

Supplementary data

Aerosol and Air Quality Research

Mixture aerosols filtration on filters with wide fibre diameter distribution - comparison with theoretical and empirical models

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Tab. S1. Filtration efficiency for various aerosols and various number of diameters used for efficiency calculations with set of empirical equations for F6 filter

| Efficiency (%) | | Number of diameters | | | | | | |
|----------------|--------------|---------------------|--------|--------|--------|--------|--------|--------|
| | | 1 | 2 | 5 | 10 | 20 | 50 | 100 |
| Aerosol | soot_h | 47,116 | 52,189 | 53,593 | 53,784 | 53,826 | 53,841 | 53,843 |
| | soot_l | 50,738 | 55,386 | 56,702 | 56,884 | 56,923 | 56,937 | 56,938 |
| | oil_h | 41,292 | 47,709 | 49,330 | 49,538 | 49,587 | 49,603 | 49,606 |
| | oil_l | 41,528 | 48,028 | 49,651 | 49,859 | 49,907 | 49,924 | 49,926 |
| | soot_h+oil_h | 43,261 | 49,333 | 50,889 | 51,092 | 51,138 | 51,154 | 51,157 |
| | soot_h+oil_l | 45,244 | 50,887 | 52,374 | 52,571 | 52,615 | 52,630 | 52,633 |
| | soot_l+oil_h | 43,014 | 49,171 | 50,740 | 50,944 | 50,990 | 51,007 | 51,009 |
| | soot_l+oil_l | 45,150 | 50,873 | 52,370 | 52,568 | 52,612 | 52,628 | 52,630 |

Tab. S2. Relative difference in calculated efficiency for various aerosols and various number of diameters used for efficiency calculations with set of empirical equations for F6 filter

| Relative Difference (%) | | Number of diameters | | | | | | |
|-------------------------|--------------|---------------------|-------|-------|-------|-------|-------|-------|
| | | 1 | 2 | 5 | 10 | 20 | 50 | 100 |
| Aerosol | soot_h | 12,493 | 3,072 | 0,463 | 0,110 | 0,031 | 0,004 | 0,000 |
| | soot_l | 10,889 | 2,727 | 0,415 | 0,096 | 0,027 | 0,003 | 0,000 |
| | oil_h | 16,761 | 3,824 | 0,556 | 0,136 | 0,039 | 0,005 | 0,000 |
| | oil_l | 16,821 | 3,802 | 0,551 | 0,134 | 0,038 | 0,005 | 0,000 |
| | soot_h+oil_h | 15,435 | 3,565 | 0,522 | 0,126 | 0,036 | 0,004 | 0,000 |
| | soot_h+oil_l | 14,038 | 3,317 | 0,491 | 0,117 | 0,033 | 0,004 | 0,000 |
| | soot_l+oil_h | 15,673 | 3,603 | 0,527 | 0,127 | 0,036 | 0,004 | 0,000 |
| | soot_l+oil_l | 14,213 | 3,338 | 0,493 | 0,118 | 0,034 | 0,004 | 0,000 |

Tab. S3. Filtration efficiency for various aerosols and various number of diameters used for efficiency calculations with set of theoretical equations for F6 filter

| Efficiency (%) | | Number of diameters | | | | | | |
|----------------|--------------|---------------------|--------|--------|--------|--------|--------|--------|
| | | 1 | 2 | 5 | 10 | 20 | 50 | 100 |
| Aerosol | soot_h | 30,951 | 37,759 | 39,550 | 39,781 | 39,838 | 39,858 | 39,861 |
| | soot_l | 34,703 | 41,247 | 42,972 | 43,196 | 43,250 | 43,268 | 43,271 |
| | oil_h | 29,791 | 38,222 | 40,197 | 40,441 | 40,500 | 40,521 | 40,524 |
| | oil_l | 30,819 | 39,234 | 41,200 | 41,443 | 41,502 | 41,523 | 41,526 |
| | soot_h+oil_h | 30,874 | 38,790 | 40,698 | 40,938 | 40,996 | 41,016 | 41,019 |
| | soot_h+oil_l | 31,491 | 38,956 | 40,810 | 41,046 | 41,103 | 41,122 | 41,125 |
| | soot_l+oil_h | 31,086 | 39,136 | 41,058 | 41,299 | 41,357 | 41,377 | 41,380 |
| | soot_l+oil_l | 31,959 | 39,568 | 41,434 | 41,670 | 41,727 | 41,747 | 41,750 |

Tab. S4. Relative difference in calculated efficiency for various aerosols and various number of diameters used for efficiency calculations with set of theoretical equations for F6 filter

| Relative Difference (%) | | Number of diameters | | | | | | |
|-------------------------|--------------|---------------------|-------|-------|-------|-------|-------|-------|
| | | 1 | 2 | 5 | 10 | 20 | 50 | 100 |
| Aerosol | soot_h | 22,351 | 5,273 | 0,780 | 0,199 | 0,057 | 0,007 | 0,000 |
| | soot_l | 19,801 | 4,677 | 0,692 | 0,173 | 0,049 | 0,006 | 0,000 |
| | oil_h | 26,486 | 5,680 | 0,807 | 0,205 | 0,059 | 0,007 | 0,000 |
| | oil_l | 25,783 | 5,518 | 0,785 | 0,198 | 0,057 | 0,007 | 0,000 |
| | soot_h+oil_h | 24,733 | 5,434 | 0,782 | 0,198 | 0,057 | 0,007 | 0,000 |
| | soot_h+oil_l | 23,426 | 5,274 | 0,767 | 0,194 | 0,055 | 0,007 | 0,000 |
| | soot_l+oil_h | 24,877 | 5,423 | 0,777 | 0,197 | 0,056 | 0,007 | 0,000 |
| | soot_l+oil_l | 23,450 | 5,226 | 0,756 | 0,191 | 0,055 | 0,007 | 0,000 |

