

Metingen in de aangepaste duivenwagens van Afdeling 9 (Oost-Nederland), seizoen 2013



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... 2013

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1 Inleiding

Aanleiding

...

Doel

...

2 Aanpassingen duivenwagens winterseizoen 2012/2013

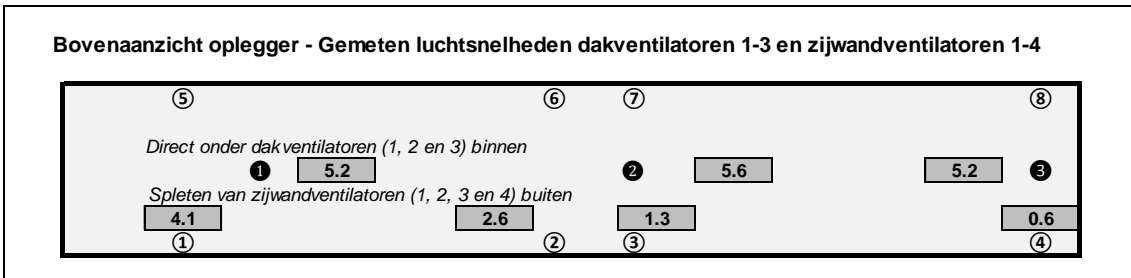
...

3 Werkwijze

...

4 Resultaten luchtsnelheidsmetingen en ventilatiedebieten

4.1 Oplegger nummer 5



Zijaanzicht oplegger - Gemeten luchtsnelheden uit gaatjes van horizontale inlaatbuizen

- Gele buizenstelsel: voorste/eerste inblaascompartiment
- Groene buizenstelsel: achterste/tweede inblaascompartiment
- De zwarte cijfers betreffen gemeten luchtsnelheden vanuit de inblaasopeningen, de blauwe cijfers betreffen geschatte luchtsnelheden d.m.v. interpolatie

| | Kolom | | | | | | | | | | | | |
|-----|-------|------|-----|-----|-----|-----|-----|------|------|------|------|------|-----|
| Rij | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 | 13 |
| 1 | 13.5 | 11.7 | 9.9 | 8.1 | 6.2 | 4.4 | 2.6 | 2.3 | 2.0 | 1.8 | 1.5 | 1.2 | 0.9 |
| 2 | 14.1 | 11.4 | 8.7 | 6.0 | 5.3 | 4.5 | 3.8 | 10.6 | 10.6 | 10.6 | 10.5 | 9.3 | 8.0 |
| 3 | 13.8 | 11.3 | 8.7 | 6.2 | 5.3 | 4.5 | 3.7 | 12.3 | 11.8 | 11.2 | 10.7 | 9.5 | 8.2 |
| 4 | 13.5 | 11.1 | 8.7 | 6.3 | 5.4 | 4.5 | 3.5 | 14.0 | 13.0 | 11.9 | 10.9 | 9.7 | 8.4 |
| 5 | 13.2 | 11.0 | 8.7 | 6.5 | 5.5 | 4.4 | 3.4 | 15.7 | 14.2 | 12.6 | 11.1 | 9.9 | 8.6 |
| 6 | 12.3 | 10.6 | 8.9 | 7.2 | 5.9 | 4.7 | 3.4 | 15.4 | 14.1 | 12.8 | 11.5 | 10.1 | 8.7 |
| 7 | 11.3 | 10.2 | 9.0 | 7.9 | 6.4 | 4.9 | 3.4 | 15.2 | 14.1 | 13.0 | 11.9 | 10.3 | 8.8 |
| 8 | | | | | 6.5 | 4.3 | 2.0 | 14.9 | 14.0 | 13.1 | 12.2 | 10.6 | 8.9 |
| 9 | | | | | 8.0 | 6.4 | 4.8 | 14.6 | 13.9 | 13.3 | 12.6 | 10.8 | 9.0 |

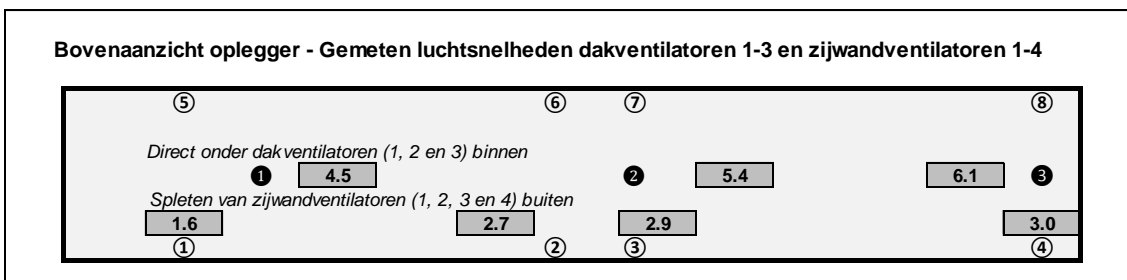
Zijaanzicht oplegger - Berekende invoerdebieten in m³/uur per mand

| | Kolom | | | | | | | | | | | | |
|-----|-------|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|
| Rij | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 | 13 |
| 1 | 9.4 | 8.1 | 6.8 | 5.6 | 4.3 | 3.1 | 1.8 | 1.6 | 1.4 | 1.2 | 1.0 | 0.8 | 0.6 |
| 2 | 9.8 | 7.9 | 6.0 | 4.2 | 3.6 | 3.1 | 1.3 | 3.7 | 7.3 | 7.3 | 7.3 | 6.4 | 5.6 |
| 3 | 9.6 | 7.8 | 6.0 | 4.3 | 3.7 | 3.1 | 1.3 | 4.3 | 8.2 | 7.8 | 7.4 | 6.6 | 5.7 |
| 4 | 9.4 | 7.7 | 6.0 | 4.4 | 3.7 | 3.1 | 1.2 | 4.8 | 9.0 | 8.3 | 7.6 | 6.7 | 5.8 |
| 5 | 9.1 | 7.6 | 6.0 | 4.5 | 3.8 | 3.1 | 1.2 | 5.4 | 9.8 | 8.8 | 7.7 | 6.8 | 6.0 |
| 6 | 8.5 | 7.3 | 6.2 | 5.0 | 4.1 | 3.2 | 1.2 | 5.3 | 9.8 | 8.9 | 7.9 | 7.0 | 6.0 |
| 7 | 7.8 | 7.0 | 6.3 | 5.5 | 4.4 | 3.4 | 1.2 | 5.2 | 9.7 | 9.0 | 8.2 | 7.2 | 6.1 |
| 8 | | | | | 4.5 | 2.9 | 0.7 | 5.2 | 9.7 | 9.1 | 8.5 | 7.3 | 6.2 |
| 9 | | | | | 5.5 | 4.4 | 1.7 | 5.1 | 9.7 | 9.2 | 8.7 | 7.5 | 6.2 |

