This flipbook illustrates a problem that can occur when you try to run fans in parallel that are unsuitable for running in parallel.

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At 20 seconds, damper 1 opens

At 40 seconds, fan 1 starts

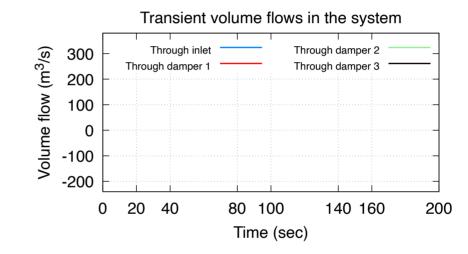
At 80 seconds, damper 2 opens

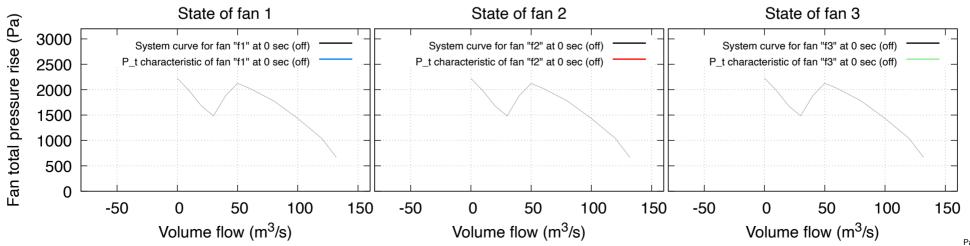
At 100 seconds, fan 2 starts

At 140 seconds, damper 3 opens

At 160 seconds, fan 3 starts







Source file: ok-032-fans-in-parallel.txt.

Project no: 2 Project name: Software testing



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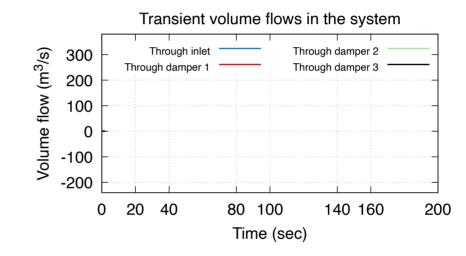
At 80 seconds, damper 2 opens

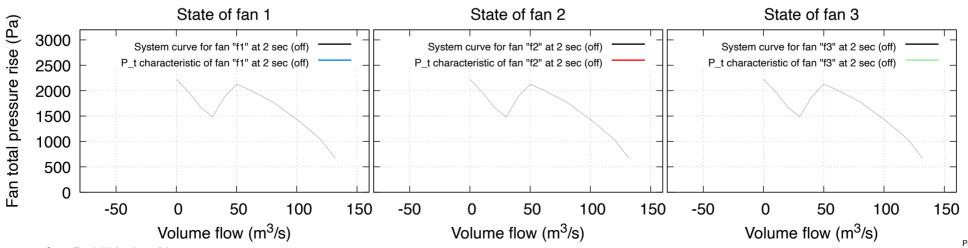
At 100 seconds, fan 2 starts

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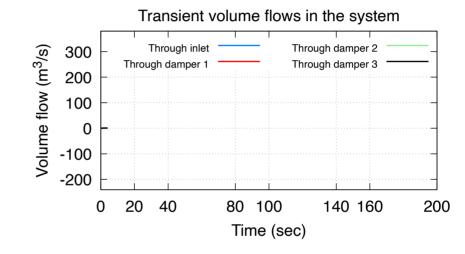
At 80 seconds, damper 2 opens

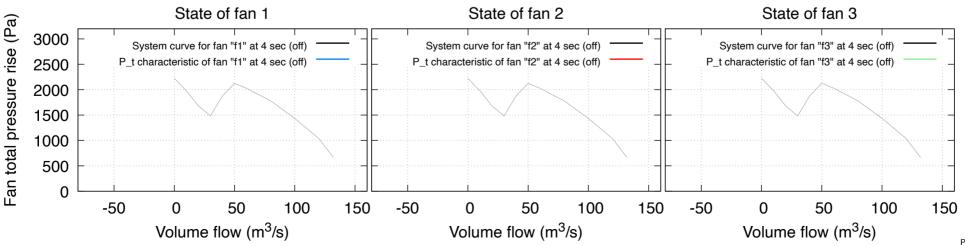
At 100 seconds, fan 2 starts

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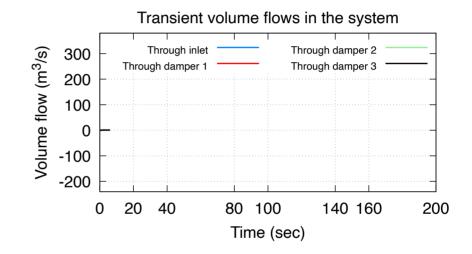
At 80 seconds, damper 2 opens

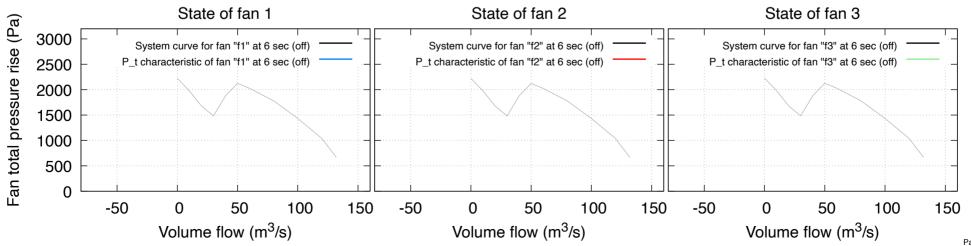
At 100 seconds, fan 2 starts

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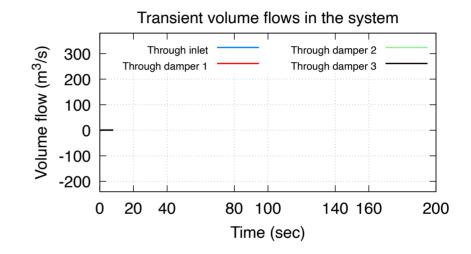
At 80 seconds, damper 2 opens

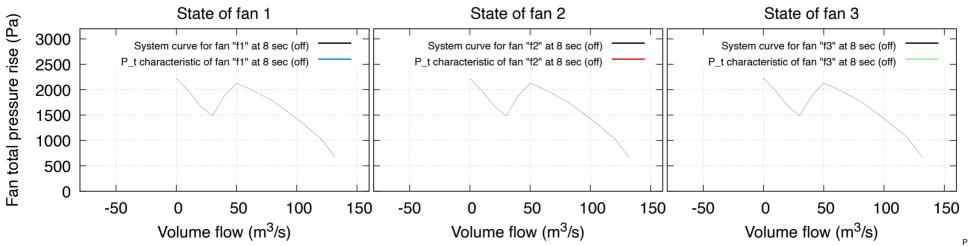
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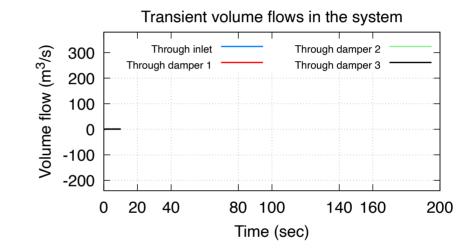
At 80 seconds, damper 2 opens

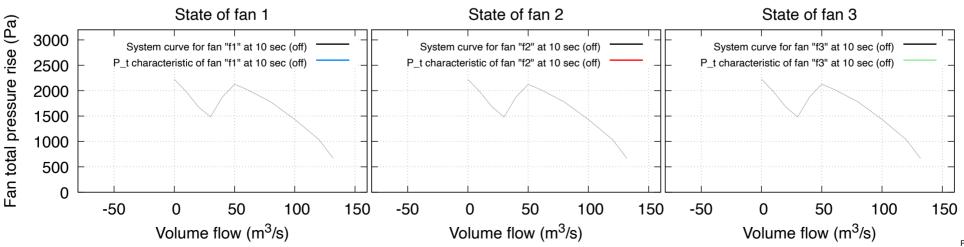
At 100 seconds, fan 2 starts

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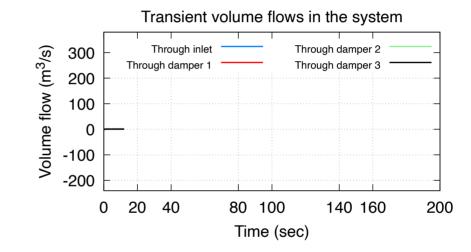
At 80 seconds, damper 2 opens

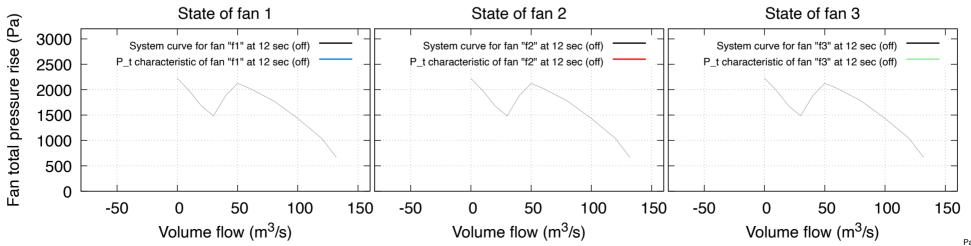
At 100 seconds, fan 2 starts

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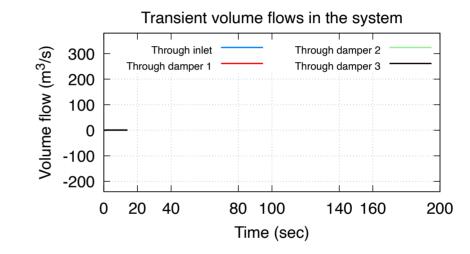
At 80 seconds, damper 2 opens