Tab. S5. Filtration efficiency for various aerosols and various number of diameters used for efficiency calculations with set of empirical equations for 2F6 filter

| Efficiency (%) | | Number of diameters | | | | | | |
|----------------|--------------|---------------------|--------|--------|--------|--------|--------|--------|
| | | 1 | 2 | 5 | 10 | 20 | 50 | 100 |
| Aerosol | soot_h | 71,957 | 73,540 | 74,257 | 74,380 | 74,399 | 74,406 | 74,407 |
| | soot_l | 75,671 | 76,466 | 77,040 | 77,148 | 77,164 | 77,169 | 77,170 |
| | oil_h | 65,268 | 68,443 | 69,434 | 69,586 | 69,613 | 69,622 | 69,623 |
| | oil_l | 65,482 | 68,615 | 69,605 | 69,757 | 69,784 | 69,793 | 69,794 |
| | soot_h+oil_h | 67,504 | 70,154 | 71,060 | 71,203 | 71,228 | 71,236 | 71,237 |
| | soot_h+oil_l | 69,732 | 71,865 | 72,679 | 72,812 | 72,834 | 72,842 | 72,843 |
| | soot_l+oil_h | 67,182 | 69,917 | 70,836 | 70,980 | 71,005 | 71,014 | 71,015 |
| | soot_l+oil_l | 69,551 | 71,740 | 72,563 | 72,697 | 72,720 | 72,727 | 72,728 |

Tab. S6. Relative difference in calculated efficiency for various aerosols and various number of diameters used for efficiency calculations with set of empirical equations for 2F6 filter

| Relative Difference (%) | | Number of diameters | | | | | | |
|-------------------------|--------------|---------------------|-------|-------|-------|-------|-------|-------|
| | | 1 | 2 | 5 | 10 | 20 | 50 | 100 |
| Aerosol | soot_h | 3,292 | 1,165 | 0,201 | 0,036 | 0,010 | 0,001 | 0,000 |
| | soot_l | 1,943 | 0,912 | 0,168 | 0,028 | 0,007 | 0,001 | 0,000 |
| | oil_h | 6,256 | 1,694 | 0,271 | 0,054 | 0,015 | 0,001 | 0,000 |
| | oil_l | 6,178 | 1,689 | 0,271 | 0,053 | 0,015 | 0,001 | 0,000 |
| | soot_h+oil_h | 5,240 | 1,520 | 0,249 | 0,048 | 0,013 | 0,001 | 0,000 |
| | soot_h+oil_l | 4,270 | 1,343 | 0,225 | 0,042 | 0,012 | 0,001 | 0,000 |
| | soot_l+oil_h | 5,397 | 1,547 | 0,252 | 0,049 | 0,013 | 0,001 | 0,000 |
| | soot_l+oil_l | 4,369 | 1,358 | 0,227 | 0,043 | 0,012 | 0,001 | 0,000 |

Tab. S7. Filtration efficiency for various aerosols and various number of diameters used for efficiency calculations with set of theoretical equations for 2F6 filter

| Efficiency (%) | | Number of diameters | | | | | | |
|----------------|--------------|---------------------|--------|--------|--------|--------|--------|--------|
| | | 1 | 2 | 5 | 10 | 20 | 50 | 100 |
| Aerosol | soot_h | 51,316 | 56,970 | 58,436 | 58,631 | 58,671 | 58,686 | 58,687 |
| | soot_l | 56,336 | 60,957 | 62,260 | 62,443 | 62,479 | 62,491 | 62,493 |
| | oil_h | 48,796 | 55,406 | 57,056 | 57,272 | 57,317 | 57,332 | 57,334 |
| | oil_l | 49,993 | 56,242 | 57,887 | 58,104 | 58,148 | 58,163 | 58,165 |
| | soot_h+oil_h | 50,439 | 56,485 | 58,074 | 58,285 | 58,328 | 58,343 | 58,345 |
| | soot_h+oil_l | 51,559 | 57,292 | 58,811 | 59,014 | 59,055 | 59,070 | 59,072 |
| | soot_l+oil_h | 50,624 | 56,680 | 58,273 | 58,485 | 58,527 | 58,542 | 58,544 |
| | soot_l+oil_l | 52,064 | 57,746 | 59,260 | 59,464 | 59,505 | 59,519 | 59,521 |

Tab. S8. Relative difference in calculated efficiency for various aerosols and various number of diameters used for efficiency calculations with set of theoretical equations for 2F6 filter

| Relative Difference (%) | | Number of diameters | | | | | | |
|-------------------------|--------------|---------------------|-------|-------|-------|-------|-------|-------|
| | | 1 | 2 | 5 | 10 | 20 | 50 | 100 |
| Aerosol | soot_h | 12,560 | 2,927 | 0,429 | 0,096 | 0,027 | 0,003 | 0,000 |
| | soot_l | 9,851 | 2,458 | 0,372 | 0,079 | 0,022 | 0,002 | 0,000 |
| | oil_h | 14,892 | 3,363 | 0,485 | 0,108 | 0,030 | 0,003 | 0,000 |
| | oil_l | 14,049 | 3,306 | 0,479 | 0,105 | 0,029 | 0,003 | 0,000 |
| | soot_h+oil_h | 13,550 | 3,188 | 0,464 | 0,102 | 0,029 | 0,003 | 0,000 |
| | soot_h+oil_l | 12,718 | 3,013 | 0,442 | 0,097 | 0,027 | 0,003 | 0,000 |
| | soot_l+oil_h | 13,529 | 3,185 | 0,464 | 0,102 | 0,029 | 0,003 | 0,000 |
| | soot_l+oil_l | 12,528 | 2,983 | 0,438 | 0,096 | 0,027 | 0,003 | 0,000 |

