators for regulating screws C and D.
4. Calculate the average number of steps for C/D: (C+D)/2
5. In the adjustment diagram, read off the new air flow (l/s) for the average number of steps for A/B.
6. In the adjustment diagram, read off the new air flow (l/s) for the average number of steps for C/D.
7. The beam's total air flow is obtained by calculating the average of the air flows A/B nd C/D.

NB! To get correct adjustment, the product must be set to position 0 before a new adjustment is done. To get it to zero, screw the indicator to pass position 0 until you reach stop.
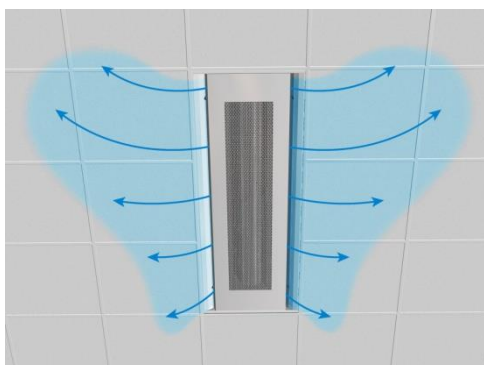
Asymmetrical spread of air.
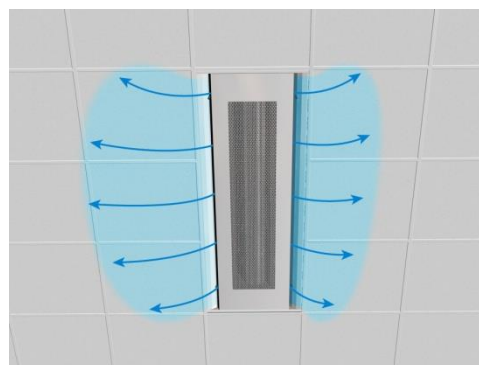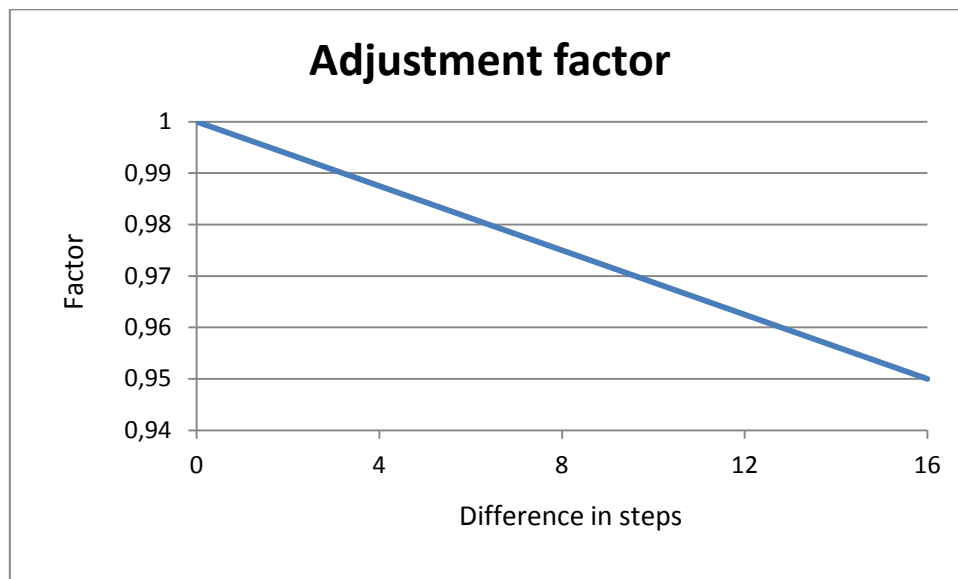

Symmetrical spread of air.

Tolerances

Tolerance in the adjustment diagrams:

- ± 2 l/s ≤ 20 l/s
- ± 10 % > 20 l/s

Precision in regulation to create an **asymmetrical** spread of air:

- The diagram below shows an adjustment factor that is used to make a final tolerance adjustment for an asymmetrical spread of air. The input value in the diagram is the total difference in the number of positional steps on both sides of the beam.

Adjustment factor

Factor (y-axis): 1, 0,99, 0,98, 0,97, 0,96, 0,95, 0,94

Difference in steps (x-axis): 0, 4, 8, 12, 16

Example 1

The regulating screws on a Pilot 2.4 m have the following settings: A: step 5,
B: step 5, C: step 8, D: step 8, i.e. a **symmetrical** spread of air.

What is the air flow of the Pilot beam when the air pressure is 80 Pa? Air pressure is
measured in the measurement nipple in the beam.

Solution:
1. Read off the number of steps on the indicators for regulating screws A and B, 5 and 5.
2. Calculate the average number of steps for A/B: (5+5)/2 = 5
3. Read off the number of steps on the indicators for regulating screws C and D, 8 and 8.
4. Calculate the average number of steps for C/D: (8+8)/2 = 8
5. In the adjustment diagram, read off the new air flow (l/s) for the average number of steps for A/B = 39 l/s
6. In the adjustment diagram, read off the new air flow (l/s) for the average number of steps for C/D = 50 l/s
7. The beam's total air flow is obtained by calculating the average of the air flows A/B and C/D. (39+50)/2 = 44.5 (l/s).