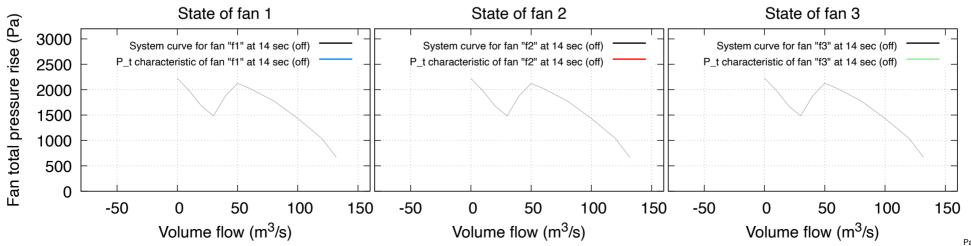
At 100 seconds, fan 2 starts

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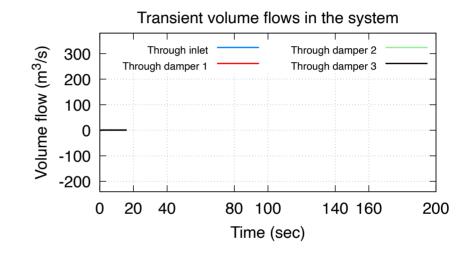
At 80 seconds, damper 2 opens

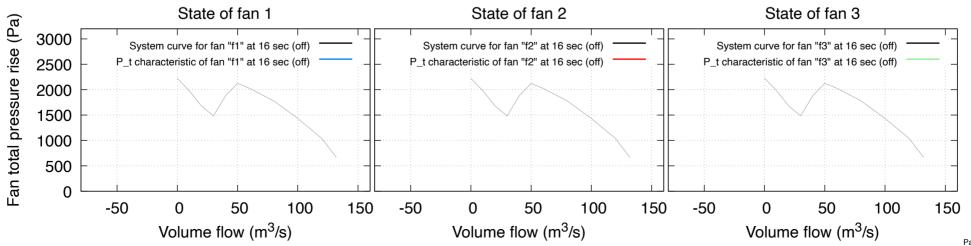
At 100 seconds, fan 2 starts

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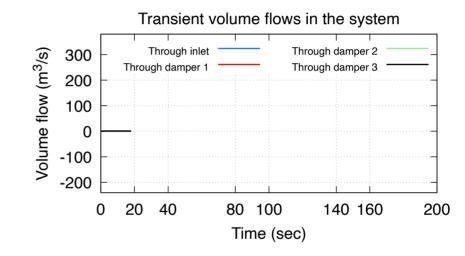
At 80 seconds, damper 2 opens

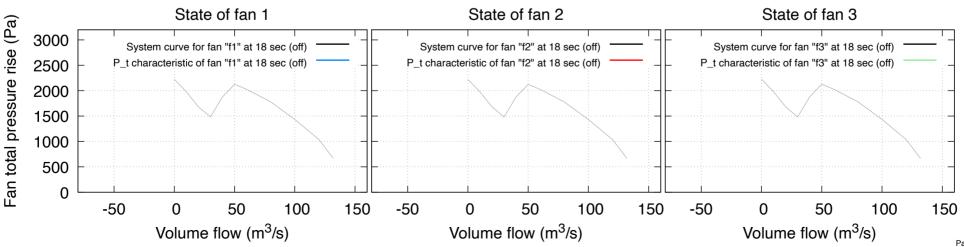
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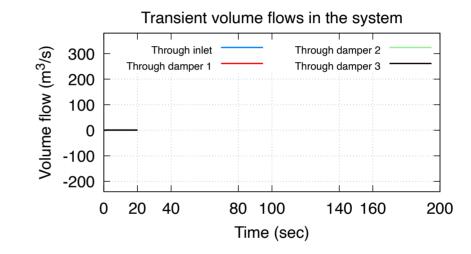
At 80 seconds, damper 2 opens

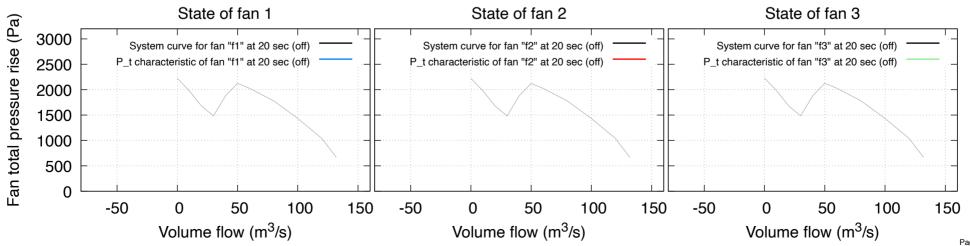
At 100 seconds, fan 2 starts

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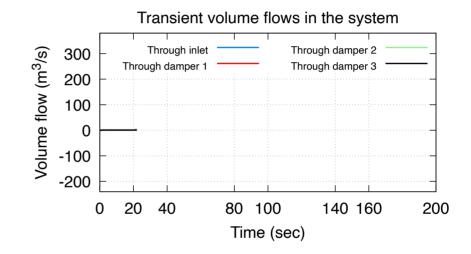
At 80 seconds, damper 2 opens

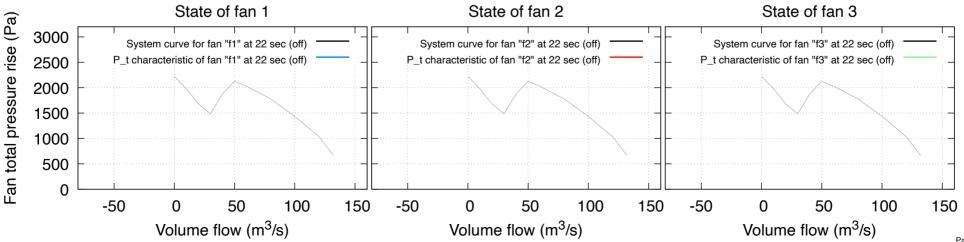
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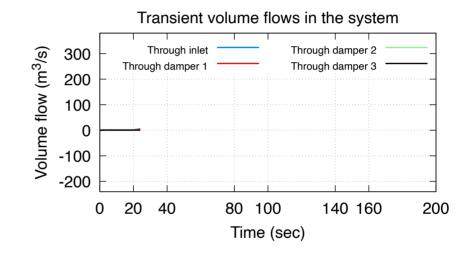
At 80 seconds, damper 2 opens

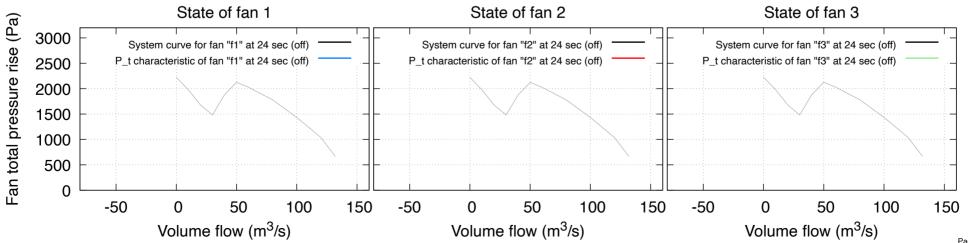
At 100 seconds, fan 2 starts

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Source file: ok-032-fans-in-parallel.txt.

J

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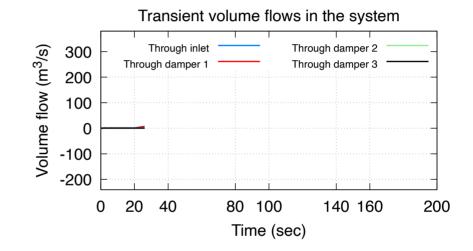
At 80 seconds, damper 2 opens

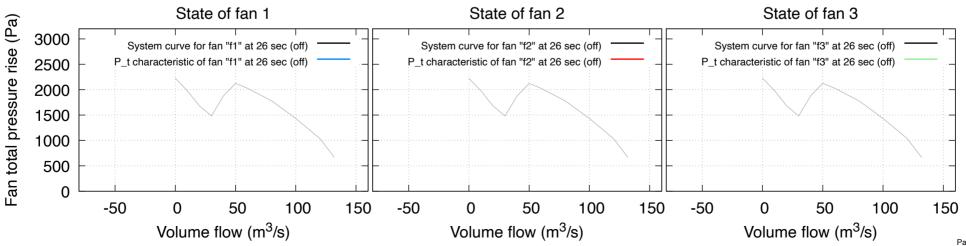
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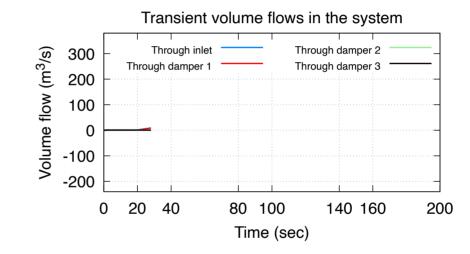
At 80 seconds, damper 2 opens

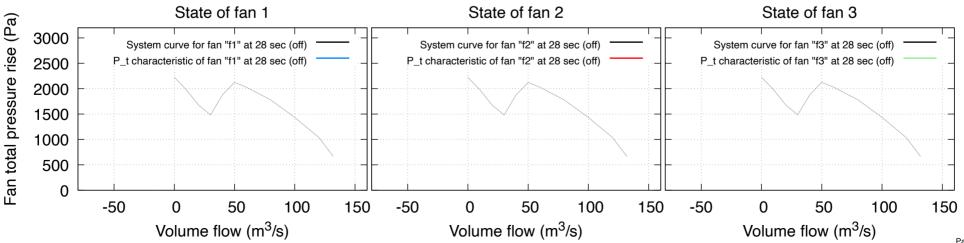
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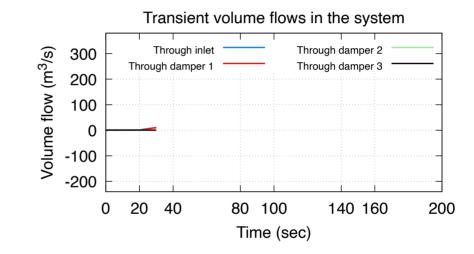
At 80 seconds, damper 2 opens