Tab. S9. Filtration efficiency for various aerosols and various number of diameters used for efficiency calculations with set of empirical equations for F8 filter

| Efficiency (%) | | Number of diameters | | | | | | |
|----------------|--------------|---------------------|--------|--------|--------|--------|--------|--------|
| | | 1 | 2 | 5 | 10 | 20 | 50 | 100 |
| Aerosol | soot_h | 37,444 | 42,714 | 43,961 | 44,160 | 44,203 | 44,216 | 44,219 |
| | soot_l | 40,747 | 45,867 | 47,024 | 47,202 | 47,240 | 47,251 | 47,254 |
| | oil_h | 31,597 | 37,668 | 39,167 | 39,406 | 39,454 | 39,468 | 39,471 |
| | oil_l | 31,692 | 37,871 | 39,378 | 39,614 | 39,661 | 39,675 | 39,678 |
| | soot_h+oil_h | 33,459 | 39,373 | 40,801 | 41,026 | 41,071 | 41,085 | 41,088 |
| | soot_h+oil_l | 35,435 | 41,094 | 42,442 | 42,654 | 42,698 | 42,711 | 42,713 |
| | soot_l+oil_h | 33,191 | 39,161 | 40,604 | 40,831 | 40,876 | 40,890 | 40,893 |
| | soot_l+oil_l | 35,294 | 41,014 | 42,376 | 42,590 | 42,633 | 42,646 | 42,649 |

Tab. S10. Relative difference in calculated efficiency for various aerosols and various number of diameters used for efficiency calculations with set of empirical equations for F8 filter

| Relative Difference (%) | | Number of diameters | | | | | | |
|-------------------------|--------------|---------------------|-------|-------|-------|-------|-------|-------|
| | | 1 | 2 | 5 | 10 | 20 | 50 | 100 |
| Aerosol | soot_h | 15,322 | 3,404 | 0,584 | 0,133 | 0,036 | 0,006 | 0,000 |
| | soot_l | 13,770 | 2,935 | 0,486 | 0,108 | 0,028 | 0,005 | 0,000 |
| | oil_h | 19,948 | 4,568 | 0,770 | 0,166 | 0,045 | 0,008 | 0,000 |
| | oil_l | 20,127 | 4,553 | 0,755 | 0,160 | 0,043 | 0,008 | 0,000 |
| | soot_h+oil_h | 18,566 | 4,173 | 0,697 | 0,150 | 0,040 | 0,007 | 0,000 |
| | soot_h+oil_l | 17,039 | 3,792 | 0,635 | 0,139 | 0,037 | 0,007 | 0,000 |
| | soot_l+oil_h | 18,835 | 4,236 | 0,705 | 0,151 | 0,040 | 0,007 | 0,000 |
| | soot_l+oil_l | 17,244 | 3,832 | 0,638 | 0,138 | 0,037 | 0,007 | 0,000 |

Tab. S11. Filtration efficiency for various aerosols and various number of diameters used for efficiency calculations with set of theoretical equations for F8 filter

| Efficiency (%) | | Number of diameters | | | | | | |
|----------------|--------------|---------------------|--------|--------|--------|--------|--------|--------|
| | | 1 | 2 | 5 | 10 | 20 | 50 | 100 |
| Aerosol | soot_h | 22,471 | 28,345 | 29,967 | 30,259 | 30,327 | 30,351 | 30,354 |
| | soot_l | 25,611 | 31,569 | 33,126 | 33,396 | 33,456 | 33,477 | 33,480 |
| | oil_h | 20,049 | 27,448 | 29,292 | 29,593 | 29,653 | 29,673 | 29,677 |
| | oil_l | 20,659 | 28,283 | 30,096 | 30,385 | 30,443 | 30,461 | 30,465 |
| | soot_h+oil_h | 21,218 | 28,312 | 30,063 | 30,352 | 30,412 | 30,433 | 30,436 |
| | soot_h+oil_l | 22,165 | 28,829 | 30,520 | 30,807 | 30,868 | 30,890 | 30,893 |
| | soot_l+oil_h | 21,259 | 28,504 | 30,272 | 30,560 | 30,619 | 30,639 | 30,643 |
| | soot_l+oil_l | 22,392 | 29,242 | 30,949 | 31,233 | 31,293 | 31,314 | 31,317 |

Tab. S12. Relative difference in calculated efficiency for various aerosols and various number of diameters used for efficiency calculations with set of theoretical equations for F8 filter

| Relative Difference (%) | | Number of diameters | | | | | | |
|-------------------------|--------------|---------------------|-------|-------|-------|-------|-------|-------|
| | | 1 | 2 | 5 | 10 | 20 | 50 | 100 |
| Aerosol | soot_h | 25,972 | 6,619 | 1,276 | 0,314 | 0,092 | 0,012 | 0,000 |
| | soot_l | 23,503 | 5,710 | 1,057 | 0,253 | 0,072 | 0,010 | 0,000 |
| | oil_h | 32,441 | 7,510 | 1,296 | 0,282 | 0,079 | 0,012 | 0,000 |
| | oil_l | 32,188 | 7,161 | 1,213 | 0,262 | 0,073 | 0,012 | 0,000 |
| | soot_h+oil_h | 30,287 | 6,978 | 1,227 | 0,277 | 0,079 | 0,012 | 0,000 |
| | soot_h+oil_l | 28,252 | 6,683 | 1,207 | 0,280 | 0,080 | 0,011 | 0,000 |
| | soot_l+oil_h | 30,623 | 6,979 | 1,211 | 0,269 | 0,076 | 0,012 | 0,000 |
| | soot_l+oil_l | 28,498 | 6,627 | 1,175 | 0,267 | 0,076 | 0,011 | 0,000 |

