

Datum : 9 December 2019

Betreft : Voorbeeld woning

Omschrijving : Voorbeeld MV-berekening

Projectnummer:2019-50.0000

Projectnaam: 2019-50.0000_JDi_20191209_MV

Technicus : Trajectum Engineering B.V.

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| Trajectum Engineering B.V. |
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L U C H T K A N A L E N   B E R E K E N I N G   V A 1 0 4
                          V A B I               versie 5.45

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Projectnummer: 2019-50.00
Projectnaam   : 2019-50.00_JDi_20191209_MV
Technicus    : Trajectum Engineering B.V.
Datum        : 9 December 2019 Tijd: 13:40:21
Omschrijving : Voorbeeld MV-Berekening

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startkanaal      1:

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begrenzing nr    1:

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selectie         isolatie
afmetingen       uit- inw.
rond             nee   nee       snelheid 1 (kleine diameters)  3.5  m/s
rechthoekig     nee   nee   nee   drukverlies per meter         4.0  Pa/m
ovaal           nee   nee       snelheid 2 (grote diameters )  5.0  m/s
leverancier                                           0
zoekbereik                                           Gunstig

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medium van 20.0 GrdC en 65 % RV :

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soortelijke massa                1.1974  kg/m3
kinematische viscositeit x 10^-6 15.0924  m2/s

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uitwendige Isolatie dikte kanalen          0  mm
inwendige Isolatie dikte kanalen          0  mm
abs. wandruwheid inwendige isolatie (x 10^-5) 15.0  mm
gewenste Systeemdruk                99999  Pa

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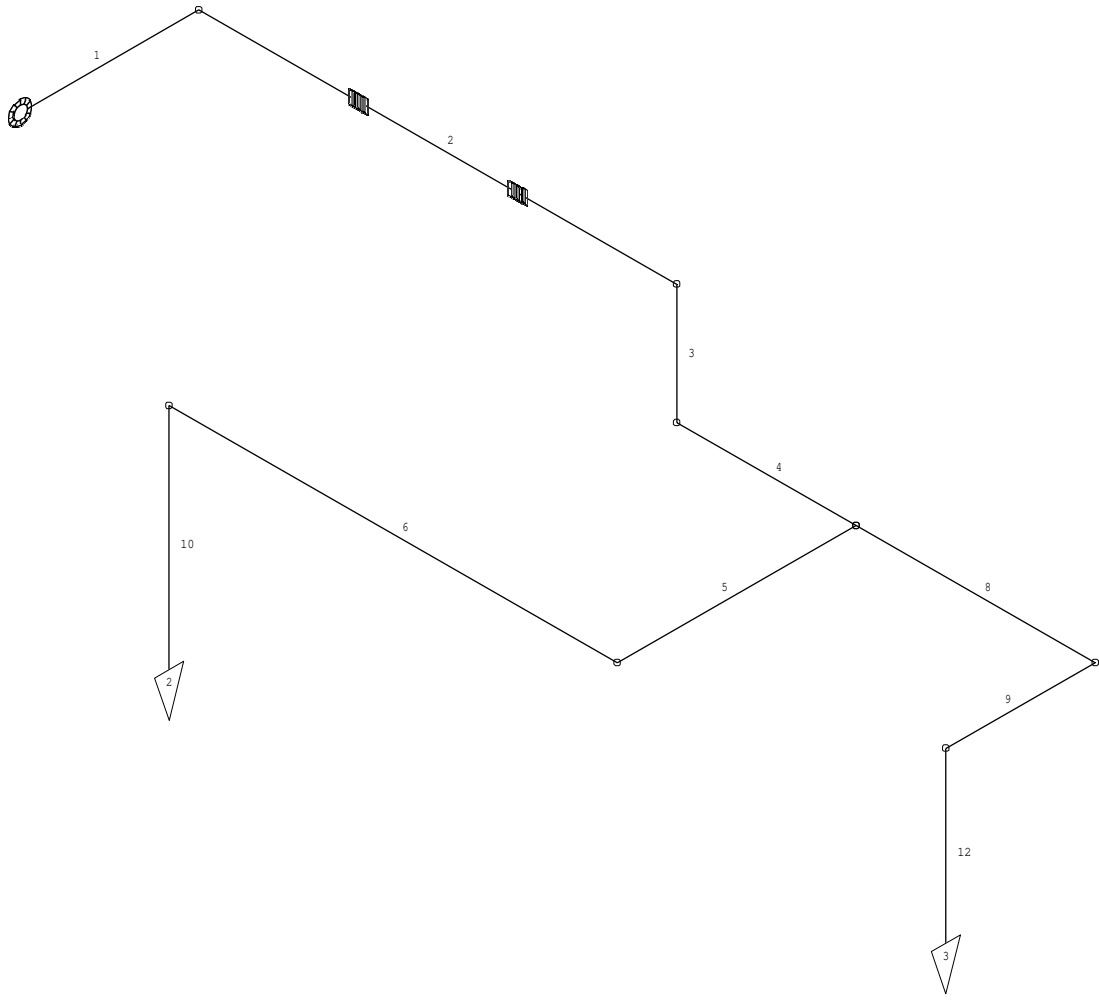
installatie soort ( 0 = toevoerkan. 1 = afzuigkanaal)          0