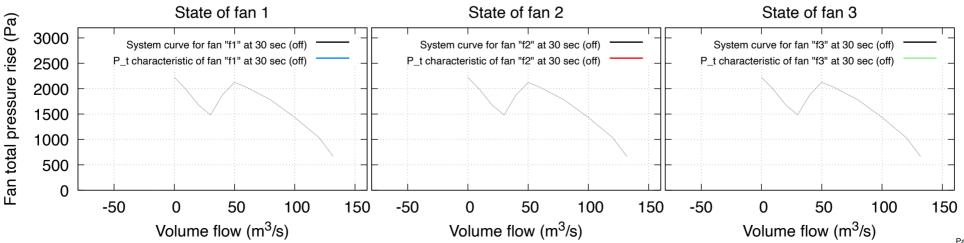
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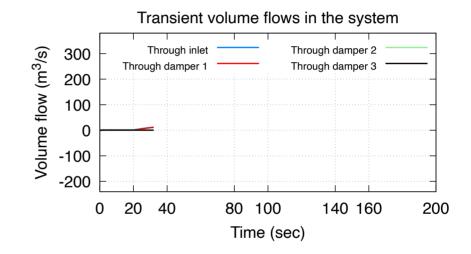
At 80 seconds, damper 2 opens

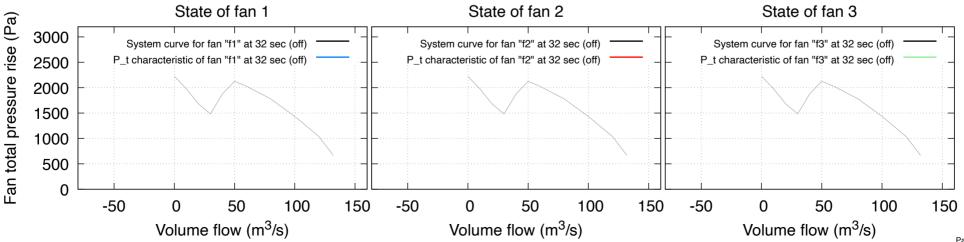
At 100 seconds, fan 2 starts

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Source file: ok-032-fans-in-parallel.txt.



Page 17

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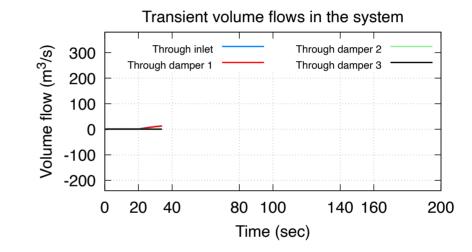
At 80 seconds, damper 2 opens

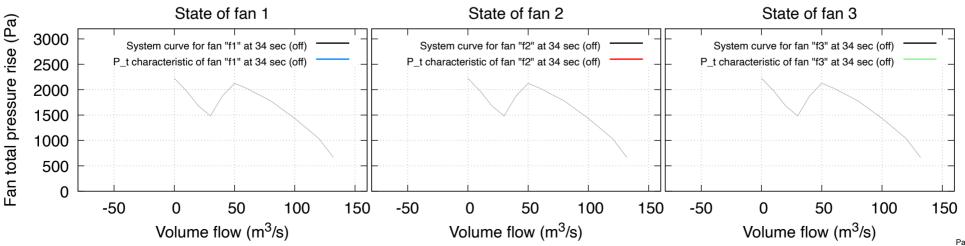
At 100 seconds, fan 2 starts

At 140 seconds, damper 3 opens

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Source file: ok-032-fans-in-parallel.txt.



Created by Hobyah.py from ok-032-fans-in-parallel.txt, 12:59 on 24 Oct 2024 by ecb

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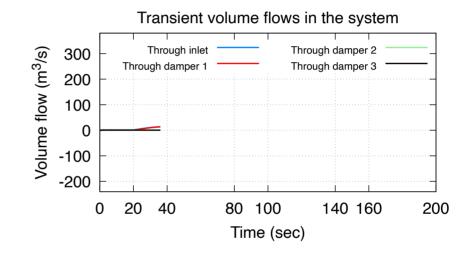
At 80 seconds, damper 2 opens

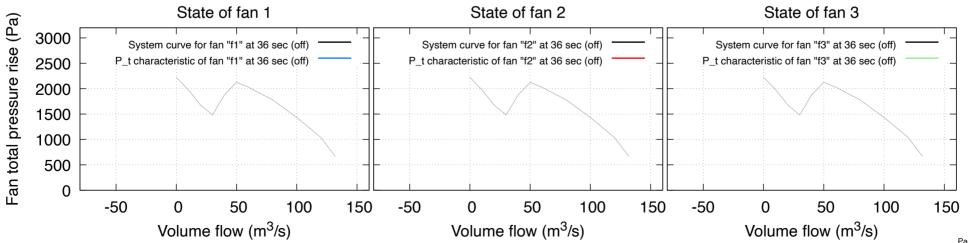
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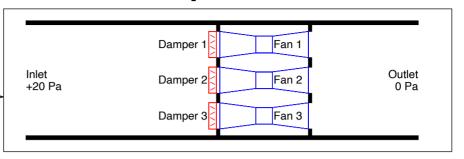
At 40 seconds, fan 1 starts

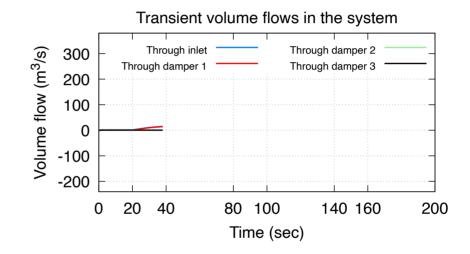
At 80 seconds, damper 2 opens

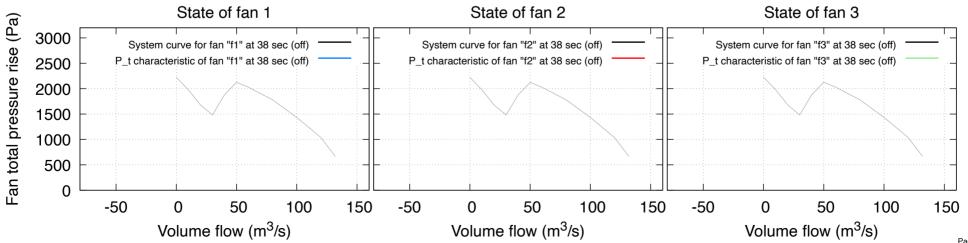
At 100 seconds, fan 2 starts

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At 160 seconds, fan 3 starts







Source file: ok-032-fans-in-parallel.txt.



Fage 20

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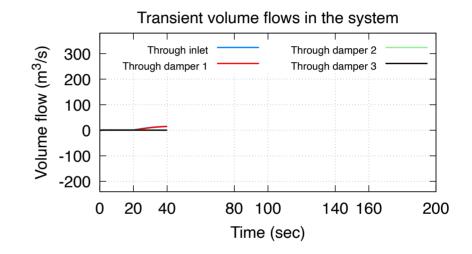
At 80 seconds, damper 2 opens

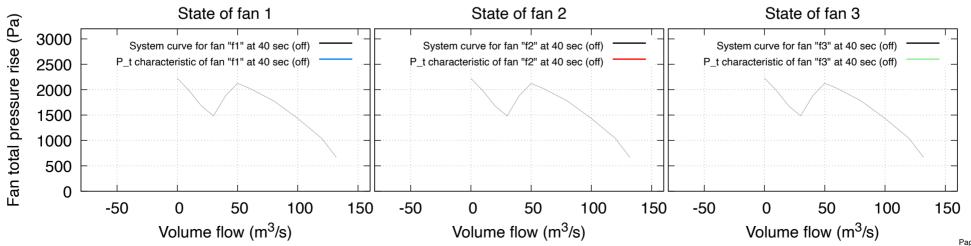
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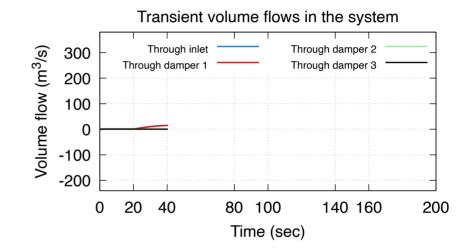
At 80 seconds, damper 2 opens

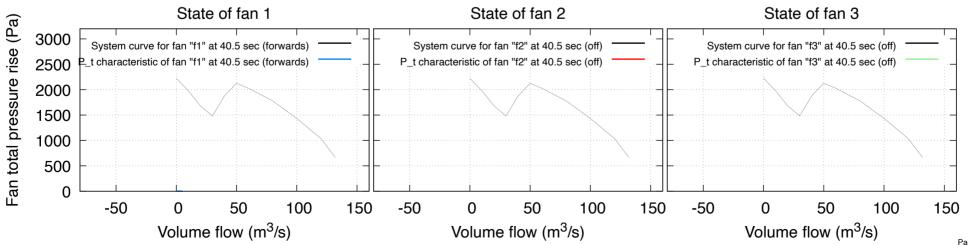
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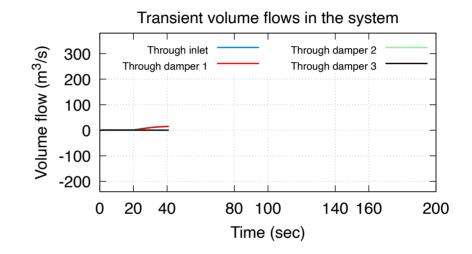
At 80 seconds, damper 2 opens