Tab. S13. The fibres diameters for F6 filter and their averages as a result of being divided into groups of different sizes.

| | 100 | | 50 | | 20 | | 10 | | 5 | | 2 | | 1 | |
|----|-----|---------------------|----|---------------------|----|---------------------|----|---------------------|---|---------------------|---|---------------------|---|---------------------|
| | # | d [μm] | # | d [μm] | # | d [μm] | # | d [μm] | # | d [μm] | # | d [μm] | # | d [μm] |
| F6 | 1 | 2,703 | 1 | 2,708 | 1 | 2,761 | 1 | 2,912 | 1 | 3,143 | 1 | 3,860 | 1 | 6,043 |
| | 2 | 2,713 | | | | | | | | | | | | |
| | 3 | 2,747 | | | | | | | | | | | | |
| | 4 | 2,796 | | | | | | | | | | | | |
| | 5 | 2,845 | | | | | | | | | | | | |
| | 6 | 2,859 | | | | | | | | | | | | |
| | 7 | 2,996 | 4 | 3,045 | 2 | 3,063 | | | | | | | | |
| | 8 | 3,094 | | | | | | | | | | | | |
| | 9 | 3,128 | 5 | 3,182 | | | | | | | | | | |
| | 10 | 3,236 | | | | | | | | | | | | |
| | 11 | 3,319 | 6 | 3,321 | 3 | 3,332 | 2 | 3,374 | | | | | | |
| | 12 | 3,324 | | | | | | | | | | | | |
| | 13 | 3,333 | | | | | | | | | | | | |
| | 14 | 3,338 | 7 | 3,336 | 4 | 3,415 | | | | | | | | |
| | 15 | 3,348 | | | | | | | | | | | | |
| | 16 | 3,353 | 8 | 3,350 | | | | | | | | | | |
| | 17 | 3,392 | | | | | | | | | | | | |
| | 18 | 3,421 | 9 | 3,407 | | | | | | | | | | |
| | 19 | 3,451 | | | | | | | | | | | | |
| | 20 | 3,460 | 10 | 3,456 | | | | | | | | | | |
| | 21 | 3,583 | | | | | | | | | | | | |
| | 22 | 3,656 | 11 | 3,619 | 5 | 3,687 | | | | | | | | |
| | 23 | 3,680 | | | | | | | | | | | | |
| | 24 | 3,715 | 12 | 3,697 | 3 | 3,795 | | | | | | | | |
| | 25 | 3,803 | | | | | | | | | | | | |
| | 26 | 3,822 | 13 | 3,812 | 6 | 3,902 | | | | | | | | |
| | 27 | 3,856 | | | | | | | | | | | | |
| | 28 | 3,920 | 14 | 3,888 | | | | | | | | | | |
| | 29 | 3,935 | | | | | | | | | | | | |
| | 30 | 3,978 | 15 | 3,957 | | | | | | | | | | |
| | 31 | 3,988 | | | | | | | | | | | | |
| | 32 | 4,013 | 16 | 4,000 | 7 | 4,073 | | | | | | | | |
| | 33 | 4,076 | | | | | | | | | | | | |
| | 34 | 4,120 | 17 | 4,098 | 4 | 4,258 | | | | | | | | |
| | 35 | 4,169 | | | | | | | | | | | | |
| | 36 | 4,296 | 18 | 4,233 | | | | | | | | | | |
| | 37 | 4,311 | | | | | | | | | | | | |
| | 38 | 4,453 | 19 | 4,382 | 8 | 4,442 | | | | | | | | |
| | 39 | 4,555 | | | | | | | | | | | | |
| | 40 | 4,594 | 20 | 4,575 | | | | | | | | | | |
| | 41 | 4,614 | | | | | | | | | | | | |
| | 42 | 4,687 | 21 | 4,651 | 9 | 4,826 | | | | | | | | |
| | 43 | 4,844 | | | | | | | | | | | | |
| | 44 | 4,980 | 22 | 4,912 | 5 | 4,963 | | | | | | | | |
| | 45 | 5,005 | | | | | | | | | | | | |
| | 46 | 5,068 | 23 | 5,037 | 3 | 5,241 | | | | | | | | |
| | 47 | 5,068 | | | | | | | | | | | | |
| | 48 | 5,108 | 24 | 5,088 | 10 | 5,100 | | | | | | | | |

Tab. S14. The fibres diameters for F8 filter and their averages as a result of being divided into groups of different sizes.