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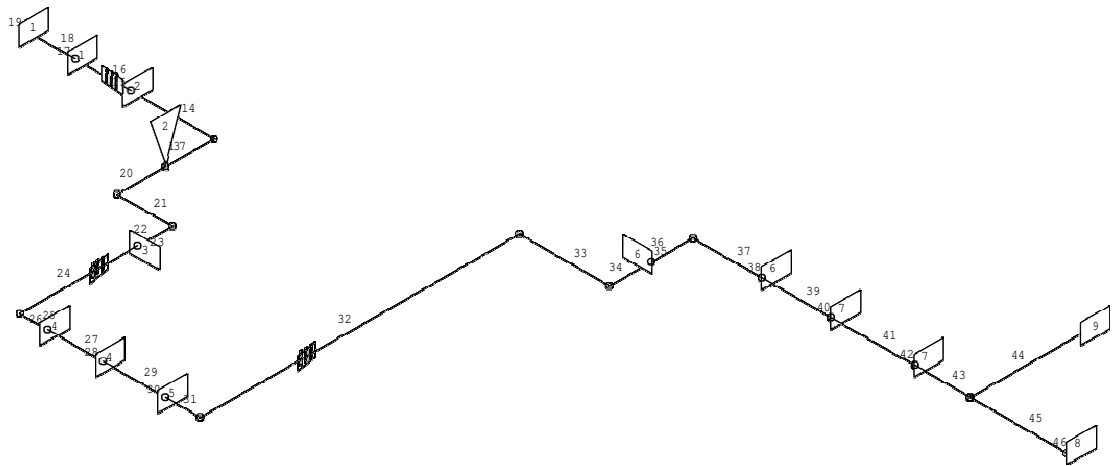
```

max. verhouding van beide zijden rechthoekig kanaal          4.0
vasthouden A-maat                                           nee
default T-stuk                (o/#) T-stuk          90 grd scherp
default bocht                  (o/#) sym. ronde bocht
default bocht                  geen lekverliezen

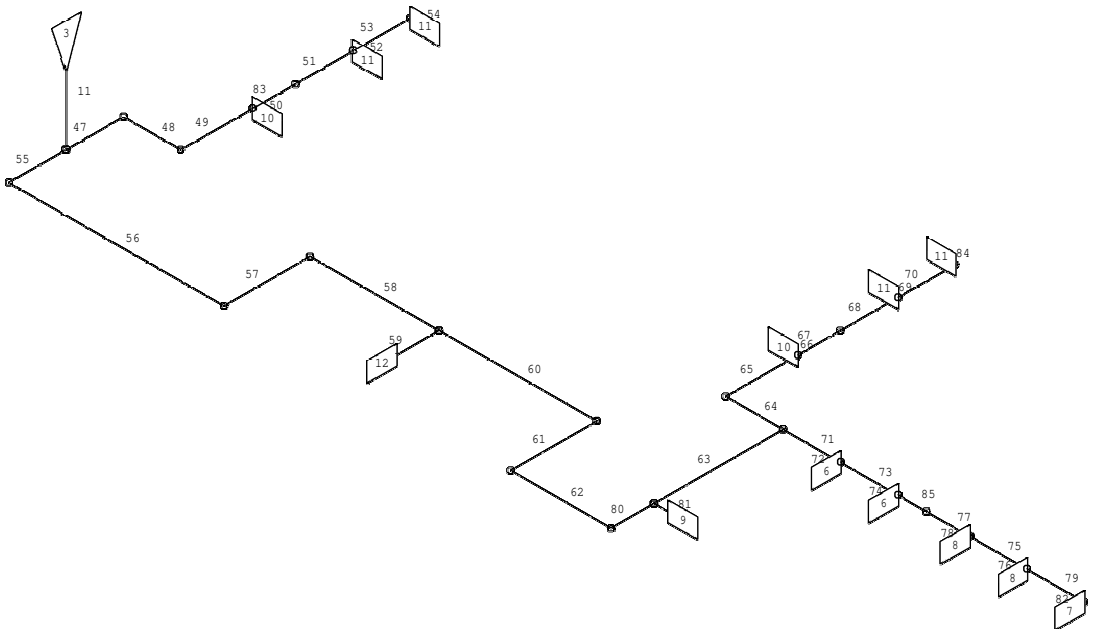
```



.....AANVOER : leidingstelsel 1 ()



.....AANVOER : subtak 2 ()



.....AANVOER : subtak 3 ()

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 | Trajectum Engineering B.V. |
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 Programma : VABI - LUCHTKANALEN BEREKENING VA104 - Versie 5.45
 Projectnummer: 2019-50.00 Pagina 6
 Projectnaam : 2019-50.00_JDi_20191209_MV
 Technicus : Trajectum Engineering B.V.
 Datum : 9 December 2019 Tijd: 13:40:21
 Omschrijving : Voorbeeld MV-berekening