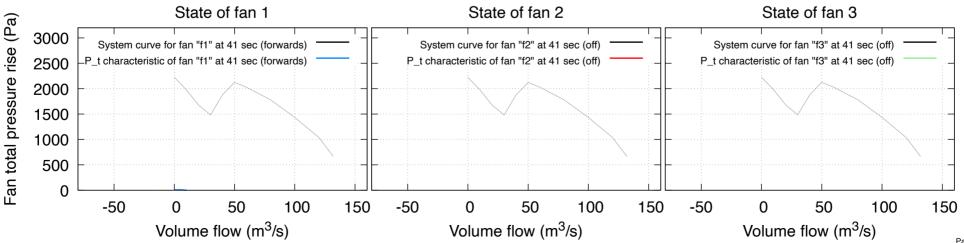
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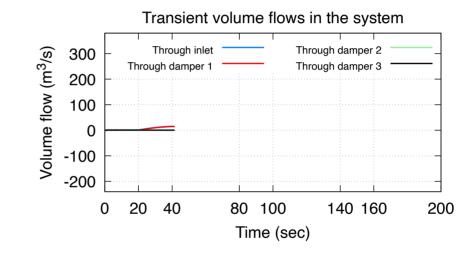
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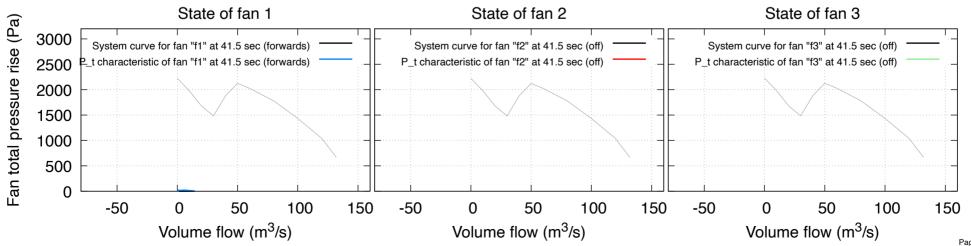
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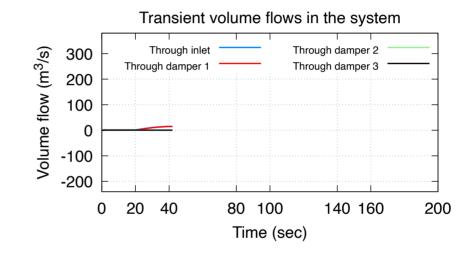
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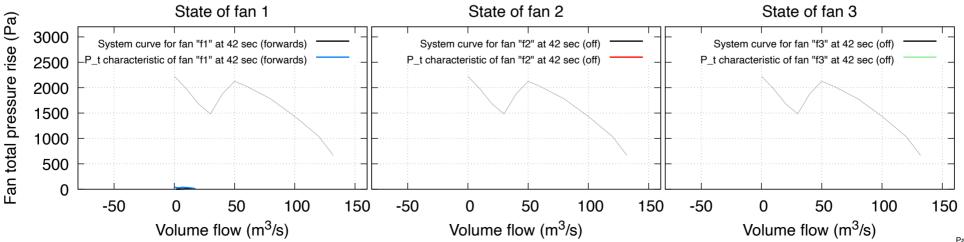
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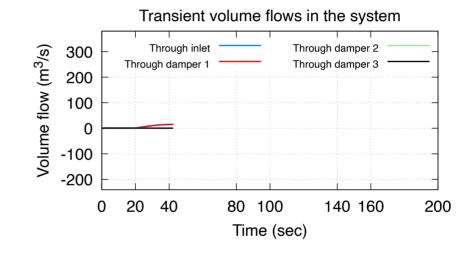
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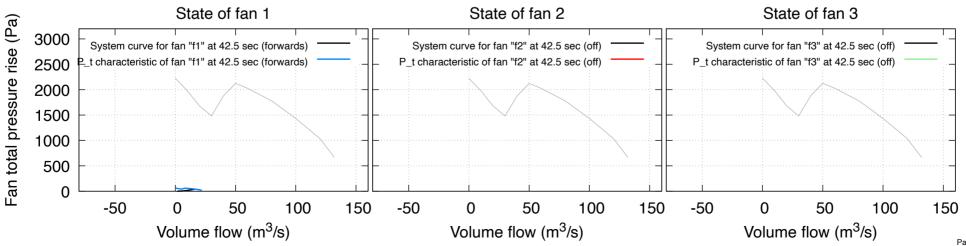
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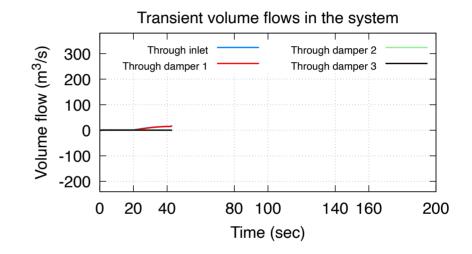
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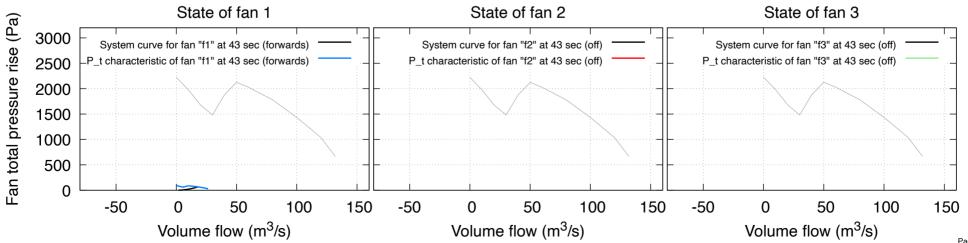
At 100 seconds, fan 2 starts

At 140 seconds, damper 3 opens

At 160 seconds, fan 3 starts









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At 20 seconds, damper 1 opens

At 40 seconds, fan 1 starts

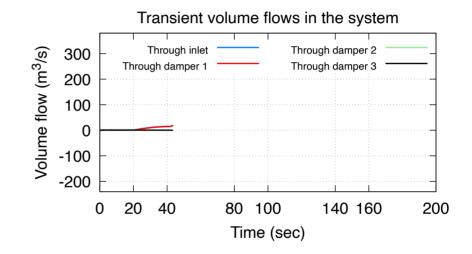
At 80 seconds, damper 2 opens

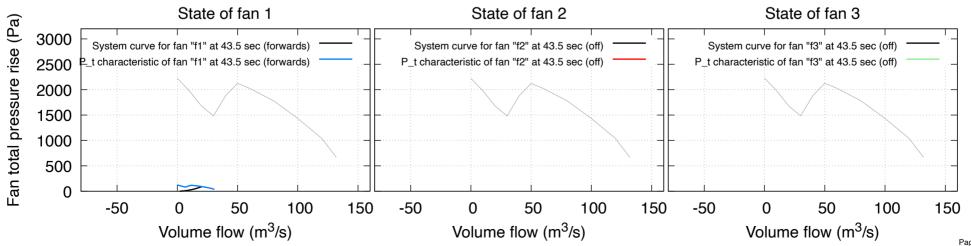
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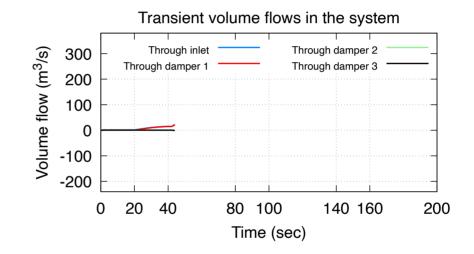
At 80 seconds, damper 2 opens

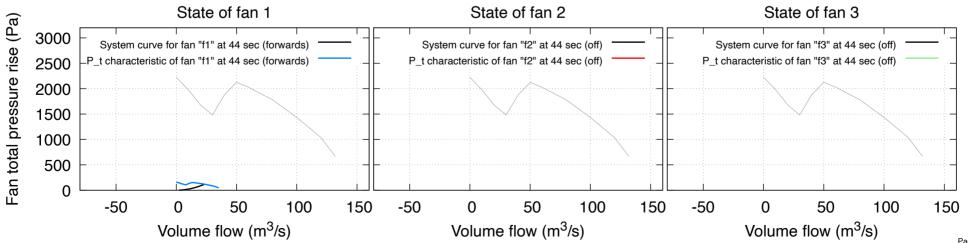
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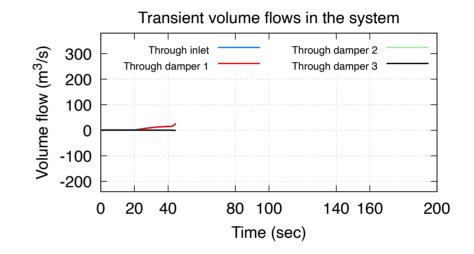
At 80 seconds, damper 2 opens