| | 100 | | 50 | | 20 | | 10 | | 5 | | 2 | | 1 | |
|----|-----|---------------------|----|---------------------|----|---------------------|----|---------------------|---|---------------------|---|---------------------|---|---------------------|
| | # | d [μm] | # | d [μm] | # | d [μm] | # | d [μm] | # | d [μm] | # | d [μm] | # | d [μm] |
| F8 | 1 | 2,674 | 1 | 2,717 | 1 | 3,005 | 1 | 3,307 | 1 | 3,754 | 1 | 4,884 | 1 | 7,639 |
| | 2 | 2,761 | | | | | | | | | | | | |
| | 3 | 3,138 | 2 | 3,150 | | | | | | | | | | |
| | 4 | 3,162 | | | | | | | | | | | | |
| | 5 | 3,289 | 3 | 3,343 | | | | | | | | | | |
| | 6 | 3,397 | | | | | | | | | | | | |
| | 7 | 3,490 | 4 | 3,529 | 2 | 3,610 | | | | | | | | |
| | 8 | 3,568 | | | | | | | | | | | | |
| | 9 | 3,695 | | | | | | | | | | | | |
| | 10 | 3,900 | | | | | | | | | | | | |
| | 11 | 4,003 | 6 | 4,010 | 3 | 4,089 | 2 | 4,201 | | | | | | |
| | 12 | 4,018 | | | | | | | | | | | | |
| | 13 | 4,135 | 7 | 4,135 | | | | | | | | | | |
| | 14 | 4,135 | | | | | | | | | | | | |
| | 15 | 4,154 | 8 | 4,172 | 4 | 4,314 | | | | | | | | |
| | 16 | 4,189 | | | | | | | | | | | | |
| | 17 | 4,238 | 9 | 4,286 | | | | | | | | | | |
| | 18 | 4,335 | | | | | | | | | | | | |
| | 19 | 4,360 | 10 | 4,404 | | | | | | | | | | |
| | 20 | 4,448 | | | | | | | | | | | | |
| | 21 | 4,511 | 11 | 4,514 | 5 | 4,552 | 3 | 4,754 | | | | | | |
| | 22 | 4,516 | | | | | | | | | | | | |
| | 23 | 4,526 | 12 | 4,555 | 6 | 4,956 | 2 | 5,188 | | | | | | |
| | 24 | 4,585 | | | | | | | | | | | | |
| | 25 | 4,624 | 13 | 4,668 | | | | | | | | | | |
| | 26 | 4,712 | | | | | | | | | | | | |
| | 27 | 4,932 | 14 | 4,939 | | | | | | | | | | |
| | 28 | 4,946 | | | | | | | | | | | | |
| | 29 | 5,029 | 15 | 5,095 | | | | | | | | | | |
| | 30 | 5,161 | | | | | | | | | | | | |
| | 31 | 5,274 | 16 | 5,310 | 7 | 5,482 | | | | | | | | |
| | 32 | 5,347 | | | | | | | | | | | | |
| | 33 | 5,572 | 17 | 5,589 | 4 | 5,622 | | | | | | | | |
| | 34 | 5,606 | | | | | | | | | | | | |
| | 35 | 5,611 | 18 | 5,623 | 8 | 5,762 | | | | | | | | |
| | 36 | 5,635 | | | | | | | | | | | | |
| | 37 | 5,655 | 19 | 5,706 | | | | | | | | | | |
| | 38 | 5,758 | | | | | | | | | | | | |
| | 39 | 5,870 | 20 | 5,882 | | | | | | | | | | |
| | 40 | 5,894 | | | | | | | | | | | | |
| | 41 | 5,982 | 21 | 6,053 | | | | | | | | | | |
| | 42 | 6,124 | | | | | | | | | | | | |
| | 43 | 6,227 | 22 | 6,381 | 9 | 6,292 | | | | | | | | |
| | 44 | 6,535 | | | | | | | | | | | | |
| | 45 | 6,593 | 23 | 6,601 | 5 | 6,536 | 3 | 7,063 | | | | | | |
| | 46 | 6,608 | | | | | | | | | | | | |
| | 47 | 6,613 | 24 | 6,640 | 10 | 6,779 | | | | | | | | |
| | 48 | 6,667 | | | | | | | | | | | | |