RESULTATEN

berekende systeemdruk 374.9 Pa

| nr. | naam | app nr | Q m3/h | lengte m | afmetingen nr vrm | | A | B | V m/s | druk Pa/m | drukval berek. | inregel Pa | s v |
|-----|------|--------|--------|----------|-------------------|---|-----|-----|-------|-----------|----------------|------------|-----|
| 1 | | | 4470.0 | 2.5 | 202 | 1 | 500 | 600 | 4.1 | 0.34 | 15.9 | | |
| 2 | | | 4470.0 | 10.0 | 202 | 1 | 500 | 600 | 4.1 | 0.34 | 107.8 | | |
| 3 | | | 4470.0 | 2.0 | 202 | 1 | 500 | 600 | 4.1 | 0.34 | 5.1 | | |
| 4 | | | 4470.0 | 0.7 | 202 | 1 | 500 | 600 | 4.1 | 0.34 | 4.6 | | |
| 5 | | | 1885.0 | 1.7 | 9 | 0 | 355 | | 5.3 | 0.91 | 17.4 | | |
| 6 | | | 1885.0 | 11.0 | 9 | 0 | 355 | | 5.3 | 0.91 | 16.5 | | |
| 10 | | | 1885.0 | 0.5 | 9 | 0 | 355 | | 5.3 | 0.91 | 6.9 | | |
| 7 | | | 1885.0 | 0.5 | 9 | 0 | 355 | | 5.3 | 0.91 | 0.5 | | |
| 13 | | | 825.0 | 2.7 | 7 | 0 | 250 | | 4.7 | 1.12 | 21.9 | | |
| 14 | | | 825.0 | 10.0 | 7 | 0 | 250 | | 4.7 | 1.12 | 15.8 | | |
| 15 | | 2 | 75.0 | 0.2 | 7 | 0 | 250 | | 0.4 | 0.02 | 19.2 | 143.5 | |
| 16 | | | 750.0 | 2.0 | 7 | 0 | 250 | | 4.3 | 0.94 | 8.2 | | |
| 17 | | 1 | 375.0 | 0.1 | 7 | 0 | 250 | | 2.1 | 0.26 | 19.0 | 135.5 | |
| 18 | | | 375.0 | 3.5 | 7 | 0 | 250 | | 2.1 | 0.26 | 1.5 | | |
| 19 | | 1 | 375.0 | 0.1 | 7 | 0 | 250 | | 2.1 | 0.26 | 11.2 | 141.8 | |
| 20 | | | 1060.0 | 1.5 | 7 | 0 | 250 | | 6.0 | 1.78 | 24.6 | | |
| 21 | | | 1060.0 | 1.2 | 7 | 0 | 250 | | 6.0 | 1.78 | 9.4 | | |
| 22 | | | 1060.0 | 2.2 | 7 | 0 | 250 | | 6.0 | 1.78 | 11.2 | | |
| 23 | | 3 | 145.0 | 0.1 | 7 | 0 | 250 | | 0.8 | 0.05 | 29.5 | 125.7 | |
| 24 | | | 915.0 | 8.2 | 7 | 0 | 250 | | 5.2 | 1.35 | 27.4 | | |
| 25 | | | 915.0 | 1.5 | 7 | 0 | 250 | | 5.2 | 1.35 | 7.6 | | |
| 26 | | 4 | 115.0 | 0.1 | 7 | 0 | 250 | | 0.6 | 0.03 | 28.6 | 91.5 | |
| 27 | | | 800.0 | 3.8 | 7 | 0 | 250 | | 4.5 | 1.05 | 4.3 | | |
| 28 | | 4 | 115.0 | 0.1 | 7 | 0 | 250 | | 0.6 | 0.03 | 25.0 | 90.8 | |
| 29 | | | 685.0 | 3.8 | 6 | 0 | 200 | | 6.1 | 2.39 | 9.3 | | |
| 30 | | 5 | 175.0 | 0.1 | 6 | 0 | 200 | | 1.5 | 0.20 | 35.7 | 71.0 | |
| 31 | | | 510.0 | 2.2 | 6 | 0 | 200 | | 4.5 | 1.38 | 3.1 | | |
| 32 | | | 510.0 | 10.5 | 6 | 0 | 200 | | 4.5 | 1.38 | 24.6 | | |
| 33 | | | 510.0 | 2.0 | 6 | 0 | 200 | | 4.5 | 1.38 | 6.9 | | |
| 34 | | | 510.0 | 1.5 | 6 | 0 | 200 | | 4.5 | 1.38 | 6.2 | | |
| 35 | | 6 | 50.0 | 0.1 | 6 | 0 | 200 | | 0.4 | 0.02 | 18.3 | 47.5 | |
| 36 | | | 460.0 | 1.5 | 5 | 0 | 160 | | 6.4 | 3.46 | 5.5 | | |
| 37 | | | 460.0 | 2.5 | 5 | 0 | 160 | | 6.4 | 3.46 | 16.1 | | |
| 38 | | 6 | 50.0 | 0.1 | 5 | 0 | 160 | | 0.7 | 0.06 | 29.3 | 14.9 | |
| 39 | | | 410.0 | 4.4 | 5 | 0 | 160 | | 5.7 | 2.79 | 12.7 | | |
| 40 | | 7 | 95.0 | 0.2 | 5 | 0 | 160 | | 1.3 | 0.19 | 23.5 | 7.9 | |
| 41 | | | 315.0 | 6.2 | 5 | 0 | 160 | | 4.3 | 1.70 | 10.7 | | |
| 42 | | 7 | 95.0 | 0.1 | 5 | 0 | 160 | | 1.3 | 0.19 | 16.5 | 4.3 | |
| 43 | | | 220.0 | 1.5 | 5 | 0 | 160 | | 3.0 | 0.88 | 1.4 | | |
| 44 | | 9 | 100.0 | 5.5 | 4 | 0 | 125 | | 2.3 | 0.70 | 19.4 | 0.0 | |
| 45 | | | 120.0 | 4.5 | 5 | 0 | 160 | | 1.7 | 0.29 | 1.5 | | |
| 46 | | 8 | 120.0 | 0.1 | 5 | 0 | 160 | | 1.7 | 0.29 | 10.7 | 7.2 | |
| 8 | | | 2585.0 | 1.3 | 10 | 0 | 400 | | 5.7 | 0.92 | 1.6 | | |

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 Trajectum Engineering B.V.

 Programma : VABI - LUCHTKANALEN BEREKENING VA104 - Versie 5.45
 Projectnummer: 2019-50.00 Pagina 7
 Projectnaam : 2019-50.00_JDi_20191209_MV
 Technicus : Trajectum Engineering B.V.
 Datum : 9 December 2019 Tijd: 13:40:21
 Omschrijving : Voorbeeld MV-berekening