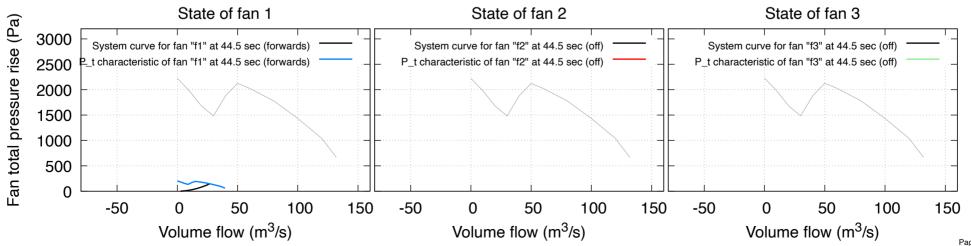
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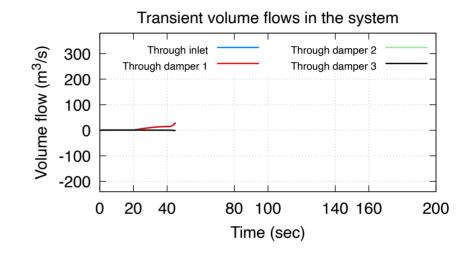
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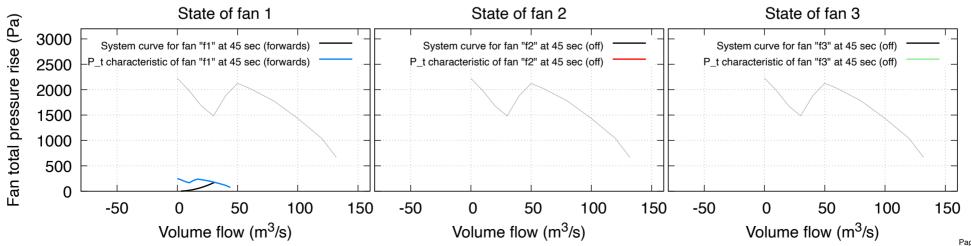
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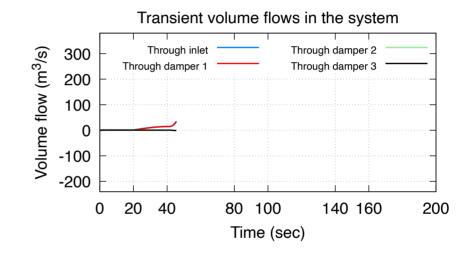
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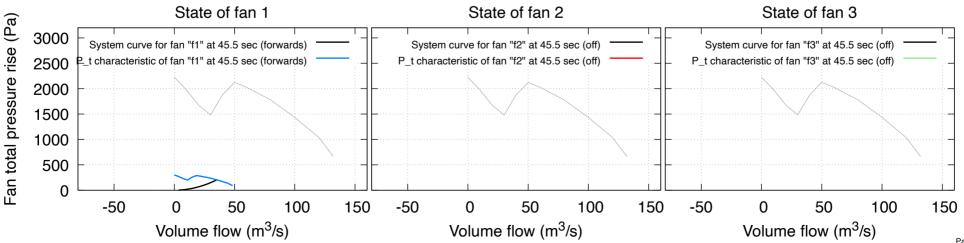
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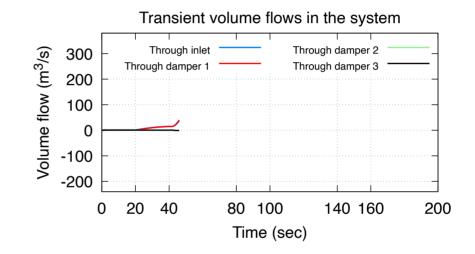
At 80 seconds, damper 2 opens

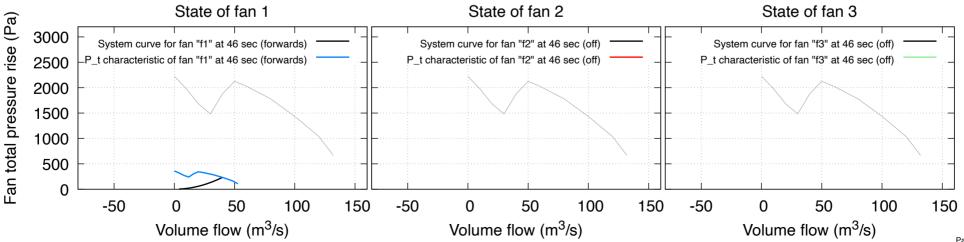
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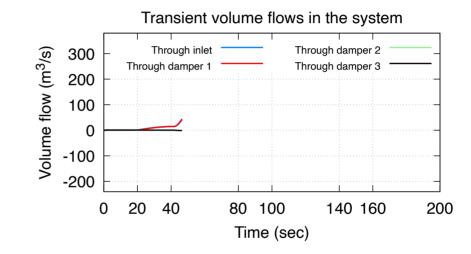
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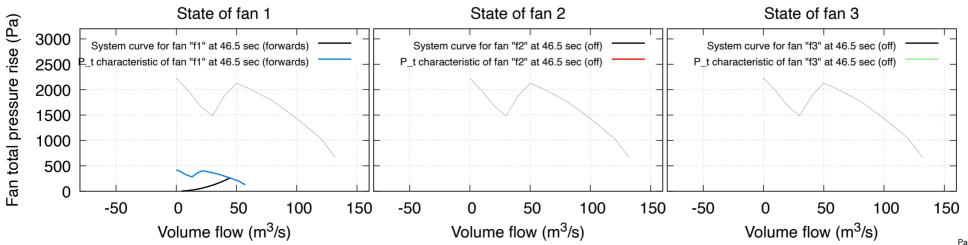
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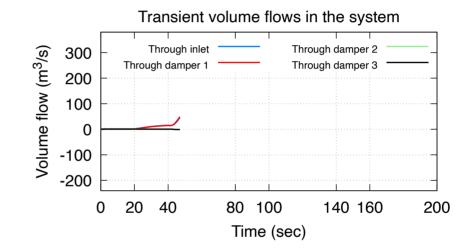
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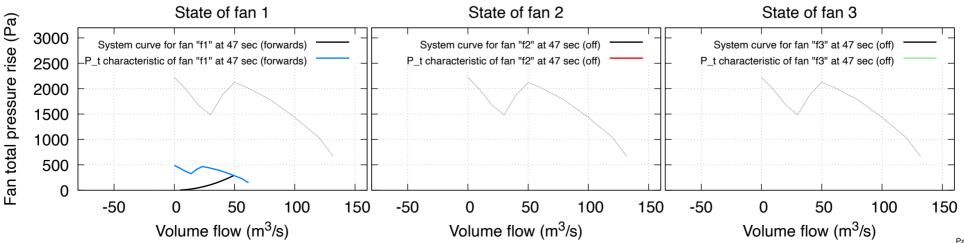
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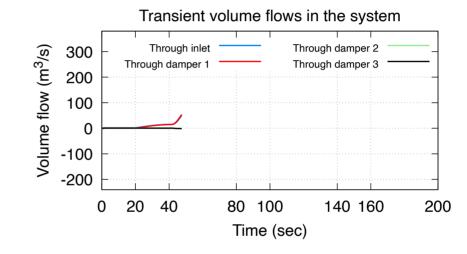
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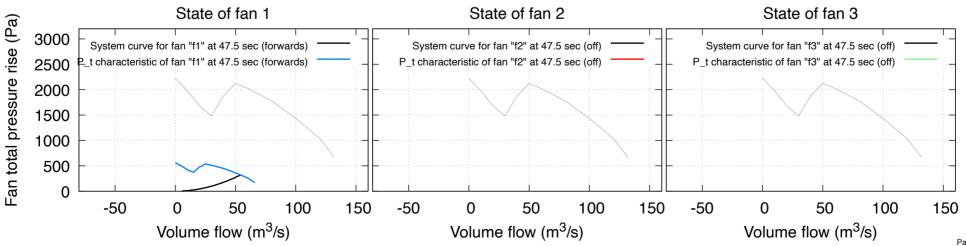
At 100 seconds, fan 2 starts

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Source file: ok-032-fans-in-parallel.txt.



Created by Hobyah.py from ok-032-fans-in-parallel.txt, 12:59 on 24 Oct 2024 by ecb