Schatting van de invoer-/uitvoerdebieten en het verversingsvoud van de wagen

| | | | | | |
|---|------|---------------------|---|------|---------------------|
| Invoerdebiet door voorste compartimenten: | 543 | m ³ /uur | = | 5.7 | erversingen per uur |
| Invoerdebiet door achterste compartimenten: | 788 | m ³ /uur | = | 8.2 | erversingen per uur |
| Totale mechanische invoerdebiet container: | 1331 | m ³ /uur | = | 13.9 | erversingen per uur |
| Uitvoerdebiet door 3 dakventilatoren: | 1810 | m ³ /uur | = | 18.9 | erversingen per uur |
| Uitvoerdebiet door 8 zijwandventilatoren: | 372 | m ³ /uur | = | 3.9 | erversingen per uur |
| Totale mechanische uitvoerdebiet container: | 2181 | m ³ /uur | = | 22.8 | erversingen per uur |

4.2 Oplegger nummer 6



Zijaanzicht oplegger - Gemeten luchtsnelheden uit gaatjes van horizontale inlaatbuizen

- Gele buizenstelsel: voorste/eerste inblaascompartiment
- Groene buizenstelsel: achterste/tweede inblaascompartiment
- De zwarte cijfers betreffen gemeten luchtsnelheden vanuit de inblaasopeningen, de blauwe cijfers betreffen geschatte luchtsnelheden d.m.v. interpolatie

| Rij | Kolom | | | | | | | | | | | | | |
|-----|-------|------|-----|-----|-----|-----|-----|------|------|------|------|------|------|-----|
| | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 | 13 | |
| 1 | 11.8 | 10.2 | 8.5 | 6.9 | 5.3 | 3.6 | 2.0 | 1.7 | 1.4 | 1.1 | 0.8 | 0.5 | 0.2 | |
| 2 | 10.1 | 8.9 | 7.6 | 6.4 | 5.3 | 4.2 | 3.1 | 17.0 | 16.0 | 15.0 | 11.0 | 10.3 | 9.7 | 9.0 |
| 3 | 11.1 | 9.5 | 7.8 | 6.2 | 5.2 | 4.2 | 3.2 | 17.5 | 15.5 | 13.5 | 11.5 | 10.6 | 9.8 | 8.9 |
| 4 | 12.0 | 10.0 | 8.1 | 6.1 | 5.2 | 4.3 | 3.4 | 17.9 | 16.0 | 14.0 | 12.0 | 11.0 | 9.9 | 8.9 |
| 5 | 13.0 | 10.6 | 8.3 | 5.9 | 5.1 | 4.3 | 3.5 | 18.4 | 16.4 | 14.5 | 12.5 | 11.3 | 10.0 | 8.8 |
| 6 | 12.7 | 10.5 | 8.3 | 6.1 | 5.3 | 4.5 | 3.7 | 16.3 | 14.5 | 12.7 | 11.0 | 9.9 | 8.9 | 7.8 |
| 7 | 12.4 | 10.4 | 8.3 | 6.3 | 5.5 | 4.6 | 3.8 | 14.2 | 12.6 | 11.0 | 9.4 | 8.5 | 7.7 | 6.8 |
| 8 | | | | | 8.6 | 6.5 | 4.3 | 12.1 | 10.7 | 9.3 | 7.9 | 7.2 | 6.5 | 5.8 |
| 9 | | | | | 7.0 | 6.8 | 6.5 | 10.0 | 8.8 | 7.5 | 6.3 | 5.8 | 5.3 | 4.8 |

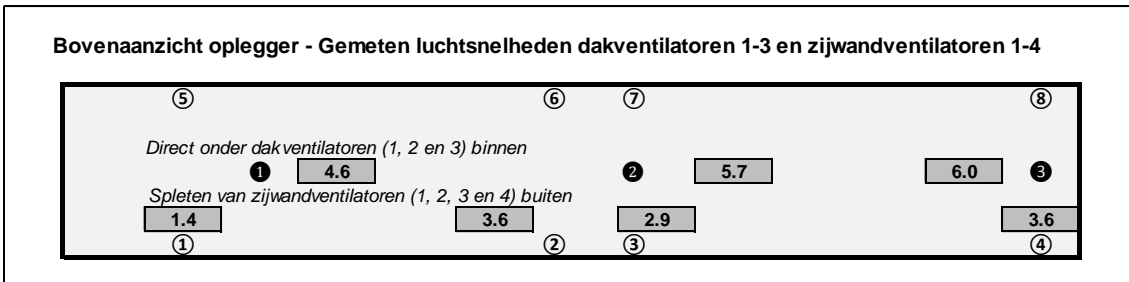
Zijaanzicht oplegger - Berekende invoerdebeten in m³/uur per mand