RESULTATEN

berekende systeemdruk 374.9 Pa

| nr. | naam | app nr | Q m3/h | lengte m | afmetingen nr vrm | | A | B | V m/s | druk Pa/m | drukval berek. | inregel Pa | s v |
|-----|------|--------|--------|----------|-------------------|---|-----|-----|-------|-----------|----------------|------------|-----|
| 9 | | | 2585.0 | 1.1 | 10 | 0 | 400 | | 5.7 | 0.92 | 8.7 | | |
| 12 | | | 2585.0 | 0.5 | 10 | 0 | 400 | | 5.7 | 0.92 | 8.2 | | |
| 11 | | | 2585.0 | 0.5 | 10 | 0 | 400 | | 5.7 | 0.92 | 0.5 | | |
| 47 | | | 1000.0 | 2.0 | 104 | 1 | 200 | 350 | 4.0 | 0.81 | 21.3 | | |
| 48 | | | 1000.0 | 2.0 | 104 | 1 | 200 | 350 | 4.0 | 0.81 | 4.4 | | |
| 49 | | | 1000.0 | 1.8 | 104 | 1 | 200 | 350 | 4.0 | 0.81 | 4.3 | | |
| 50 | | 10 | 250.0 | 0.1 | 104 | 1 | 200 | 350 | 1.0 | 0.07 | 16.0 | 176.6 | |
| 83 | | | 750.0 | 1.0 | 104 | 1 | 200 | 350 | 3.0 | 0.48 | 0.5 | | |
| 51 | | | 750.0 | 3.2 | 102 | 1 | 200 | 250 | 4.2 | 1.05 | 4.9 | | |
| 52 | | 11 | 375.0 | 0.2 | 102 | 1 | 200 | 250 | 2.1 | 0.29 | 14.7 | 172.5 | |
| 53 | | | 375.0 | 3.0 | 102 | 1 | 200 | 250 | 2.1 | 0.29 | 1.6 | | |
| 54 | | 11 | 375.0 | 0.1 | 102 | 1 | 200 | 250 | 2.1 | 0.29 | 7.0 | 178.6 | |
| 55 | | | 1585.0 | 0.8 | 106 | 1 | 200 | 500 | 4.4 | 0.85 | 19.6 | | |
| 56 | | | 1585.0 | 3.0 | 106 | 1 | 200 | 500 | 4.4 | 0.85 | 5.8 | | |
| 57 | | | 1585.0 | 3.0 | 106 | 1 | 200 | 500 | 4.4 | 0.85 | 5.8 | | |
| 58 | | | 1585.0 | 3.7 | 106 | 1 | 200 | 500 | 4.4 | 0.85 | 6.4 | | |
| 59 | | 12 | 50.0 | 2.2 | 3 | 0 | 100 | | 1.8 | 0.60 | 17.2 | 167.9 | |
| 60 | | | 1535.0 | 2.0 | 106 | 1 | 200 | 500 | 4.3 | 0.80 | 2.2 | | |
| 61 | | | 1535.0 | 1.2 | 106 | 1 | 200 | 500 | 4.3 | 0.80 | 4.0 | | |
| 62 | | | 1535.0 | 1.2 | 106 | 1 | 200 | 500 | 4.3 | 0.80 | 4.0 | | |
| 80 | | | 1535.0 | 0.2 | 106 | 1 | 200 | 500 | 4.3 | 0.80 | 3.2 | | |
| 63 | | | 1435.0 | 3.0 | 106 | 1 | 200 | 500 | 4.0 | 0.71 | 2.6 | | |
| 64 | | | 1000.0 | 2.0 | 104 | 1 | 200 | 350 | 4.0 | 0.81 | 12.5 | | |
| 65 | | | 1000.0 | 1.8 | 104 | 1 | 200 | 350 | 4.0 | 0.81 | 4.3 | | |
| 66 | | 10 | 250.0 | 0.1 | 104 | 1 | 200 | 350 | 1.0 | 0.07 | 16.0 | 136.4 | |
| 67 | | | 750.0 | 1.0 | 104 | 1 | 200 | 350 | 3.0 | 0.48 | 0.5 | | |
| 68 | | | 750.0 | 3.2 | 102 | 1 | 200 | 250 | 4.2 | 1.05 | 4.9 | | |
| 69 | | 11 | 375.0 | 0.2 | 102 | 1 | 200 | 250 | 2.1 | 0.29 | 14.7 | 132.3 | |
| 70 | | | 375.0 | 3.0 | 102 | 1 | 200 | 250 | 2.1 | 0.29 | 1.6 | | |
| 84 | | 11 | 375.0 | 0.1 | 102 | 1 | 200 | 250 | 2.1 | 0.29 | 7.0 | 138.4 | |
| 71 | | | 435.0 | 1.5 | 382 | 0 | 180 | | 4.8 | 1.73 | 17.1 | | |
| 72 | | 6 | 50.0 | 0.1 | 382 | 0 | 180 | | 0.6 | 0.04 | 19.4 | 132.7 | |
| 73 | | | 385.0 | 4.0 | 382 | 0 | 180 | | 4.2 | 1.38 | 5.7 | | |
| 74 | | 6 | 50.0 | 0.1 | 382 | 0 | 180 | | 0.6 | 0.04 | 16.6 | 129.7 | |
| 85 | | | 335.0 | 0.0 | 382 | 0 | 180 | | 3.7 | 1.07 | 0.2 | | |
| 77 | | | 335.0 | 4.3 | 5 | 0 | 160 | | 4.6 | 1.91 | 9.3 | | |
| 75 | | | 215.0 | 7.0 | 5 | 0 | 160 | | 3.0 | 0.84 | 6.1 | | |
| 76 | | 8 | 120.0 | 0.1 | 5 | 0 | 160 | | 1.7 | 0.29 | 14.5 | 116.4 | |
| 79 | | | 95.0 | 5.5 | 5 | 0 | 160 | | 1.3 | 0.19 | 1.5 | | |
| 82 | | 7 | 95.0 | 0.1 | 5 | 0 | 160 | | 1.3 | 0.19 | 7.5 | 121.9 | |
| 78 | | 8 | 120.0 | 0.1 | 5 | 0 | 160 | | 1.7 | 0.29 | 20.6 | 116.3 | |
| 81 | | 9 | 100.0 | 0.2 | 5 | 0 | 160 | | 1.4 | 0.21 | 21.4 | 150.4 | |