Answer: The beam has a total air flow of 44.5 l/s ± 10 %.

Example 2

A Pilot 2.4 m is to have an air flow of 30 l/s at a pressure of 80 Pa. There is to be 20 l/s on
one side (A and B) and 10 l/s on the other (C and D). In what positions should the step
indicators be set?

Solution:
The dimensioning diagram for Pilot 2.4 m applies for the entire beam. In order to obtain the
step settings for each side, look at the diagram and read off the number of steps required for
the double amount of air.

Step indicators A and B (this side is to give 20 l/s):
Read off the number of steps for A and B from the diagram for 40 l/s and 80 Pa.
Answer: Step 5 for both A and B.

Step indicators C and D (this side is to give 10 l/s):
Read off the number of steps for C and D from the diagram for 20 l/s and 80 Pa.
Answer: Step 2 for both C and D.

Example 3

The regulating screws on a Pilot 1.8 m have the following settings: A: step 9, B: step 1, C: step 6, D: step 2, i.e. an **asymmetrical** spread of air.

What is the air flow of the Pilot beam when the air pressure is 80 Pa? Air pressure is measured in the measurement nipple in the beam.
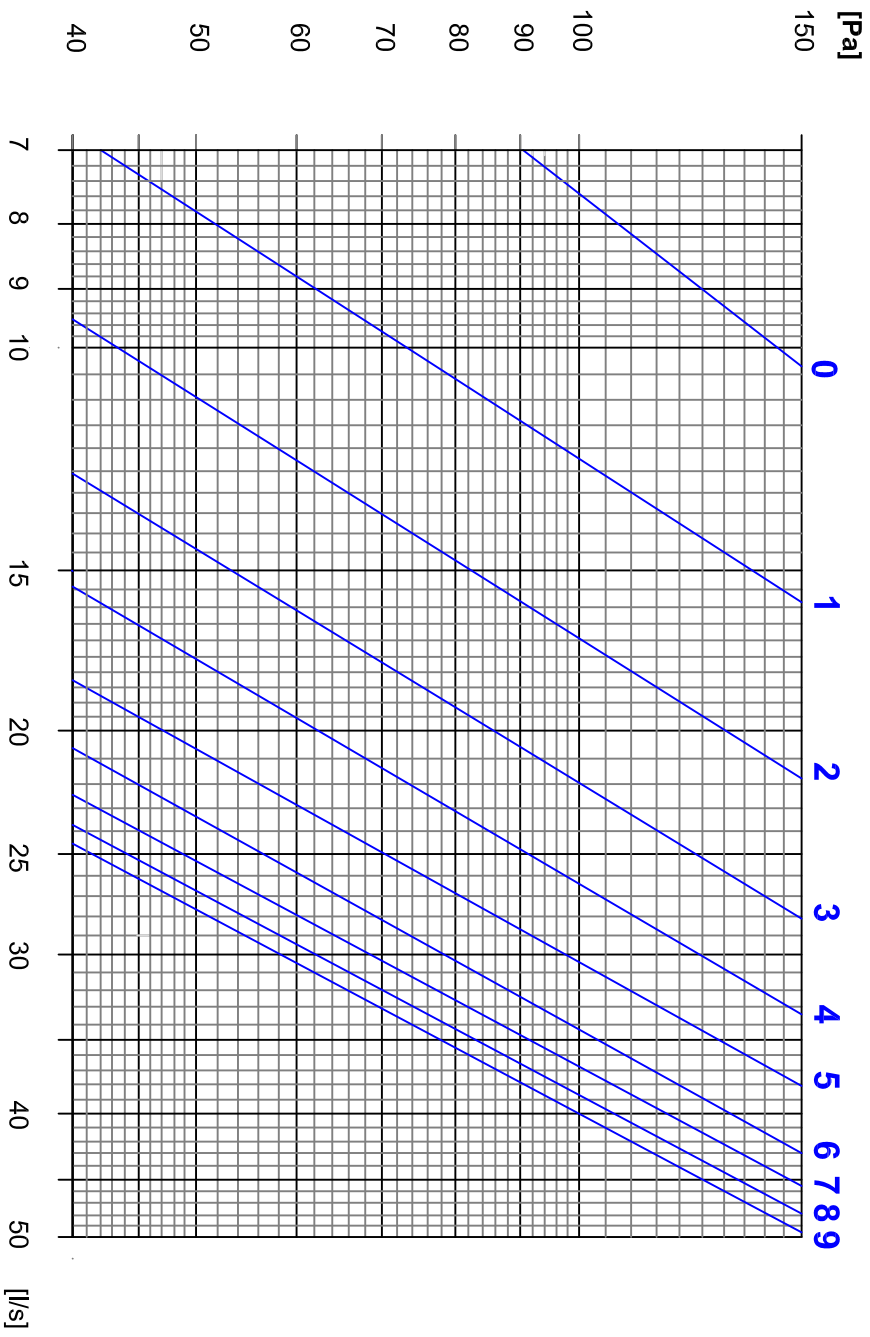
Solution:
1. Read off the number of steps on the indicators for regulating screws A and B, 9 and 1.
2. Calculate the average number of steps for A/B: (9+1)/2 = 5
3. Read off the number of steps on the indicators for regulating screws C and D, 6 and 2.
4. Calculate the average number of steps for C/D: (6+2)/2 = 4
5. In the adjustment diagram, read off the new air flow (l/s) for the average number of steps for A/B = 27 l/s.
6. In the adjustment diagram, read off the new air flow (l/s) for the average number of steps for C/D = 23 l/s.
7. The beam's total air flow is obtained by calculating the average of the air flows A/B and C/D. (27+23)/2 = 25 (l/s).