| Rij | Kolom | | | | | | | | | | | | | |
|-----|-------|-----|-----|-----|-----|-----|-----|-----|------|------|-----|-----|-----|-----|
| | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 | 13 | |
| 1 | 8.2 | 7.0 | 5.9 | 4.8 | 3.6 | 2.5 | 1.4 | 1.2 | 1.0 | 0.8 | 0.6 | 0.3 | 0.1 | |
| 2 | 7.0 | 6.1 | 5.3 | 4.4 | 3.7 | 2.9 | 1.1 | 5.9 | 11.1 | 10.4 | 7.6 | 7.2 | 6.7 | 6.2 |
| 3 | 7.7 | 6.6 | 5.4 | 4.3 | 3.6 | 2.9 | 1.1 | 6.0 | 10.7 | 9.3 | 8.0 | 7.4 | 6.8 | 6.2 |
| 4 | 8.3 | 7.0 | 5.6 | 4.2 | 3.6 | 3.0 | 1.2 | 6.2 | 11.1 | 9.7 | 8.3 | 7.6 | 6.9 | 6.1 |
| 5 | 9.0 | 7.4 | 5.7 | 4.1 | 3.5 | 3.0 | 1.2 | 6.4 | 11.4 | 10.0 | 8.7 | 7.8 | 7.0 | 6.1 |
| 6 | 8.8 | 7.3 | 5.7 | 4.2 | 3.7 | 3.1 | 1.3 | 5.6 | 10.1 | 8.8 | 7.6 | 6.9 | 6.1 | 5.4 |
| 7 | 8.6 | 7.2 | 5.8 | 4.4 | 3.8 | 3.2 | 1.3 | 4.9 | 8.7 | 7.6 | 6.5 | 5.9 | 5.3 | 4.7 |
| 8 | | | | | 6.0 | 4.5 | 1.5 | 4.2 | 7.4 | 6.4 | 5.4 | 5.0 | 4.5 | 4.0 |
| 9 | | | | | 4.8 | 4.7 | 2.3 | 3.5 | 6.1 | 5.2 | 4.4 | 4.0 | 3.7 | 3.3 |

Schatting van de invoer-/uitvoerdebieten en het verversingsvoud van de wagen

| | | | | | |
|---|------|---------------------|---|------|---------------------|
| Invoerdebiet door voorste compartimenten: | 507 | m ³ /uur | = | 5.3 | erversingen per uur |
| Invoerdebiet door achterste compartimenten: | 777 | m ³ /uur | = | 8.1 | erversingen per uur |
| Totale mechanische invoerdebiet container: | 1284 | m ³ /uur | = | 13.4 | erversingen per uur |
| Uitvoerdebiet door 3 dakventilatoren: | 1810 | m ³ /uur | = | 18.9 | erversingen per uur |
| Uitvoerdebiet door 8 zijwandventilatoren: | 441 | m ³ /uur | = | 4.6 | erversingen per uur |
| Totale mechanische uitvoerdebiet container: | 2250 | m ³ /uur | = | 23.5 | erversingen per uur |

4.3 Oplegger nummer 7



Zijaanzicht oplegger - Gemeten luchtsnelheden uit gaatjes van horizontale inlaatbuizen

- Gele buizenstelsel: voorste/eerste inblaascompartiment
- Groene buizenstelsel: achterste/tweede inblaascompartiment
- De zwarte cijfers betreffen gemeten luchtsnelheden vanuit de inblaasopeningen, de blauwe cijfers betreffen geschatte luchtsnelheden d.m.v. interpolatie

| | Kolom | | | | | | | | | | | | | |
|-----|-------|------|-----|-----|-----|-----|-----|------|------|------|------|------|------|-----|
| Rij | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 | 13 | |
| 1 | 12.2 | 10.5 | 8.8 | 7.1 | 5.3 | 3.6 | 1.9 | 1.6 | 1.3 | 1.1 | 0.8 | 0.5 | 0.2 | |
| 2 | 10.0 | 8.4 | 6.8 | 5.2 | 4.6 | 4.1 | 3.5 | 17.0 | 15.9 | 14.9 | 10.6 | 10.0 | 9.4 | 8.8 |
| 3 | 11.1 | 9.2 | 7.4 | 5.6 | 4.9 | 4.2 | 3.4 | 17.7 | 15.6 | 13.5 | 11.4 | 10.6 | 9.8 | 8.9 |
| 4 | 12.1 | 10.1 | 8.0 | 6.0 | 5.1 | 4.2 | 3.4 | 18.3 | 16.3 | 14.2 | 12.2 | 11.2 | 10.1 | 9.1 |
| 5 | 13.2 | 10.9 | 8.7 | 6.4 | 5.4 | 4.3 | 3.3 | 19.0 | 17.0 | 15.0 | 13.0 | 11.7 | 10.5 | 9.2 |
| 6 | 12.9 | 10.7 | 8.5 | 6.4 | 5.4 | 4.4 | 3.5 | 16.7 | 14.9 | 13.2 | 11.4 | 10.3 | 9.2 | 8.1 |
| 7 | 12.6 | 10.5 | 8.4 | 6.3 | 5.4 | 4.5 | 3.6 | 14.5 | 12.9 | 11.3 | 9.8 | 8.9 | 8.0 | 7.1 |
| 8 | | | | | 8.5 | 6.5 | 4.5 | 12.2 | 10.8 | 9.5 | 8.1 | 7.4 | 6.7 | 6.0 |
| 9 | | | | | 6.9 | 6.8 | 6.7 | 9.9 | 8.8 | 7.6 | 6.5 | 6.0 | 5.4 | 4.9 |