 Toevoer

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 | Trajectum Engineering B.V. |
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 Programma : VABI - LUCHTKANALEN BEREKENING VA104 - Versie 5.45
 Projectnummer: 2019-50.00 Pagina 8
 Projectnaam : 2019-50.00_JDi_20191209_MV
 Technicus : Trajectum Engineering B.V.
 Datum : 9 December 2019 Tijd: 13:40:21
 Omschrijving : Voorbeeld MV-berekening

DEELRESULTATEN

berekende systeemdruk 374.9 Pa

| nr. | naam | app nr | Q m3/h | Lek m3/h | V m/s | druk totaal | druk kanaal | druk zeta | druk aftak | druk appen. | eind druk |
|-----|------|--------|--------|----------|-------|-------------|-------------|-----------|------------|-------------|-----------|
| 1 | | | 4470.0 | 0.0 | 4.14 | 359.1 | 0.9 | | | 15.0 | |
| 2 | | | 4470.0 | 0.0 | 4.14 | 251.3 | 3.4 | | 4.4 | | |
| 3 | | | 4470.0 | 0.0 | 4.14 | 246.2 | 0.7 | | 4.4 | | |
| 4 | | | 4470.0 | 0.0 | 4.14 | 241.6 | 0.2 | | 4.4 | | |
| 5 | | | 1885.0 | 0.0 | 5.29 | 224.3 | 1.6 | | 15.8 | | |
| 6 | | | 1885.0 | 0.0 | 5.29 | 207.7 | 10.1 | | 6.5 | | |
| 10 | | | 1885.0 | 0.0 | 5.29 | 200.8 | 0.5 | | 6.5 | | |
| 7 | | | 1885.0 | 0.0 | 5.29 | 200.3 | 0.5 | | | | |
| 13 | | | 825.0 | 0.0 | 4.67 | 178.4 | 3.0 | | 18.9 | | |
| 14 | | | 825.0 | 0.0 | 4.67 | 162.6 | 11.2 | | 4.7 | | |
| 15 | | 2 | 75.0 | 0.0 | 0.42 | 143.5 | 0.0 | | 12.2 | | 7.0 |
| 16 | | | 750.0 | 0.0 | 4.25 | 154.5 | 1.9 | | 0.3 | 6.0 | |
| 17 | | 1 | 375.0 | 0.0 | 2.12 | 135.5 | 0.0 | | 8.9 | | 10.0 |
| 18 | | | 375.0 | 0.0 | 2.12 | 153.0 | 0.9 | | 0.5 | | |
| 19 | | 1 | 375.0 | 0.0 | 2.12 | 141.8 | 0.0 | | 1.2 | | 10.0 |
| 20 | | | 1060.0 | 0.0 | 6.00 | 175.7 | 2.7 | | 22.0 | | |
| 21 | | | 1060.0 | 0.0 | 6.00 | 166.3 | 2.1 | | 7.2 | | |
| 22 | | | 1060.0 | 0.0 | 6.00 | 155.2 | 3.9 | | 7.2 | | |
| 23 | | 3 | 145.0 | 0.0 | 0.82 | 125.7 | 0.0 | | 19.5 | | 10.0 |
| 24 | | | 915.0 | 0.0 | 5.18 | 127.8 | 11.1 | | 0.3 | 16.0 | |
| 25 | | | 915.0 | 0.0 | 5.18 | 120.2 | 2.0 | | 5.6 | | |
| 26 | | 4 | 115.0 | 0.0 | 0.65 | 91.5 | 0.0 | | 14.6 | | 14.0 |
| 27 | | | 800.0 | 0.0 | 4.53 | 115.9 | 4.0 | | 0.3 | | |
| 28 | | 4 | 115.0 | 0.0 | 0.65 | 90.8 | 0.0 | | 11.0 | | 14.0 |
| 29 | | | 685.0 | 0.0 | 6.06 | 106.6 | 9.1 | | 0.2 | | |
| 30 | | 5 | 175.0 | 0.0 | 1.55 | 71.0 | 0.0 | | 18.7 | | 17.0 |
| 31 | | | 510.0 | 0.0 | 4.51 | 103.5 | 3.0 | | 0.1 | | |
| 32 | | | 510.0 | 0.0 | 4.51 | 78.9 | 14.5 | | 4.2 | 6.0 | |
| 33 | | | 510.0 | 0.0 | 4.51 | 72.0 | 2.8 | | 4.2 | | |
| 34 | | | 510.0 | 0.0 | 4.51 | 65.7 | 2.1 | | 4.2 | | |
| 35 | | 6 | 50.0 | 0.0 | 0.44 | 47.5 | 0.0 | | 11.3 | | 7.0 |
| 36 | | | 460.0 | 0.0 | 6.36 | 60.3 | 5.2 | | 0.3 | | |
| 37 | | | 460.0 | 0.0 | 6.36 | 44.2 | 8.6 | | 7.4 | | |
| 38 | | 6 | 50.0 | 0.0 | 0.69 | 14.9 | 0.0 | | 22.3 | | 7.0 |
| 39 | | | 410.0 | 0.0 | 5.67 | 31.5 | 12.3 | | 0.5 | | |
| 40 | | 7 | 95.0 | 0.0 | 1.31 | 7.9 | 0.0 | | 16.5 | | 7.0 |
| 41 | | | 315.0 | 0.0 | 4.35 | 20.8 | 10.6 | | 0.1 | | |
| 42 | | 7 | 95.0 | 0.0 | 1.31 | 4.3 | 0.0 | | 9.5 | | 7.0 |
| 43 | | | 220.0 | 0.0 | 3.04 | 19.4 | 1.3 | | | | |
| 44 | | 9 | 100.0 | 0.0 | 2.26 | -0.0 | 3.9 | | 5.6 | 2.0 | 8.0 |
| 45 | | | 120.0 | 0.0 | 1.66 | 17.9 | 1.3 | | 0.2 | | |
| 46 | | 8 | 120.0 | 0.0 | 1.66 | 7.2 | 0.0 | | 0.7 | | 10.0 |
| 8 | | | 2585.0 | 0.0 | 5.72 | 240.0 | 1.2 | | 0.4 | | |