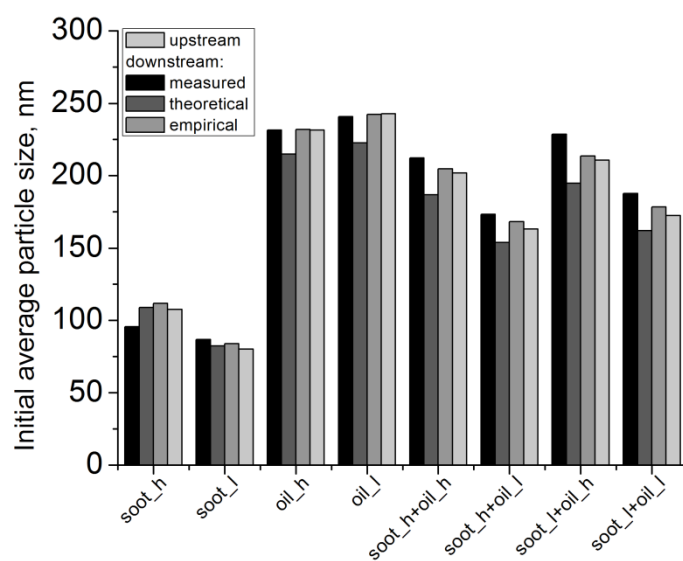


Fig. S1. Initial average particle size for F6 filter for various aerosols

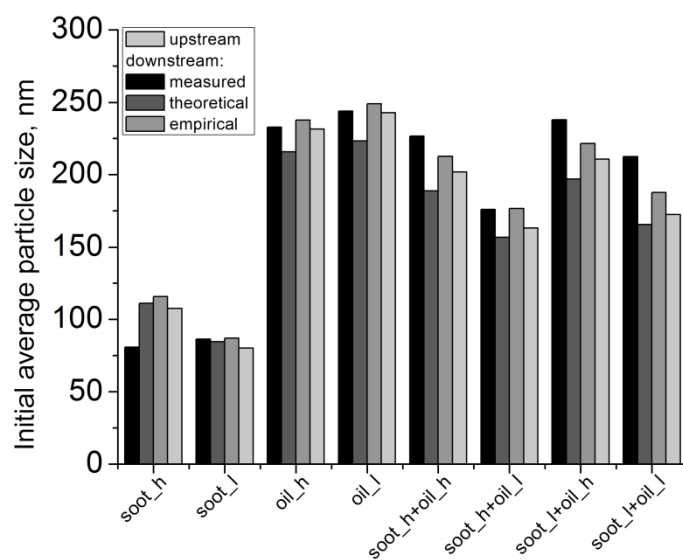


Fig. S2. Initial average particle size for 2F6 filter for various aerosols

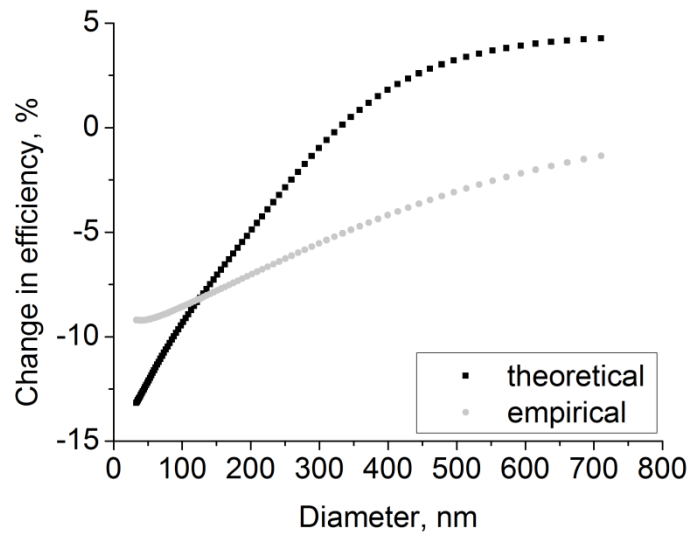


Fig. S3. Change in efficiencies as a result of a doubling of the linear flow velocity calculated for F6 filter

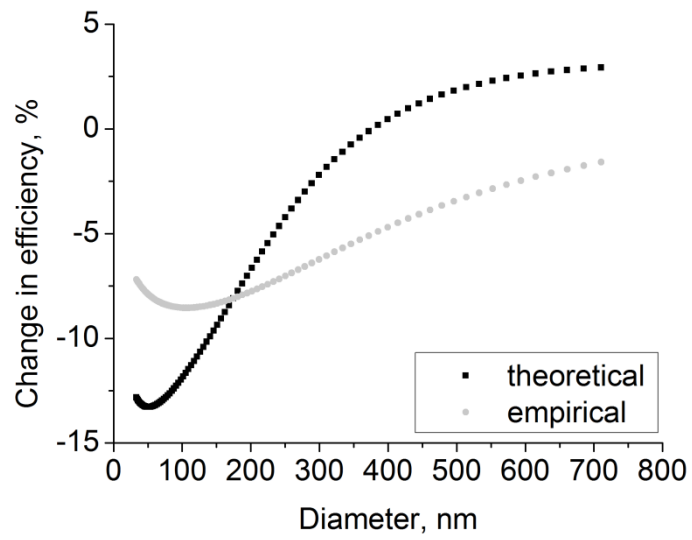


Fig. S4. Change in efficiencies as a result of a doubling of the linear flow velocity calculated for 2F6 filter

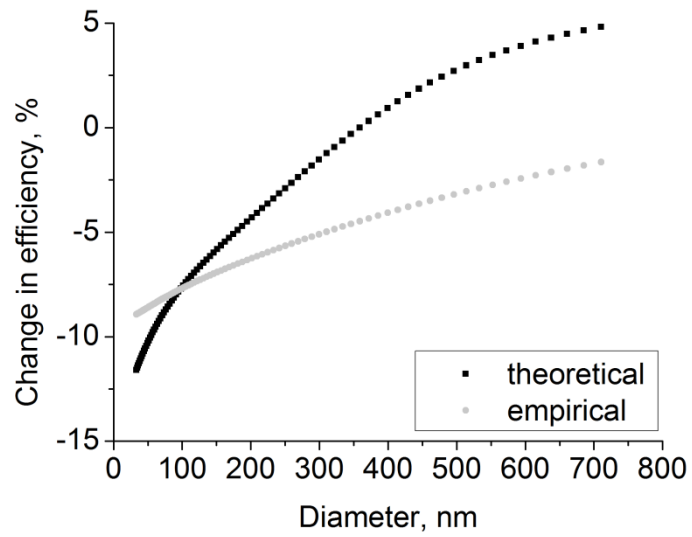


Fig. S5. Change in efficiencies as a result of a doubling of the linear flow velocity calculated for F8 filter

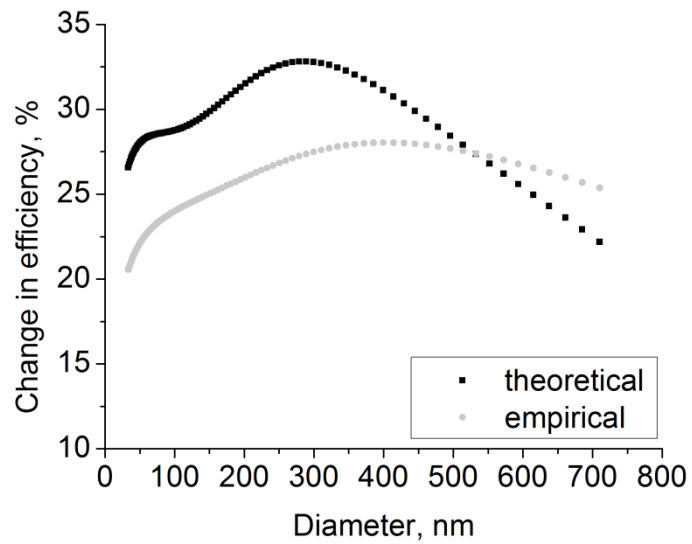


Fig. S6. Change in efficiencies as a result of a doubling of the packing density calculated for F6 filter