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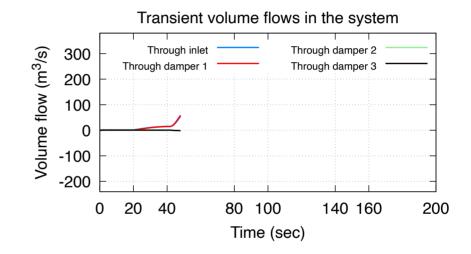
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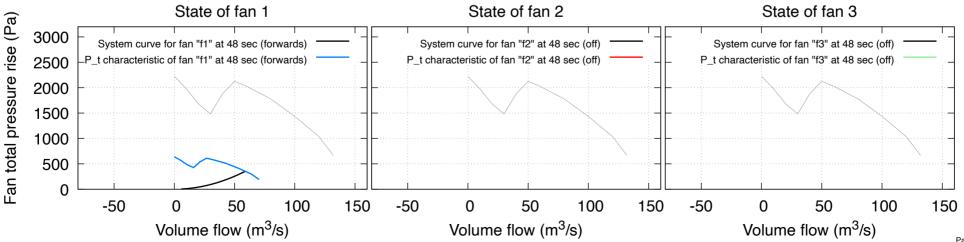
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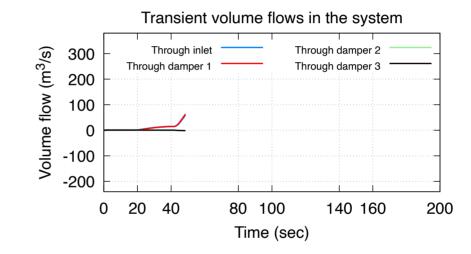
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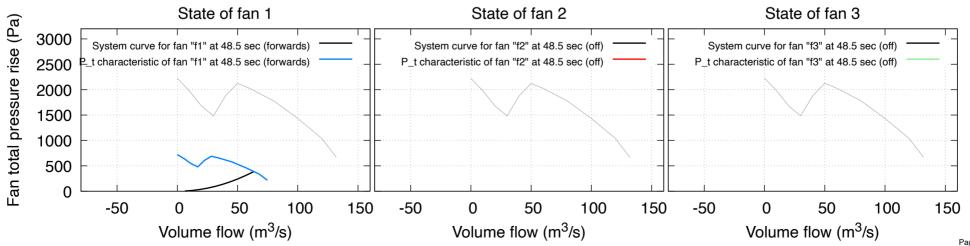
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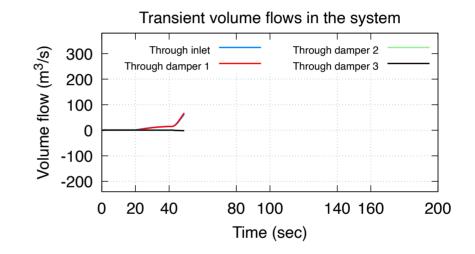
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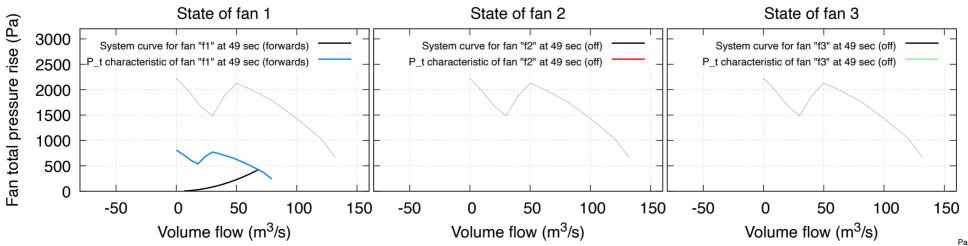
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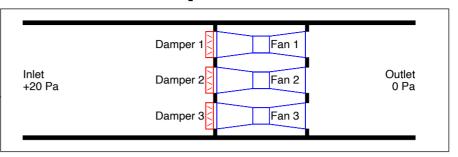
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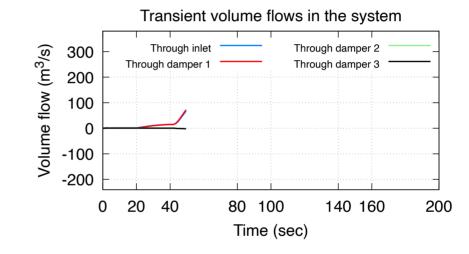
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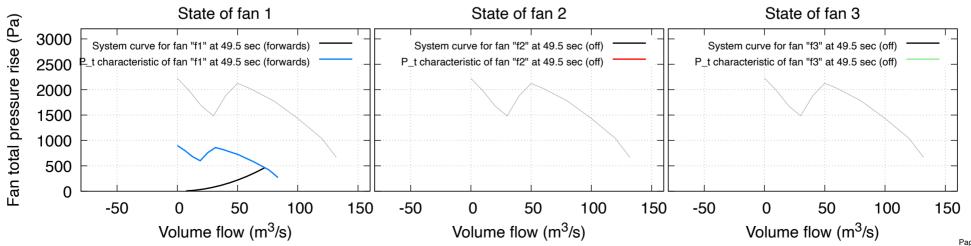
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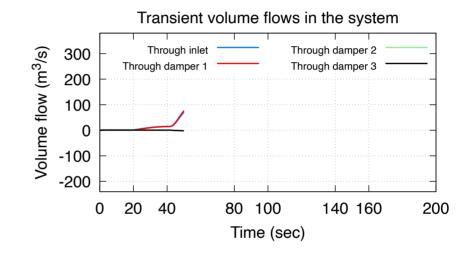
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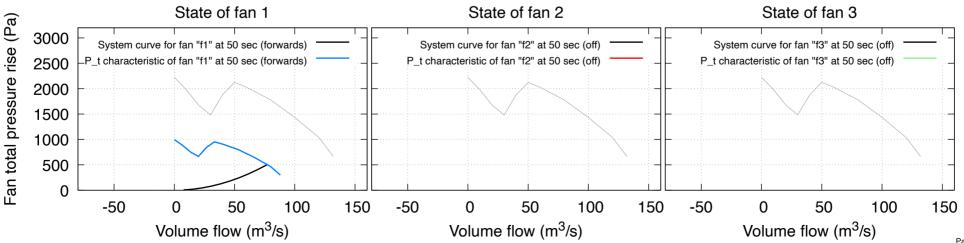
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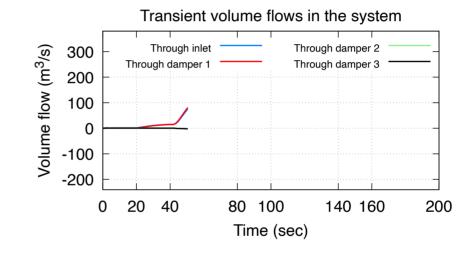
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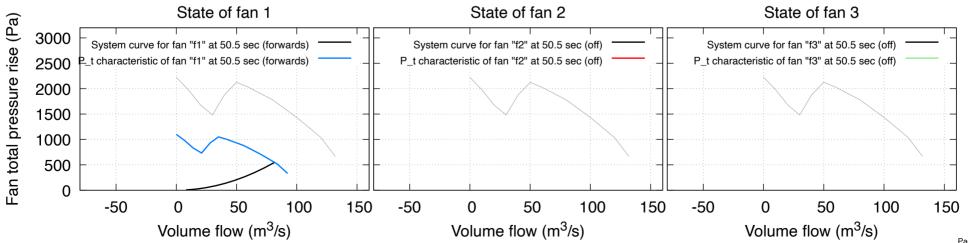
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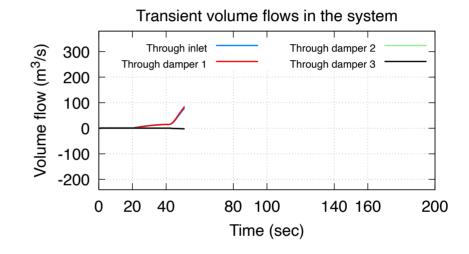
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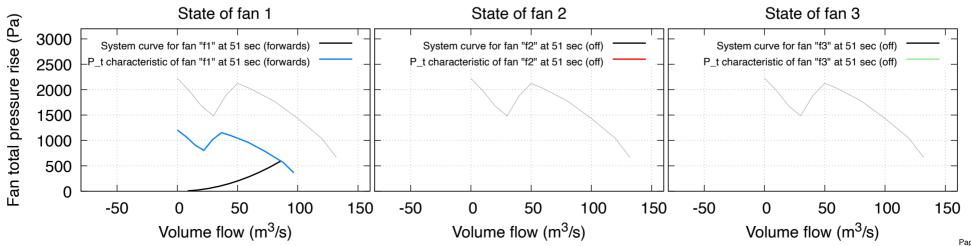
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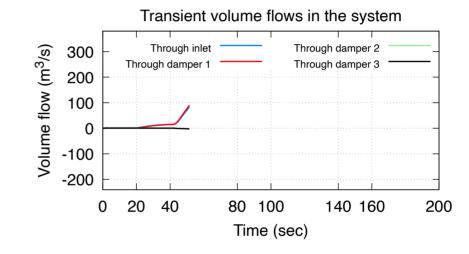
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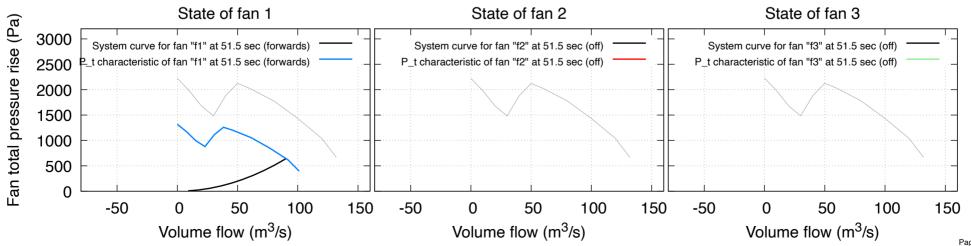
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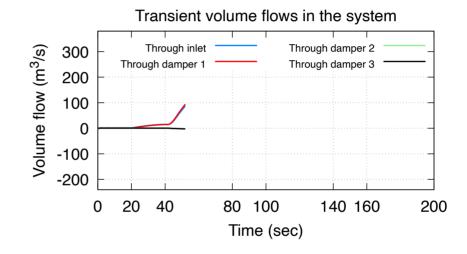
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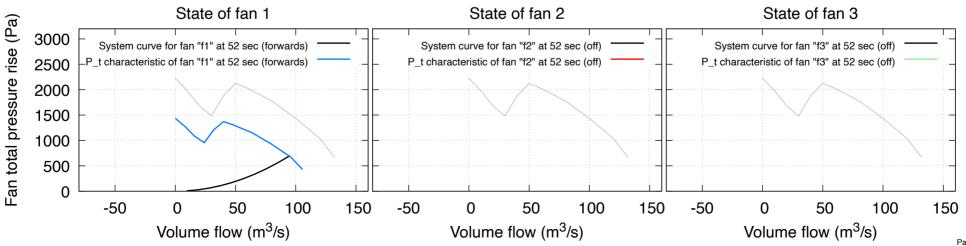
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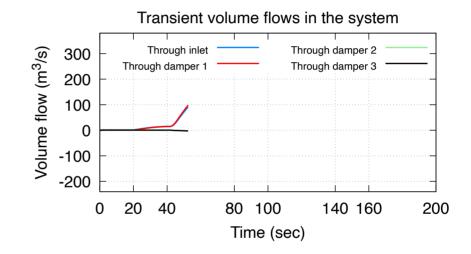
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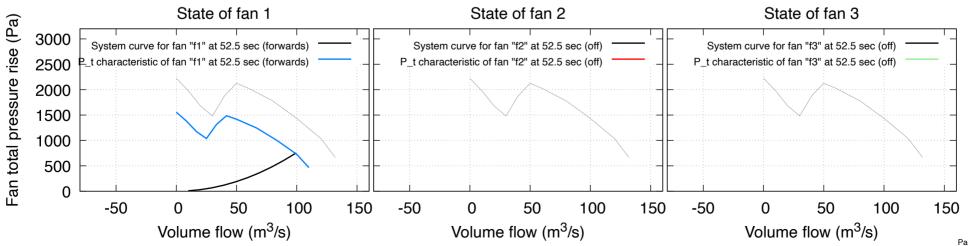
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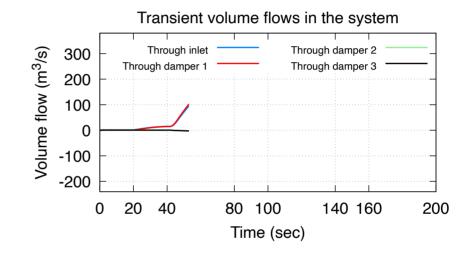
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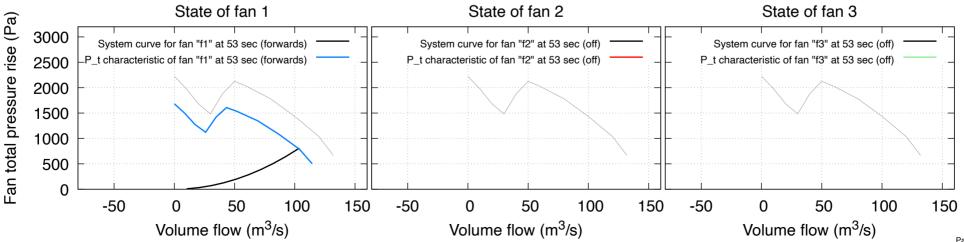
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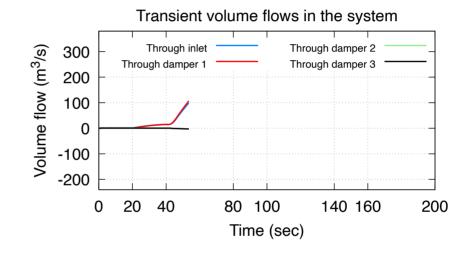
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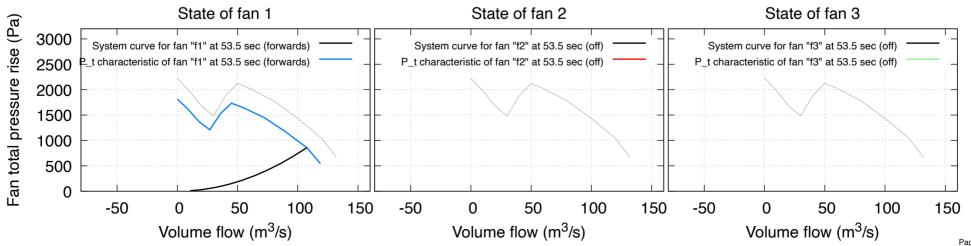
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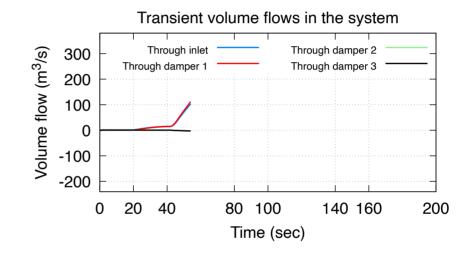
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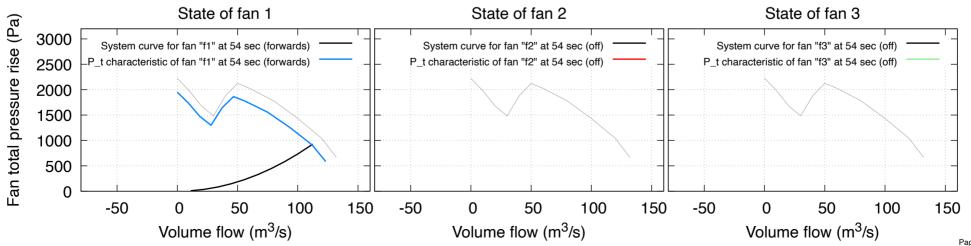
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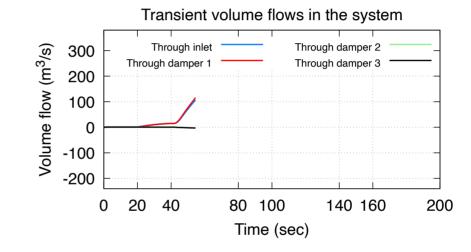
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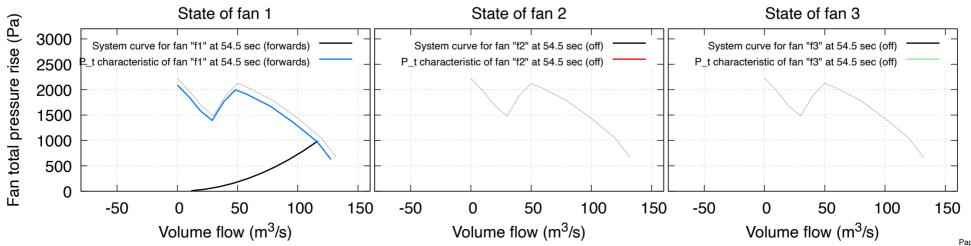
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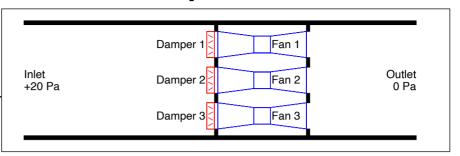
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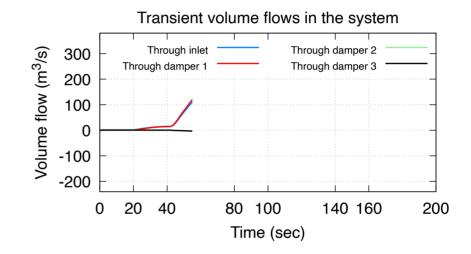
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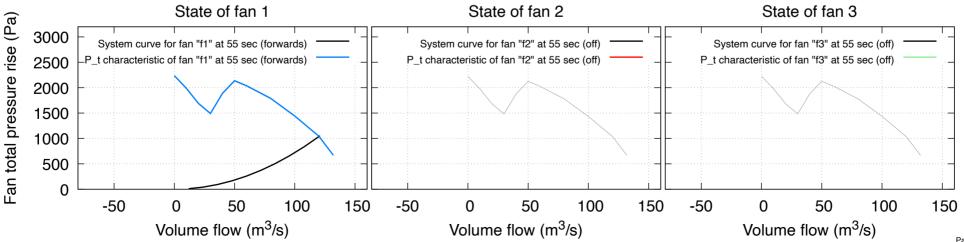
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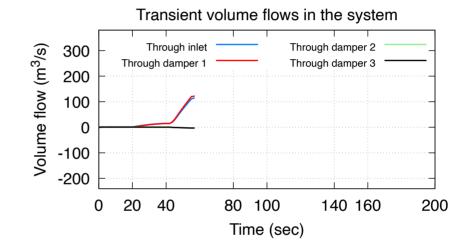
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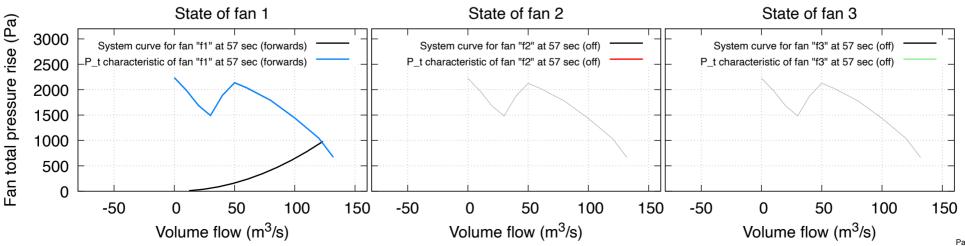
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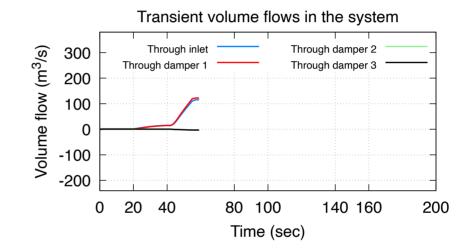
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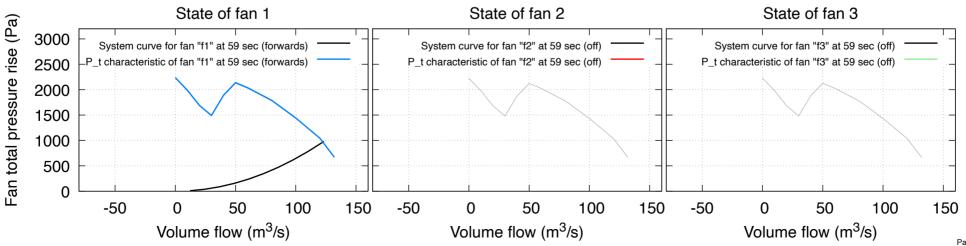
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The fans are started sequentially. Fans 1 and 2 get to suitable parts of their characteristics. Fan 3 can't get out of stall.