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 | Trajectum Engineering B.V. |
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 Programma : VABI - LUCHTKANALEN BEREKENING VA104 - Versie 5.45
 Projectnummer: 2019-50.00 Pagina 9
 Projectnaam : 2019-50.00_JDi_20191209_MV
 Technicus : Trajectum Engineering B.V.
 Datum : 9 December 2019 Tijd: 13:40:21
 Omschrijving : Voorbeeld MV-berekening

DEELRESULTATEN

berekende systeemdruk 374.9 Pa

| nr. | naam | app nr | Q m3/h | Lek m3/h | V m/s | druk totaal | druk kanaal | druk zeta | druk aftak | druk appen. | eind druk |
|-----|------|--------|--------|----------|-------|-------------|-------------|-----------|------------|-------------|-----------|
| 9 | | | 2585.0 | 0.0 | 5.72 | 231.3 | 1.0 | | 7.7 | | |
| 12 | | | 2585.0 | 0.0 | 5.72 | 223.1 | 0.5 | | 7.7 | | |
| 11 | | | 2585.0 | 0.0 | 5.72 | 222.7 | 0.5 | | | | |
| 47 | | | 1000.0 | 0.0 | 3.97 | 201.4 | 1.6 | | 19.7 | | |
| 48 | | | 1000.0 | 0.0 | 3.97 | 196.9 | 1.6 | | 2.8 | | |
| 49 | | | 1000.0 | 0.0 | 3.97 | 192.7 | 1.5 | | 2.8 | | |
| 50 | | 10 | 250.0 | 0.0 | 0.99 | 176.6 | 0.0 | | 8.0 | | 8.0 |
| 83 | | | 750.0 | 0.0 | 2.98 | 192.1 | 0.5 | | | | |
| 51 | | | 750.0 | 0.0 | 4.17 | 187.2 | 3.3 | | 1.6 | | |
| 52 | | 11 | 375.0 | 0.0 | 2.08 | 172.5 | 0.1 | | 8.6 | | 6.0 |
| 53 | | | 375.0 | 0.0 | 2.08 | 185.6 | 0.9 | | 0.7 | | |
| 54 | | 11 | 375.0 | 0.0 | 2.08 | 178.6 | 0.0 | | 0.9 | | 6.0 |
| 55 | | | 1585.0 | 0.0 | 4.40 | 203.1 | 0.7 | | 18.9 | | |
| 56 | | | 1585.0 | 0.0 | 4.40 | 197.3 | 2.5 | | 3.2 | | |
| 57 | | | 1585.0 | 0.0 | 4.40 | 191.5 | 2.5 | | 3.2 | | |
| 58 | | | 1585.0 | 0.0 | 4.40 | 185.2 | 3.1 | | 3.2 | | |
| 59 | | 12 | 50.0 | 0.0 | 1.77 | 167.9 | 1.3 | | 12.9 | | 3.0 |
| 60 | | | 1535.0 | 0.0 | 4.26 | 182.9 | 1.6 | | 0.6 | | |
| 61 | | | 1535.0 | 0.0 | 4.26 | 178.9 | 1.0 | | 3.0 | | |
| 62 | | | 1535.0 | 0.0 | 4.26 | 174.9 | 1.0 | | 3.0 | | |
| 80 | | | 1535.0 | 0.0 | 4.26 | 171.7 | 0.2 | | 3.0 | | |
| 63 | | | 1435.0 | 0.0 | 3.99 | 169.2 | 2.1 | | 0.5 | | |
| 64 | | | 1000.0 | 0.0 | 3.97 | 156.7 | 1.6 | | 10.8 | | |
| 65 | | | 1000.0 | 0.0 | 3.97 | 152.4 | 1.5 | | 2.8 | | |
| 66 | | 10 | 250.0 | 0.0 | 0.99 | 136.4 | 0.0 | | 8.0 | | 8.0 |
| 67 | | | 750.0 | 0.0 | 2.98 | 151.9 | 0.5 | | | | |
| 68 | | | 750.0 | 0.0 | 4.17 | 147.0 | 3.3 | | 1.6 | | |
| 69 | | 11 | 375.0 | 0.0 | 2.08 | 132.3 | 0.1 | | 8.6 | | 6.0 |
| 70 | | | 375.0 | 0.0 | 2.08 | 145.4 | 0.9 | | 0.7 | | |
| 84 | | 11 | 375.0 | 0.0 | 2.08 | 138.4 | 0.0 | | 0.9 | | 6.0 |
| 71 | | | 435.0 | 0.0 | 4.75 | 152.1 | 2.6 | | 14.5 | | |
| 72 | | 6 | 50.0 | 0.0 | 0.55 | 132.7 | 0.0 | | 12.4 | | 7.0 |
| 73 | | | 385.0 | 0.0 | 4.20 | 146.3 | 5.5 | | 0.2 | | |
| 74 | | 6 | 50.0 | 0.0 | 0.55 | 129.7 | 0.0 | | 9.6 | | 7.0 |
| 85 | | | 335.0 | 0.0 | 3.66 | 146.2 | 0.0 | | 0.2 | | |
| 77 | | | 335.0 | 0.0 | 4.63 | 136.9 | 8.2 | | 1.1 | | |
| 75 | | | 215.0 | 0.0 | 2.97 | 130.8 | 5.9 | | 0.2 | | |
| 76 | | 8 | 120.0 | 0.0 | 1.66 | 116.4 | 0.0 | | 4.4 | | 10.0 |
| 79 | | | 95.0 | 0.0 | 1.31 | 129.4 | 1.1 | | 0.4 | | |
| 82 | | 7 | 95.0 | 0.0 | 1.31 | 121.9 | 0.0 | | 0.4 | | 7.0 |
| 78 | | 8 | 120.0 | 0.0 | 1.66 | 116.3 | 0.0 | | 10.6 | | 10.0 |
| 81 | | 9 | 100.0 | 0.0 | 1.38 | 150.4 | 0.0 | | 11.3 | 2.0 | 8.0 |