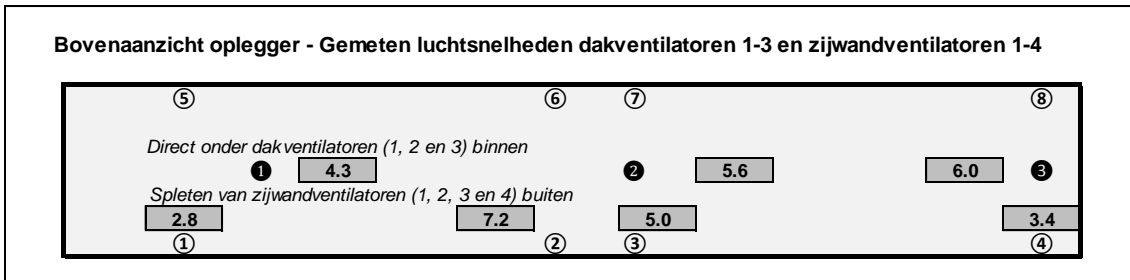
Zijaanzicht oplegger - Berekende invoerdebieten in m³/uur per mand

| | Kolom | | | | | | | | | | | | | |
|-----|-------|-----|-----|-----|-----|-----|-----|-----|------|------|-----|-----|-----|-----|
| Rij | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 | 13 | |
| 1 | 8.5 | 7.3 | 6.1 | 4.9 | 3.7 | 2.5 | 1.3 | 1.1 | 0.9 | 0.7 | 0.5 | 0.3 | 0.1 | |
| 2 | 6.9 | 5.8 | 4.7 | 3.6 | 3.2 | 2.8 | 1.2 | 5.9 | 11.0 | 10.3 | 7.3 | 6.9 | 6.5 | 6.1 |
| 3 | 7.7 | 6.4 | 5.1 | 3.9 | 3.4 | 2.9 | 1.2 | 6.1 | 10.8 | 9.3 | 7.9 | 7.3 | 6.8 | 6.2 |
| 4 | 8.4 | 7.0 | 5.6 | 4.2 | 3.5 | 2.9 | 1.2 | 6.3 | 11.3 | 9.9 | 8.5 | 7.7 | 7.0 | 6.3 |
| 5 | 9.1 | 7.6 | 6.0 | 4.4 | 3.7 | 3.0 | 1.1 | 6.6 | 11.8 | 10.4 | 9.0 | 8.1 | 7.3 | 6.4 |
| 6 | 8.9 | 7.4 | 5.9 | 4.4 | 3.7 | 3.1 | 1.2 | 5.8 | 10.4 | 9.1 | 7.9 | 7.1 | 6.4 | 5.6 |
| 7 | 8.7 | 7.3 | 5.8 | 4.4 | 3.7 | 3.1 | 1.2 | 5.0 | 8.9 | 7.8 | 6.8 | 6.1 | 5.5 | 4.9 |
| 8 | | | | | 5.9 | 4.5 | 1.6 | 4.2 | 7.5 | 6.6 | 5.6 | 5.1 | 4.6 | 4.1 |
| 9 | | | | | 4.8 | 4.7 | 2.3 | 3.4 | 6.1 | 5.3 | 4.5 | 4.1 | 3.8 | 3.4 |

Schatting van de invoer-/uitvoerdebieten en het verversingsvoud van de wagen

| | | | | | |
|---|------|---------------------|---|------|---------------------|
| Invoerdebiet door voorste compartimenten: | 506 | m ³ /uur | = | 5.3 | erversingen per uur |
| Invoerdebiet door achterste compartimenten: | 790 | m ³ /uur | = | 8.3 | erversingen per uur |
| Totale mechanische invoerdebiet container: | 1296 | m ³ /uur | = | 13.6 | erversingen per uur |
| | | | | | |
| Uitvoerdebiet door 3 dakventilatoren: | 1843 | m ³ /uur | = | 19.3 | erversingen per uur |
| Uitvoerdebiet door 8 zijwandventilatoren: | 497 | m ³ /uur | = | 5.2 | erversingen per uur |
| Totale mechanische uitvoerdebiet container: | 2340 | m ³ /uur | = | 24.5 | erversingen per uur |

4.4 Oplegger nummer 8



Zijaanzicht oplegger - Gemeten luchtsnelheden uit gaatjes van horizontale inlaatbuizen

- Gele buizenstelsel: voorste/eerste inblaascompartment
- Groene buizenstelsel: achterste/tweede inblaascompartment
- De zwarte cijfers betreffen gemeten luchtsnelheden vanuit de inblaasopeningen, de blauwe cijfers betreffen geschatte luchtsnelheden d.m.v. interpolatie

| Rij | Kolom | | | | | | | | | | | | | |
|-----|-------|------|-----|-----|------|-----|-----|------|------|------|------|------|------|------|
| | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 | 13 | |
| 1 | 12.7 | 11.0 | 9.3 | 7.6 | 5.9 | 4.2 | 2.5 | 2.3 | 2.1 | 1.9 | 1.6 | 1.4 | 1.2 | |
| 2 | 12.6 | 10.6 | 8.5 | 6.5 | 5.6 | 4.7 | 3.8 | 11.0 | 11.3 | 11.5 | 12.5 | 11.5 | 10.5 | 9.5 |
| 3 | 12.4 | 10.4 | 8.4 | 6.5 | 5.6 | 4.7 | 3.8 | 14.1 | 14.0 | 13.9 | 13.8 | 12.8 | 11.8 | 10.8 |
| 4 | 12.2 | 10.3 | 8.4 | 6.4 | 5.6 | 4.7 | 3.8 | 17.2 | 16.5 | 15.8 | 15.1 | 14.1 | 13.1 | 12.2 |
| 5 | 12.0 | 10.1 | 8.3 | 6.4 | 5.5 | 4.7 | 3.8 | 20.3 | 19.0 | 17.7 | 16.4 | 15.4 | 14.5 | 13.5 |
| 6 | 10.1 | 9.1 | 8.2 | 7.2 | 6.2 | 5.3 | 4.3 | 19.0 | 18.2 | 17.4 | 16.6 | 15.4 | 14.2 | 13.1 |
| 7 | 8.1 | 8.1 | 8.0 | 8.0 | 6.9 | 5.9 | 4.8 | 17.7 | 17.3 | 17.0 | 16.7 | 15.4 | 14.0 | 12.7 |
| 8 | | | | | 10.1 | 8.1 | 6.1 | 16.3 | 16.5 | 16.7 | 16.9 | 15.3 | 13.8 | 12.2 |
| 9 | | | | | 7.2 | 5.9 | 4.6 | 15.0 | 15.7 | 16.3 | 17.0 | 15.3 | 13.5 | 11.8 |