At 20 seconds, damper 1 opens

At 40 seconds, fan 1 starts

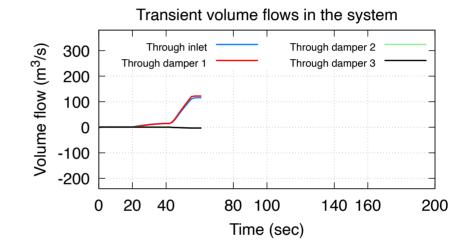
At 80 seconds, damper 2 opens

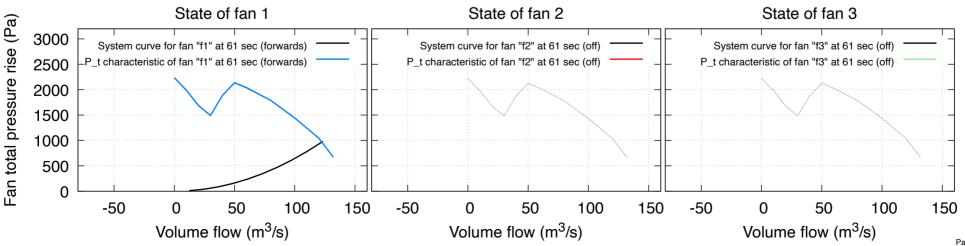
At 100 seconds, fan 2 starts

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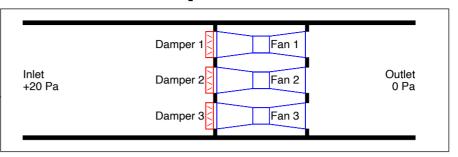
At 40 seconds, fan 1 starts