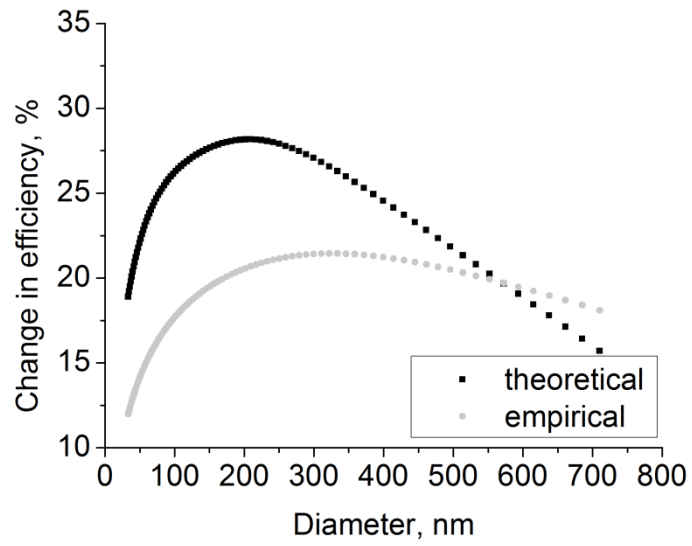


Fig. S7. Change in efficiencies as a result of a doubling of the packing density calculated for 2F6 filter

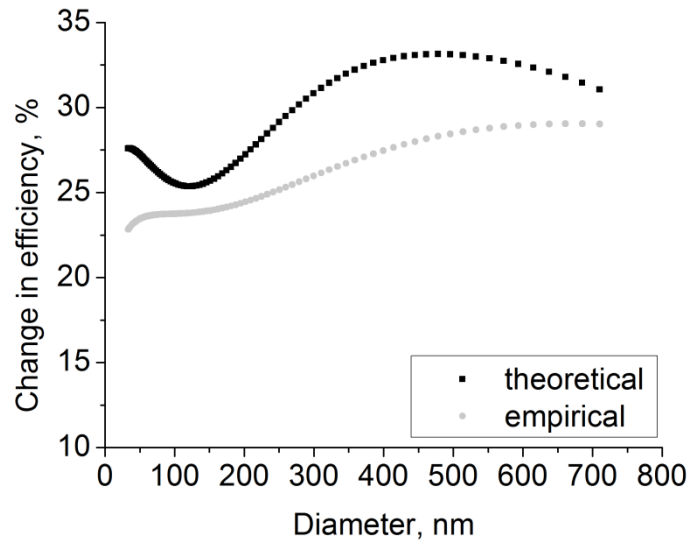


Fig. S8. Change in efficiencies as a result of a doubling of the packing density calculated for F8 filter

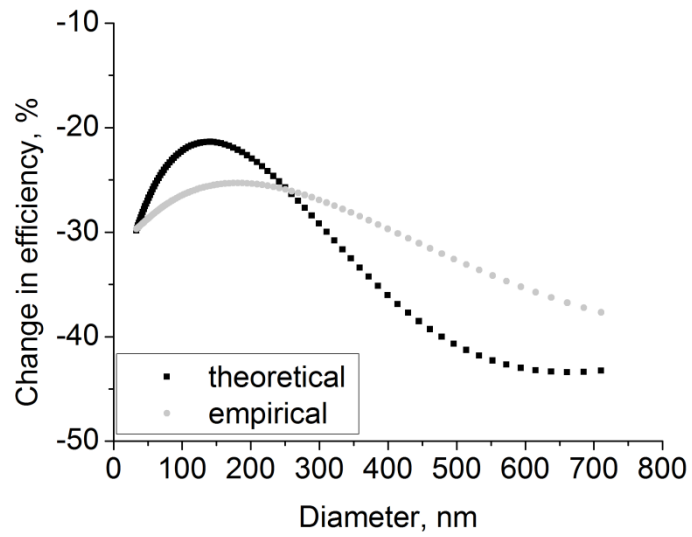


Fig. S9. Change in efficiencies as a result of a doubling of the fibres diameter calculated for F6 filter

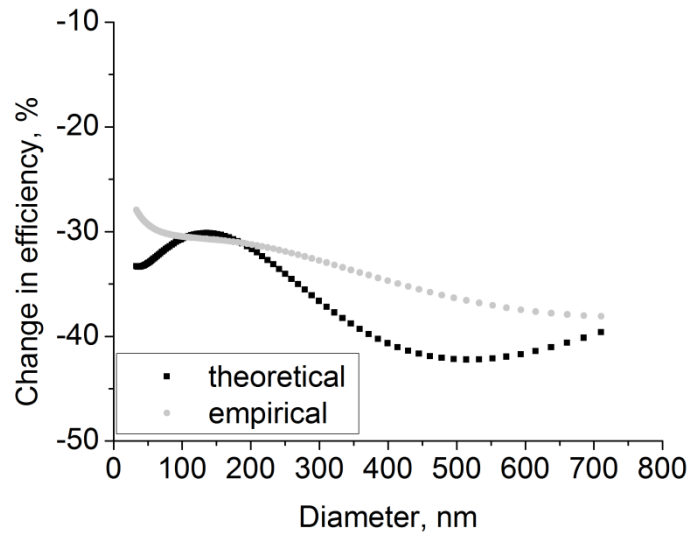


Fig. S10. Change in efficiencies as a result of a doubling of the fibres diameter calculated for 2F6 filter