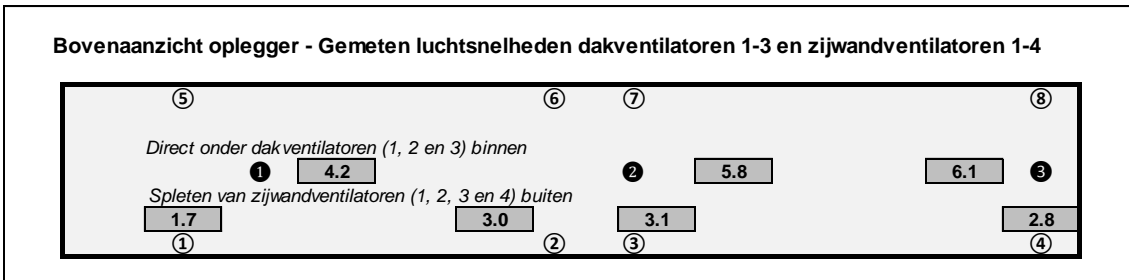
Zijaanzicht oplegger - Berekende invoerdebiëten in m³/uur per mand

| Rij | Kolom | | | | | | | | | | | | | |
|-----|-------|-----|-----|-----|-----|-----|-----|-----|------|------|------|------|------|-----|
| | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 | 13 | |
| 1 | 8.8 | 7.6 | 6.4 | 5.3 | 4.1 | 2.9 | 1.7 | 1.6 | 1.4 | 1.3 | 1.1 | 1.0 | 0.8 | |
| 2 | 8.7 | 7.3 | 5.9 | 4.5 | 3.9 | 3.3 | 1.3 | 3.8 | 7.8 | 8.0 | 8.7 | 8.0 | 7.3 | 6.6 |
| 3 | 8.6 | 7.2 | 5.8 | 4.5 | 3.9 | 3.2 | 1.3 | 4.9 | 9.7 | 9.6 | 9.6 | 8.9 | 8.2 | 7.5 |
| 4 | 8.5 | 7.1 | 5.8 | 4.5 | 3.8 | 3.2 | 1.3 | 6.0 | 11.4 | 10.9 | 10.5 | 9.8 | 9.1 | 8.4 |
| 5 | 8.3 | 7.0 | 5.7 | 4.4 | 3.8 | 3.2 | 1.3 | 7.0 | 13.2 | 12.3 | 11.4 | 10.7 | 10.0 | 9.4 |
| 6 | 7.0 | 6.3 | 5.6 | 5.0 | 4.3 | 3.6 | 1.5 | 6.6 | 12.6 | 12.0 | 11.5 | 10.7 | 9.9 | 9.1 |
| 7 | 5.6 | 5.6 | 5.6 | 5.5 | 4.8 | 4.1 | 1.7 | 6.1 | 12.0 | 11.8 | 11.6 | 10.6 | 9.7 | 8.8 |
| 8 | | | | | 7.0 | 5.6 | 2.1 | 5.7 | 11.4 | 11.6 | 11.7 | 10.6 | 9.5 | 8.5 |
| 9 | | | | | 5.0 | 4.1 | 1.6 | 5.2 | 10.9 | 11.3 | 11.8 | 10.6 | 9.4 | 8.2 |

Schatting van de invoer-/uitvoerdebieten en het verversingsvoud van de wagen

| | | | | | |
|---|------|---------------------|---|------|---------------------|
| Invoerdebiet door voorste compartimenten: | 530 | m ³ /uur | = | 5.5 | erversingen per uur |
| Invoerdebiet door achterste compartimenten: | 1071 | m ³ /uur | = | 11.2 | erversingen per uur |
| Totale mechanische invoerdebiet container: | 1601 | m ³ /uur | = | 16.7 | erversingen per uur |
| Uitvoerdebiet door 3 dakventilatoren: | 1798 | m ³ /uur | = | 18.8 | erversingen per uur |
| Uitvoerdebiet door 8 zijwandventilatoren: | 795 | m ³ /uur | = | 8.3 | erversingen per uur |
| Totale mechanische uitvoerdebiet container: | 2593 | m ³ /uur | = | 27.1 | erversingen per uur |

4.5 Oplegger nummer 9



Zijaanzicht oplegger - Gemeten luchtsnelheden uit gaatjes van horizontale inlaatbuizen

- Gele buizenstelsel: voorste/eerste inblaascompartiment
- Groene buizenstelsel: achterste/tweede inblaascompartiment
- De zwarte cijfers betreffen gemeten luchtsnelheden vanuit de inblaasopeningen, de blauwe cijfers betreffen geschatte luchtsnelheden d.m.v. interpolatie

| | Kolom | | | | | | | | | | | | | |
|-----|-------|------|-----|-----|-----|-----|-----|------|------|------|------|------|------|-----|
| Rij | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 | 13 | |
| 1 | 11.4 | 9.8 | 8.3 | 6.7 | 5.1 | 3.6 | 2.0 | 1.7 | 1.4 | 1.1 | 0.7 | 0.4 | 0.1 | |
| 2 | 10.5 | 9.3 | 8.0 | 6.8 | 5.6 | 4.4 | 3.2 | 17.0 | 16.0 | 15.0 | 11.1 | 10.6 | 10.0 | 9.5 |
| 3 | 11.6 | 9.9 | 8.1 | 6.4 | 5.3 | 4.3 | 3.2 | 17.5 | 15.5 | 13.5 | 11.5 | 10.7 | 10.0 | 9.2 |
| 4 | 12.7 | 10.4 | 8.2 | 5.9 | 5.0 | 4.1 | 3.2 | 18.1 | 16.0 | 14.0 | 11.9 | 10.9 | 9.9 | 9.0 |
| 5 | 13.8 | 11.0 | 8.3 | 5.5 | 4.7 | 4.0 | 3.2 | 18.6 | 16.5 | 14.4 | 12.3 | 11.1 | 9.9 | 8.7 |
| 6 | 13.2 | 10.7 | 8.2 | 5.8 | 5.0 | 4.2 | 3.4 | 16.7 | 14.7 | 12.8 | 10.8 | 9.8 | 8.7 | 7.7 |
| 7 | 12.6 | 10.4 | 8.2 | 6.0 | 5.2 | 4.4 | 3.6 | 14.8 | 13.0 | 11.2 | 9.4 | 8.4 | 7.5 | 6.6 |
| 8 | | | | | 8.7 | 6.6 | 4.5 | 12.9 | 11.2 | 9.6 | 7.9 | 7.1 | 6.3 | 5.6 |
| 9 | | | | | 7.1 | 6.9 | 6.7 | 11.0 | 9.5 | 7.9 | 6.4 | 5.8 | 5.1 | 4.5 |