A final tolerance adjustment is made. The adjustment factor is found in a separate diagram. The difference between the number of steps is 12. The adjustment factor is approximately 0.963. Final air flow: 0.963 × 25 = 24.1 l/s.
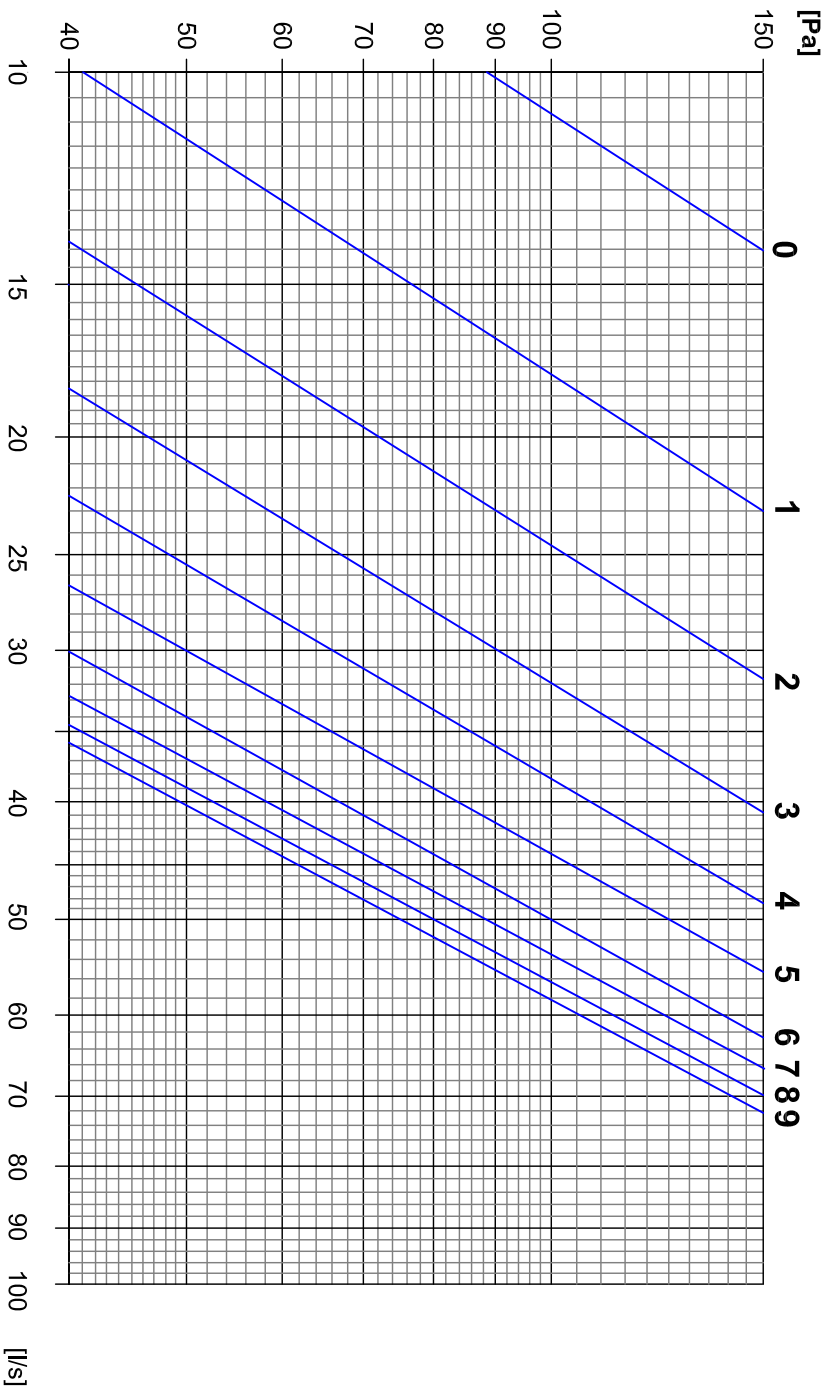
Answer: The beam has a total air flow of 24.1 l/s ± 10 %.

Pilot 1,8m

[Pa]

[l/s]

Pilot 2,4m

Pilot 3,0m