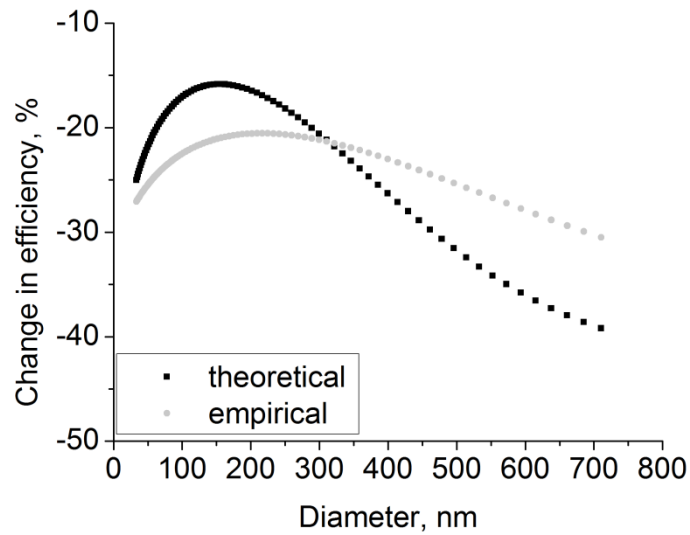


Fig. S11. Change in efficiencies as a result of a doubling of the fibres diameter calculated for F8 filter

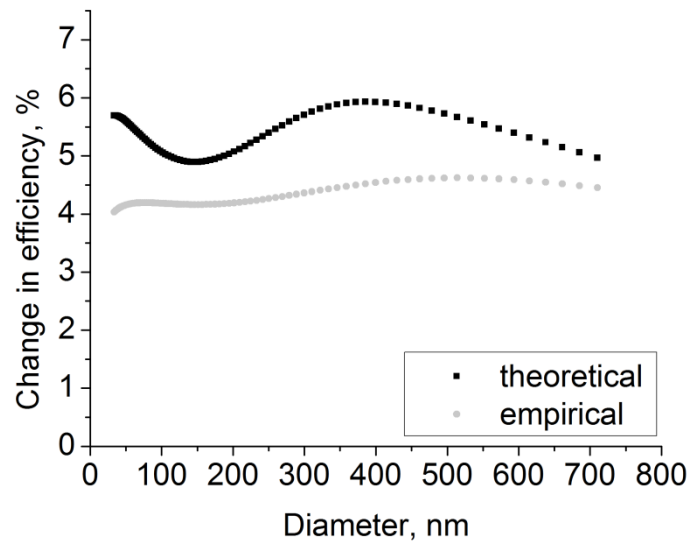


Fig. S12. Change in efficiencies as a result of combined changes in the linear flow velocity, packing density and fibres diameter caused by filter clogging lasting four thousand seconds calculated for F6 filter

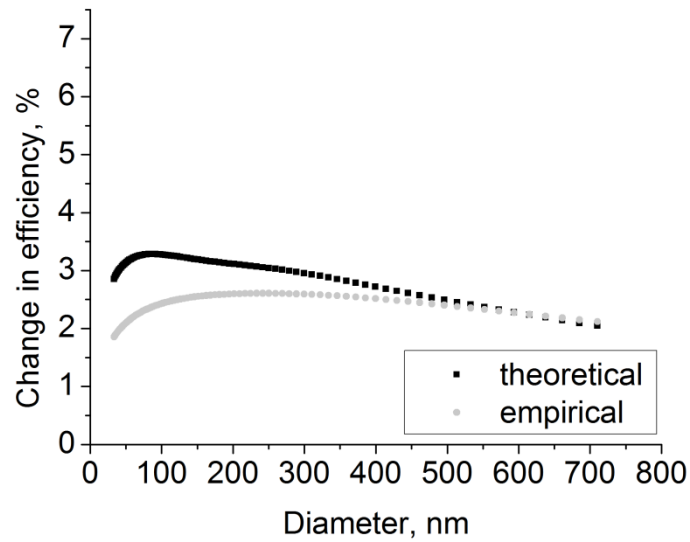


Fig. S13. Change in efficiencies as a result of combined changes in the linear flow velocity, packing density and fibres diameter caused by filter clogging lasting four thousand seconds calculated for 2F6 filter

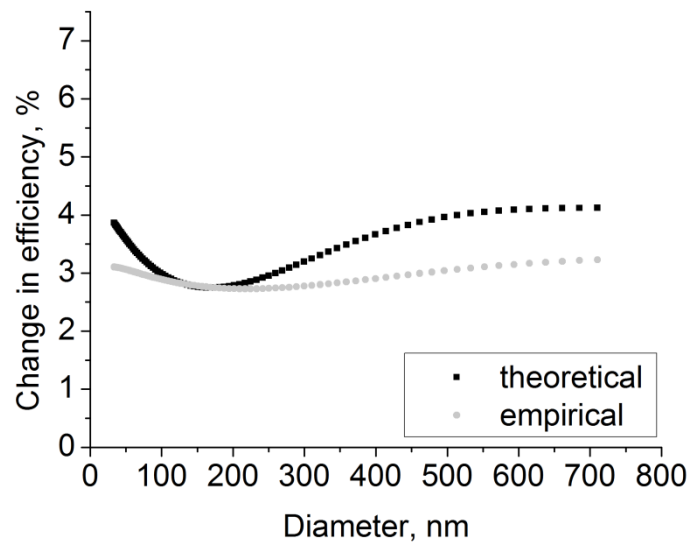


Fig. S14. Change in efficiencies as a result of combined changes in the linear flow velocity, packing density and fibres diameter caused by filter clogging lasting four thousand seconds calculated for F8 filter