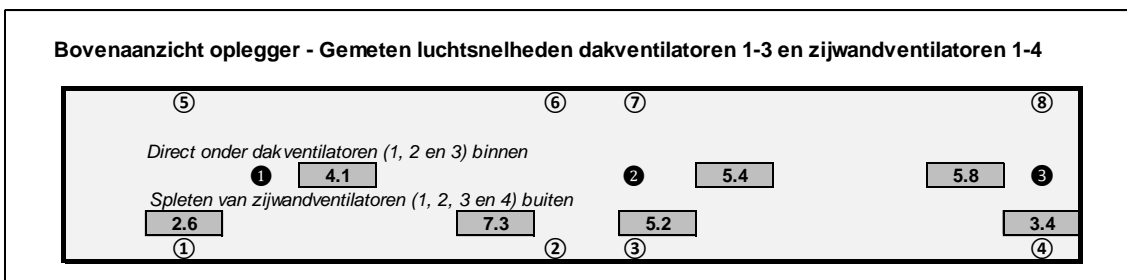
Zijaanzicht oplegger - Berekende invoerdebieten in m³/uur per mand

| | Kolom | | | | | | | | | | | | | |
|-----|-------|-----|-----|-----|-----|-----|-----|-----|------|------|-----|-----|-----|-----|
| Rij | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 | 13 | |
| 1 | 7.9 | 6.8 | 5.7 | 4.6 | 3.6 | 2.5 | 1.4 | 1.2 | 0.9 | 0.7 | 0.5 | 0.3 | 0.1 | |
| 2 | 7.3 | 6.4 | 5.6 | 4.7 | 3.9 | 3.0 | 1.1 | 5.9 | 11.1 | 10.4 | 7.7 | 7.3 | 7.0 | 6.6 |
| 3 | 8.0 | 6.8 | 5.6 | 4.4 | 3.7 | 2.9 | 1.1 | 6.1 | 10.8 | 9.4 | 8.0 | 7.4 | 6.9 | 6.4 |
| 4 | 8.8 | 7.2 | 5.7 | 4.1 | 3.5 | 2.8 | 1.1 | 6.3 | 11.1 | 9.7 | 8.2 | 7.6 | 6.9 | 6.2 |
| 5 | 9.6 | 7.6 | 5.7 | 3.8 | 3.3 | 2.7 | 1.1 | 6.4 | 11.4 | 10.0 | 8.5 | 7.7 | 6.9 | 6.0 |
| 6 | 9.1 | 7.4 | 5.7 | 4.0 | 3.4 | 2.9 | 1.2 | 5.8 | 10.2 | 8.9 | 7.5 | 6.8 | 6.0 | 5.3 |
| 7 | 8.7 | 7.2 | 5.7 | 4.2 | 3.6 | 3.0 | 1.2 | 5.1 | 9.0 | 7.7 | 6.5 | 5.8 | 5.2 | 4.6 |
| 8 | | | | | 6.0 | 4.6 | 1.6 | 4.5 | 7.8 | 6.6 | 5.5 | 4.9 | 4.4 | 3.8 |
| 9 | | | | | 4.9 | 4.8 | 2.3 | 3.8 | 6.6 | 5.5 | 4.4 | 4.0 | 3.6 | 3.1 |

Schatting van de invoer-/uitvoerdebieten en het verversingsvoud van de wagen

| | | | | | |
|---|------|---------------------|---|------|---------------------|
| Invoerdebiet door voorste compartimenten: | 510 | m ³ /uur | = | 5.3 | erversingen per uur |
| Invoerdebiet door achterste compartimenten: | 782 | m ³ /uur | = | 8.2 | erversingen per uur |
| Totale mechanische invoerdebiet container: | 1292 | m ³ /uur | = | 13.5 | erversingen per uur |
| | | | | | |
| Uitvoerdebiet door 3 dakventilatoren: | 1821 | m ³ /uur | = | 19.0 | erversingen per uur |
| Uitvoerdebiet door 8 zijwandventilatoren: | 458 | m ³ /uur | = | 4.8 | erversingen per uur |
| Totale mechanische uitvoerdebiet container: | 2279 | m ³ /uur | = | 23.8 | erversingen per uur |

4.6 Oplegger nummer 10



Zijaanzicht oplegger - Gemeten luchtsnelheden uit gaatjes van horizontale inlaatbuizen

- Gele buizenstelsel: voorste/eerste inblaascompartiment
- Groene buizenstelsel: achterste/tweede inblaascompartiment
- De zwarte cijfers betreffen gemeten luchtsnelheden vanuit de inblaasopeningen, de blauwe cijfers betreffen geschatte luchtsnelheden d.m.v. interpolatie