 Toevoer

```

+-----+
| Trajectum Engineering B.V. |
+-----+
Programma      : VABI -          LUCHTKANALEN BEREKENING  VA104      - Versie  5.45
Projectnummer: 2019-50.00                                     Pagina  10
Projectnaam   : 2019-50.00_JDi_20191209_MV
Technicus    : Trajectum Engineering B.V.
Datum        : 9 December 2019 Tijd: 13:40:21
Omschrijving : Voorbeeld MV-berekening

```

MATERIAALSTAAT

| Nr | afmeting | aantal | lengte m | lever. | vorm | B oppervlak isolatie | | | |
|-----|----------|--------|-------------|--------|-----------|----------------------|-----------|-------|---------|
| | | | | | | A mm | mm kanaal | uitw | inw (m) |
| 3 | | 1 | 2.20 | 0 | Rond | 100 | 0.70 | 0.00 | 0.00 |
| 4 | | 1 | 5.50 | 0 | Rond | 125 | 2.18 | 0.00 | 0.00 |
| 5 | | 17 | 38.40 | 0 | Rond | 160 | 19.42 | 0.00 | 0.00 |
| 6 | | 7 | 20.20 | 0 | Rond | 200 | 12.76 | 0.00 | 0.00 |
| 7 | | 16 | 37.30 | 0 | Rond | 250 | 29.41 | 0.00 | 0.00 |
| 9 | | 4 | 13.70 | 0 | Rond | 355 | 15.34 | 0.00 | 0.00 |
| 10 | | 4 | 3.40 | 0 | Rond | 400 | 4.29 | 0.00 | 0.00 |
| 102 | | 8 | 13.00 | 0 | Rechthoek | 200 | 250 | 11.78 | 0.00 |
| 104 | | 9 | 11.80 | 0 | Rechthoek | 200 | 350 | 13.05 | 0.00 |
| 106 | | 9 | 18.10 | 0 | Rechthoek | 200 | 500 | 25.47 | 0.00 |
| 202 | | 4 | 15.20 | 0 | Rechthoek | 500 | 600 | 33.55 | 0.00 |
| 382 | | 5 | 5.70 | 0 | Rond | 180 | 3.24 | 0.00 | 0.00 |

uitgeslagen kanaaloppervlakken

| | |
|--------------------|----------|
| rond kanaal | 87.33 m2 |
| rechthoekig kanaal | 83.84 m2 |

```

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| Trajectum Engineering B.V. |
+-----+
Programma      : VABI -          LUCHTKANALEN BEREKENING  VA104      - Versie  5.45
Projectnummer: 2019-50.00                                     Pagina  11
Projectnaam   : 2019-50.00_JDi_20191209_MV
Technicus    : Trajectum Engineering B.V.
Datum        : 9 December 2019 Tijd: 13:40:21
Omschrijving : Voorbeeld MV-berekening

```

APPENDAGES

| Nr | afmeting soort | | aantal | afmetingen (mm) | | |
|----|----------------|----------|--------|-----------------|----------|-----------------------------|
| | vorm | | | auto | brdt/hgt | naar |
| 1 | Rond | Overig | 1 | 0 | 125/0 | Sonodec25 Ø125 90-130m3/h |
| | Rond | SymRond | 3 | 3 | 160/0 | hoek 90 |
| | Rond | T-90 sch | 5 | 5 | 160/0 | - 160/0 - 160/0 |
| | Rond | T-90 sch | 1 | 1 | 160/0 | - 125/0 - 160/0 |
| 1 | Rond | Overig | 1 | 0 | 160/0 | Sonodec25 Ø125 90-130m3/h |
| | Rond | SymRond | 3 | 3 | 200/0 | hoek 90 |
| 4 | Rond | Demper | 1 | 0 | 200/0 | demper AGRYVO rond 200 |
| | Rond | T-90 sch | 1 | 1 | 200/0 | - 200/0 - 200/0 |
| | Rond | T-90 sch | 1 | 1 | 200/0 | - 200/0 - 160/0 |
| | Rond | SymRond | 5 | 5 | 250/0 | hoek 90 |
| 2 | Rond | Demper | 1 | 0 | 250/0 | demper AGRYVO rond 250 |
| 3 | Rond | Demper | 1 | 0 | 250/0 | demper AGRYVO rond 250 |
| | Rond | T-90 sch | 4 | 4 | 250/0 | - 250/0 - 250/0 |
| | Rond | T-90 sch | 1 | 1 | 250/0 | - 250/0 - 200/0 |
| | Rond | SymRond | 2 | 2 | 355/0 | hoek 90 |
| | Rond | Verloop | 1 | 1 | 355/0 | - 355/0 lengte 0 |
| | Rond | T-90 sch | 1 | 1 | 355/0 | - 250/0 - 250/0 |
| | Rond | SymRond | 2 | 2 | 400/0 | hoek 90 |
| | Rond | Verloop | 1 | 1 | 400/0 | - 400/0 lengte 0 |
| | Rond | T-90 sch | 1 | 1 | 400/0 | - 200/350 - 200/500 |
| | Recht | SymRond | 2 | 2 | 200/250 | hoek 90 |
| | Recht | T-90 sch | 2 | 2 | 200/250 | - 200/250 - 200/250 |
| | Recht | SymRond | 3 | 3 | 200/350 | hoek 90 |
| | Recht | T-90 sch | 2 | 2 | 200/350 | - 200/350 - 200/350 |
| | Recht | Verloop | 2 | 2 | 200/350 | - 200/250 lengte 0 |
| | Recht | SymRond | 6 | 6 | 200/500 | hoek 90 |
| | Recht | T-90 sch | 1 | 1 | 200/500 | - 100/0 - 200/500 |
| | Recht | T-90 sch | 1 | 1 | 200/500 | - 200/500 - 160/0 |
| | Recht | T-90 sch | 1 | 1 | 200/500 | - 200/350 - 180/0 |
| | Recht | SymRond | 3 | 3 | 500/600 | hoek 90 |
| 1 | Recht | Demper | 2 | 0 | 500/600 | geluiddemper |
| | Recht | T-90 sch | 1 | 1 | 500/600 | - 355/0 - 400/0 |
| 1 | Recht | Overig | 1 | 0 | 500/600 | buitenluchtaanzuigrooster 6 |
| | Rond | T-90 sch | 2 | 2 | 180/0 | - 180/0 - 180/0 |
| | Rond | Verloop | 1 | 1 | 180/0 | - 160/0 lengte 0 |

```

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| Trajectum Engineering B.V. |
+-----+
Programma      : VABI -          LUCHTKANALEN BEREKENING  VA104      - Versie  5.45
Projectnummer: 2019-50.00                                     Pagina  12
Projectnaam   : 2019-50.00_JDi_20191209_MV
Technicus    : Trajectum Engineering B.V.
Datum        : 9 December 2019 Tijd: 13:40:21
Omschrijving : Voorbeeld MV-berekening