| | | Kolom | | | | | | | | | | | | | |
|-----|--|-------|------|-----|-----|-----|-----|-----|------|------|------|------|------|------|-----|
| | | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 | 13 | |
| Rij | | | | | | | | | | | | | | | |
| 1 | | 12.0 | 10.3 | 8.7 | 7.0 | 5.3 | 3.7 | 2.0 | 1.7 | 1.4 | 1.2 | 0.9 | 0.6 | 0.3 | |
| 2 | | 10.1 | 8.8 | 7.5 | 6.2 | 5.3 | 4.3 | 3.4 | 17.0 | 15.9 | 14.8 | 10.3 | 9.7 | 9.2 | 8.6 |
| 3 | | 11.1 | 9.5 | 7.9 | 6.3 | 5.3 | 4.3 | 3.4 | 17.7 | 15.5 | 13.4 | 11.3 | 10.4 | 9.6 | 8.8 |
| 4 | | 12.2 | 10.2 | 8.3 | 6.4 | 5.4 | 4.4 | 3.3 | 18.3 | 16.3 | 14.3 | 12.2 | 11.1 | 10.0 | 8.9 |
| 5 | | 13.2 | 11.0 | 8.7 | 6.5 | 5.4 | 4.4 | 3.3 | 19.0 | 17.1 | 15.1 | 13.2 | 11.8 | 10.5 | 9.1 |
| 6 | | 13.0 | 10.7 | 8.5 | 6.3 | 5.3 | 4.4 | 3.4 | 16.6 | 14.9 | 13.2 | 11.6 | 10.4 | 9.2 | 8.0 |
| 7 | | 12.7 | 10.5 | 8.2 | 6.0 | 5.2 | 4.3 | 3.5 | 14.3 | 12.8 | 11.4 | 9.9 | 8.9 | 7.8 | 6.8 |
| 8 | | | | | | 8.4 | 6.2 | 4.0 | 11.9 | 10.7 | 9.5 | 8.3 | 7.4 | 6.5 | 5.7 |
| 9 | | | | | | 6.6 | 6.8 | 6.9 | 9.5 | 8.5 | 7.6 | 6.6 | 5.9 | 5.2 | 4.5 |

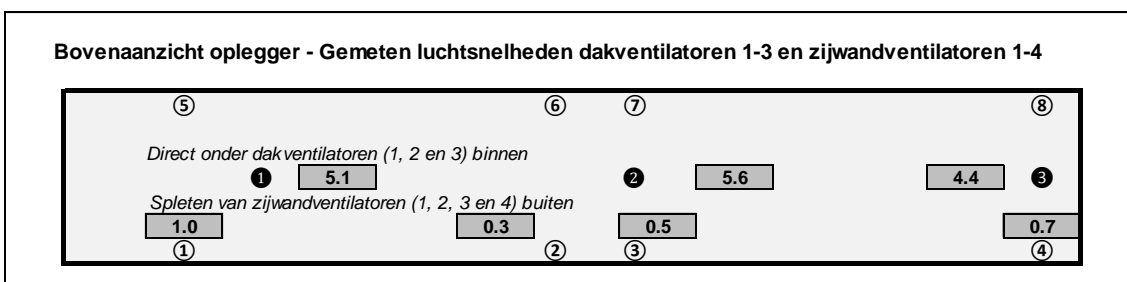
Zijaanzicht oplegger - Berekende invoerdebiëten in m³/uur per mand

| | | Kolom | | | | | | | | | | | | | |
|-----|--|-------|-----|-----|-----|-----|-----|-----|-----|------|------|-----|-----|-----|-----|
| | | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 | 13 | |
| Rij | | | | | | | | | | | | | | | |
| 1 | | 8.3 | 7.2 | 6.0 | 4.8 | 3.7 | 2.5 | 1.4 | 1.2 | 1.0 | 0.8 | 0.6 | 0.4 | 0.2 | |
| 2 | | 7.0 | 6.1 | 5.2 | 4.3 | 3.6 | 3.0 | 1.2 | 5.9 | 11.0 | 10.2 | 7.1 | 6.7 | 6.3 | 6.0 |
| 3 | | 7.7 | 6.6 | 5.5 | 4.4 | 3.7 | 3.0 | 1.2 | 6.1 | 10.8 | 9.3 | 7.8 | 7.2 | 6.7 | 6.1 |
| 4 | | 8.4 | 7.1 | 5.8 | 4.4 | 3.7 | 3.0 | 1.2 | 6.3 | 11.3 | 9.9 | 8.5 | 7.7 | 7.0 | 6.2 |
| 5 | | 9.1 | 7.6 | 6.0 | 4.5 | 3.8 | 3.0 | 1.1 | 6.6 | 11.8 | 10.5 | 9.1 | 8.2 | 7.3 | 6.3 |
| 6 | | 9.0 | 7.4 | 5.9 | 4.3 | 3.7 | 3.0 | 1.2 | 5.8 | 10.3 | 9.2 | 8.0 | 7.2 | 6.3 | 5.5 |
| 7 | | 8.8 | 7.3 | 5.7 | 4.2 | 3.6 | 3.0 | 1.2 | 4.9 | 8.9 | 7.9 | 6.9 | 6.1 | 5.4 | 4.7 |
| 8 | | | | | | 5.8 | 4.3 | 1.4 | 4.1 | 7.4 | 6.6 | 5.7 | 5.1 | 4.5 | 3.9 |
| 9 | | | | | | 4.6 | 4.7 | 2.4 | 3.3 | 5.9 | 5.2 | 4.6 | 4.1 | 3.6 | 3.1 |

Schatting van de invoer-/uitvoerdebieten en het verversingsvoud van de wagen

| | | | | | |
|---|------|---------------------|---|------|---------------------|
| Invoerdebiet door voorste compartimenten: | 512 | m ³ /uur | = | 5.4 | erversingen per uur |
| Invoerdebiet door achterste compartimenten: | 786 | m ³ /uur | = | 8.2 | erversingen per uur |
| Totale mechanische invoerdebiet container: | 1298 | m ³ /uur | = | 13.6 | erversingen per uur |
| | | | | | |
| Uitvoerdebiet door 3 dakventilatoren: | 1730 | m ³ /uur | = | 18.1 | erversingen per uur |
| Uitvoerdebiet door 8 zijwandventilatoren: | 799 | m ³ /uur | = | 8.4 | erversingen per uur |
| Totale mechanische uitvoerdebiet container: | 2530 | m ³ /uur | = | 26.5 | erversingen per uur |

4.7 Oplegger nummer 11



Zijaanzicht oplegger - Gemeten luchtsnelheden uit gaatjes van horizontale inlaatbuizen

- Gele buizenstelsel: voorste/eerste inblaascompartiment
- Groene buizenstelsel: achterste/tweede inblaascompartiment
- De zwarte cijfers betreffen gemeten luchtsnelheden vanuit de inblaasopeningen, de blauwe cijfers betreffen geschatte luchtsnelheden d.m.v. interpolatie

| | Kolom | | | | | | | | | | | | | |
|-----|-------|-----|-----|-----|-----|-----|-----|------|------|------|------|-----|-----|-----|
| Rij | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 | 13 | |
| 1 | 11.1 | 9.8 | 8.5 | 7.2 | 5.8 | 4.5 | 3.2 | 2.9 | 2.5 | 2.2 | 1.9 | 1.5 | 1.2 | |
| 2 | 10.9 | 9.8 | 8.8 | 7.7 | 7.6 | 7.4 | 7.3 | 15.0 | 14.3 | 13.5 | 10.5 | 9.5 | 8.5 | 7.5 |
| 3 | 11.0 | 9.9 | 8.7 | 7.6 | 7.1 | 6.6 | 6.1 | 15.6 | 13.9 | 12.2 | 10.5 | 9.1 | 7.6 | 6.2 |
| 4 | 11.1 | 9.9 | 8.7 | 7.5 | 6.7 | 5.8 | 5.0 | 16.1 | 14.3 | 12.4 | 10.5 | 8.6 | 6.7 | 4.8 |
| 5 | 11.2 | 9.9 | 8.7 | 7.4 | 6.2 | 5.0 | 3.8 | 16.7 | 14.6 | 12.6 | 10.5 | 8.2 | 5.8 | 3.5 |
| 6 | 9.9 | 9.1 | 8.3 | 7.5 | 6.2 | 4.9 | 3.7 | 14.0 | 12.5 | 11.0 | 9.4 | 7.6 | 5.7 | 3.8 |
| 7 | 8.5 | 8.2 | 7.8 | 7.5 | 6.2 | 4.8 | 3.5 | 11.3 | 10.3 | 9.3 | 8.4 | 7.0 | 5.6 | 4.2 |
| 8 | | | | | 4.4 | 3.8 | 3.1 | 8.6 | 8.2 | 7.7 | 7.3 | 6.3 | 5.4 | 4.5 |
| 9 | | | | | 4.1 | 3.9 | 3.7 | 5.9 | 6.0 | 6.1 | 6.2 | 5.7 | 5.3 | 4.8 |

Zijaanzicht oplegger - Berekende invoerdebieten in m³/uur per mand

| | Kolom | | | | | | | | | | | | | |
|-----|-------|-----|-----|-----|-----|-----|-----|-----|------|-----|-----|-----|-----|-----|
| Rij | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 | 13 | |
| 1 | 7.7 | 6.8 | 5.9 | 5.0 | 4.0 | 3.1 | 2.2 | 2.0 | 1.8 | 1.5 | 1.3 | 1.1 | 0.8 | |
| 2 | 7.6 | 6.8 | 6.1 | 5.3 | 5.2 | 5.1 | 2.5 | 5.2 | 9.9 | 9.4 | 7.3 | 6.6 | 5.9 | 5.2 |
| 3 | 7.6 | 6.8 | 6.0 | 5.3 | 4.9 | 4.6 | 2.1 | 5.4 | 9.6 | 8.4 | 7.3 | 6.3 | 5.3 | 4.3 |
| 4 | 7.7 | 6.9 | 6.0 | 5.2 | 4.6 | 4.0 | 1.7 | 5.6 | 9.9 | 8.6 | 7.3 | 6.0 | 4.7 | 3.3 |
| 5 | 7.8 | 6.9 | 6.0 | 5.1 | 4.3 | 3.5 | 1.3 | 5.8 | 10.1 | 8.7 | 7.3 | 5.7 | 4.0 | 2.4 |
| 6 | 6.8 | 6.3 | 5.7 | 5.2 | 4.3 | 3.4 | 1.3 | 4.8 | 8.6 | 7.6 | 6.5 | 5.2 | 3.9 | 2.6 |
| 7 | 5.9 | 5.7 | 5.4 | 5.2 | 4.3 | 3.3 | 1.2 | 3.9 | 7.1 | 6.5 | 5.8 | 4.8 | 3.8 | 2.9 |
| 8 | | | | | 3.0 | 2.6 | 1.1 | 3.0 | 5.7 | 5.3 | 5.0 | 4.4 | 3.7 | 3.1 |
| 9 | | | | | 2.8 | 2.7 | 1.3 | 2.0 | 4.2 | 4.2 | 4.3 | 4.0 | 3.6 | 3.3 |

Schatting van de invoer-/uitvoerdebieten en het verversingsvoud van de wagen

| | | | | | |
|---|------|---------------------|---|------|---------------------|
| Invoerdebiet door voorste compartimenten: | 516 | m ³ /uur | = | 5.4 | erversingen per uur |
| Invoerdebiet door achterste compartimenten: | 650 | m ³ /uur | = | 6.8 | erversingen per uur |
| Totale mechanische invoerdebiet container: | 1166 | m ³ /uur | = | 12.2 | erversingen per uur |
| Uitvoerdebiet door 3 dakventilatoren: | 1708 | m ³ /uur | = | 17.9 | erversingen per uur |
| Uitvoerdebiet door 8 zijwandventilatoren: | 108 | m ³ /uur | = | 1.1 | erversingen per uur |
| Totale mechanische uitvoerdebiet container: | 1816 | m ³ /uur | = | 19.0 | erversingen per uur |

5 Resultaten klimaatmetingen aangepaste oplegger nr. 7



6 Samenvatting resultaten en conclusies

De belangrijkste resultaten uit hoofdstukken 4 en 5 en de conclusies die hieruit getrokken kunnen worden, kunnen als volgt worden samengevat.

- ...

- ...