```

APPARATEN

| nr | aantal | Q | druk omschrijving |
|----|--------|--------|---------------------------|
| 1 | 2 | 375.00 | 10.0 Waterloo 1RV 525x125 |
| 2 | 1 | 75.00 | 7.0 Waterloo 1RV 225x75 |
| 3 | 1 | 145.00 | 10.0 Waterloo 1RV 425x75 |
| 4 | 2 | 115.00 | 14.0 Waterloo 1RV 325x75 |
| 5 | 1 | 175.00 | 17.0 Waterloo 1RV 425x75 |
| 6 | 4 | 50.00 | 7.0 Waterloo 1RV 225x75 |
| 7 | 3 | 95.00 | 7.0 Waterloo 1RV 325x75 |
| 8 | 3 | 120.00 | 10.0 Waterloo 1RV 325x75 |
| 9 | 2 | 100.00 | 8.0 Waterloo WPD 125 |
| 10 | 2 | 250.00 | 8.0 Waterloo 1RV 425x125 |
| 11 | 4 | 375.00 | 6.0 Waterloo 1RV 625x125 |
| 12 | 1 | 50.00 | 3.0 Waterloo WPD 125 |

```

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| Trajectum Engineering B.V. |
+-----+
Programma      : VABI -          LUCHTKANALEN BEREKENING  VA104      - Versie  5.45
Projectnummer: 2019-50.00                                     Pagina  13
Projectnaam   : 2019-50.00_JDi_20191209_MV
Technicus    : Trajectum Engineering B.V.
Datum        : 9 December 2019 Tijd: 13:40:21
Omschrijving : Voorbeeld MV-berekening

```

OVERZICHT VAN GEBRUIKTE CODES EN AANDUIDINGEN

GEBRUIKTE AFKORTINGEN IN DE INVOER ZIJN:

```

komt van      : kanaalnummer waar betreffende kanaal op aangesloten is
Ak            : aantal kanalen dat volgt op de betreffende kanaal
aftak        : nummer van geselecteerde aftakking
(d)          : op die plaats is een default T-stuk of bocht 90° gekozen
app no       : roosternummer dat geselecteerd is uit de databank
aantal       : aantal keer dat betreffende rooster op dit punt
              aangesloten is (normaal 1, bij gesommeerde invoer > 1)
Q m3/h       : volumestroom in m3/h
lengte       : totaal lengte van geïsoleerd en ongeïsoleerd deel
afmeting     : vaste diameter (nummer databank en inwendige afmeting)
              : A = hoogte B = breedte
grens        : de restrictie van snelheid, drukval en/of diameter
              die men afwijkend wil opgeven van de algemene invoer
iso mm       : dikte en lengte van geïsoleerde deel betreffende kanaal
hulp         : totaal aantal hulpstukken (bochten, kleppen e.d.)
oor afs      : afstand van rooster tot oor

```

GEBRUIKTE AFKORTINGEN IN DE UITVOER ZIJN:

```

Q m3/h       : gestapelde volumestroom in m3/h
lengte m     : totaal lengte van geïsoleerd en ongeïsoleerd deel
afmeting     : berekende diameter (nummer databank en inwendige afmeting)
V m/s        : de snelheid van het medium in het kanaal in m/s
druk Pa/m    : de drukval per meter kanaal
drukval      : de berekende drukval over het totale kanaal
berek.       : sommatie v/d drukken uit de deelresultaten
inregel Pa   : de druk die de klep moet wegregelen bij roosters
sv           : afkorting voor sigaarvorm, hiermee geeft het programma
              aan dat er met een kleinere afmeting volstaan kan worden,
              ontstaat bij het vastzetten van een kanaalafmeting.

```

GEBRUIKTE AFKORTINGEN IN DE DEELUITVOER ZIJN:

```

kanaal       : drukval door inwendige wandruwheid van kanaal
druk zeta    : drukval door zeta hulpstukken (bocht, demper, klep, overig)
druk aftak   : drukval (X-stuk, T-stuk, bocht of verloop)
appendages   : drukval voor alle hulpstukken (bocht, demper, klep, overig)
eind        : extra met de hand opgegeven drukval

```