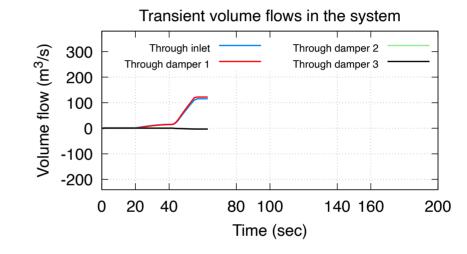
At 80 seconds, damper 2 opens

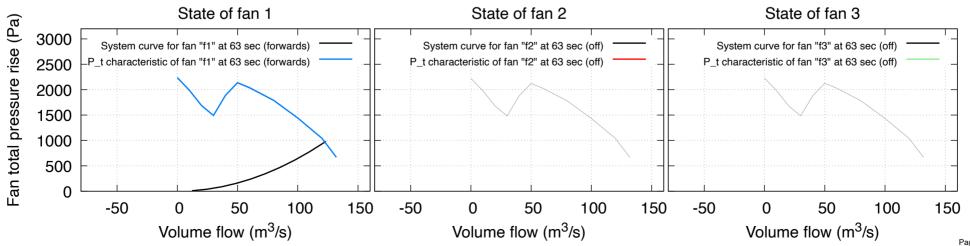
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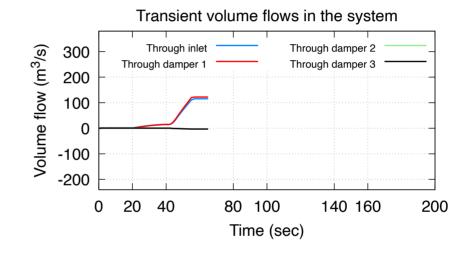
At 80 seconds, damper 2 opens

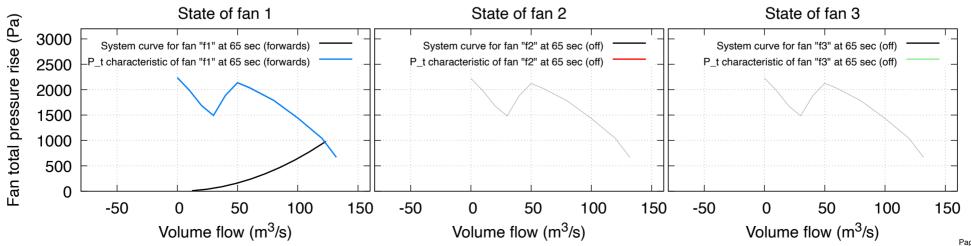
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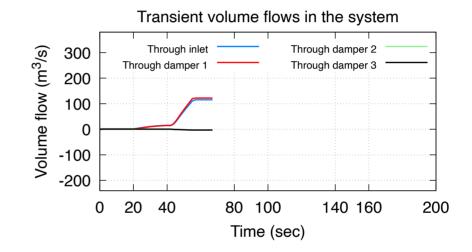
At 80 seconds, damper 2 opens

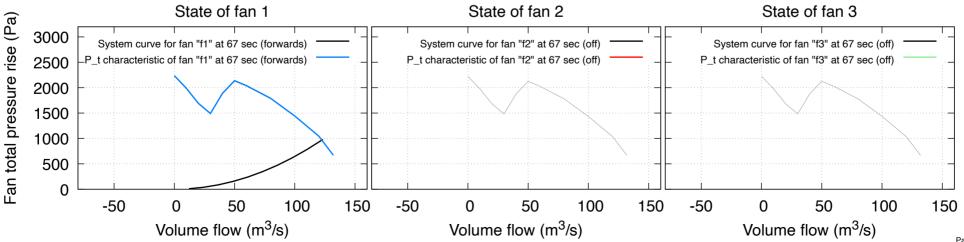
At 100 seconds, fan 2 starts

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At 160 seconds, fan 3 starts







Source file: ok-032-fans-in-parallel.txt.



Page 57

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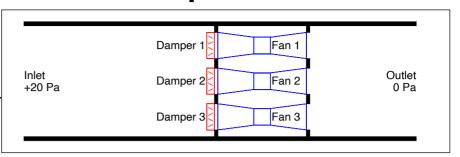
At 40 seconds, fan 1 starts

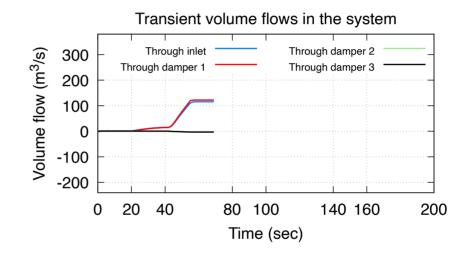
At 80 seconds, damper 2 opens

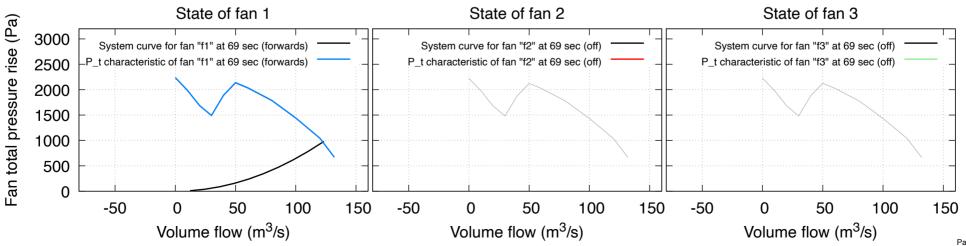
At 100 seconds, fan 2 starts

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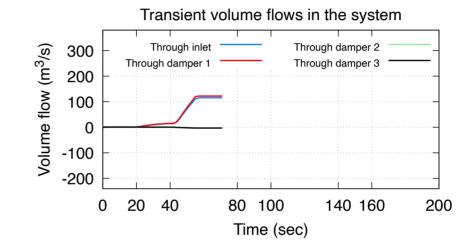
At 80 seconds, damper 2 opens

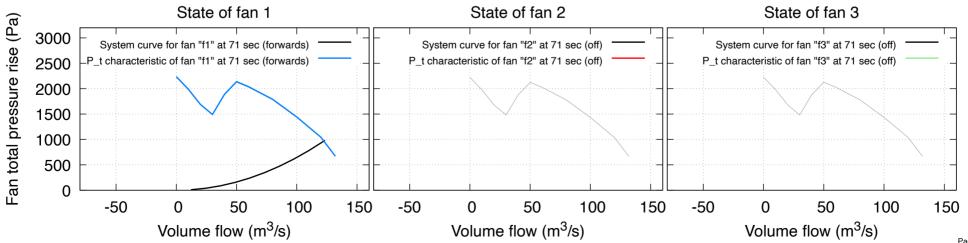
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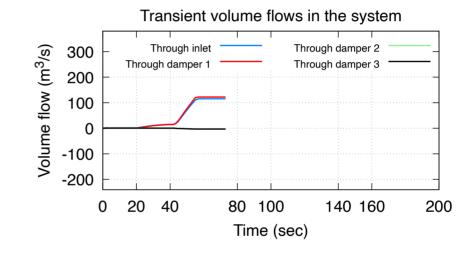
At 80 seconds, damper 2 opens

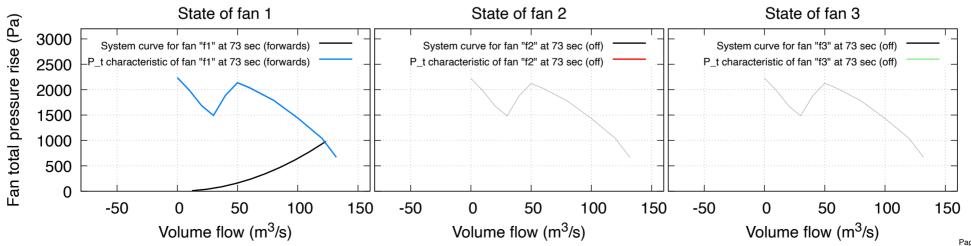
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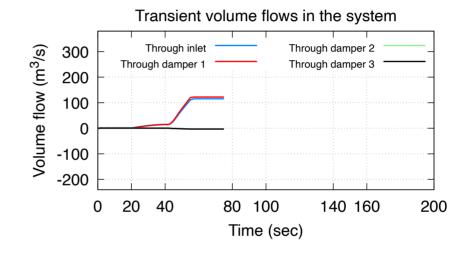
At 80 seconds, damper 2 opens

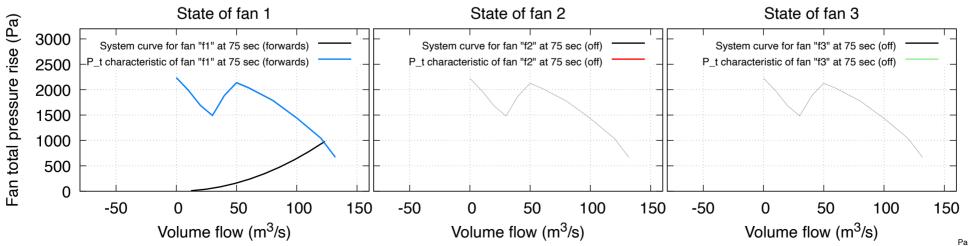
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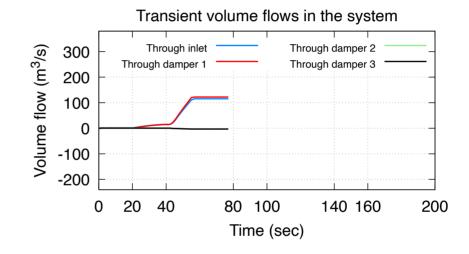
At 80 seconds, damper 2 opens

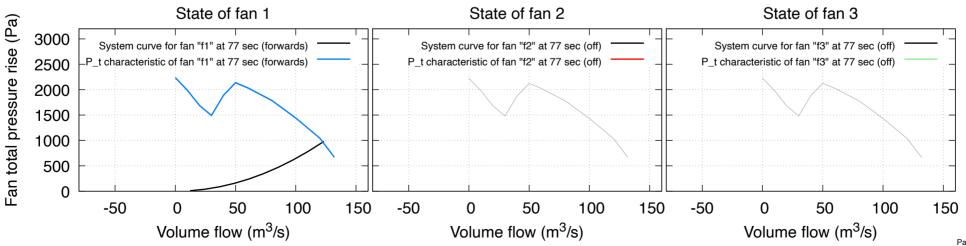
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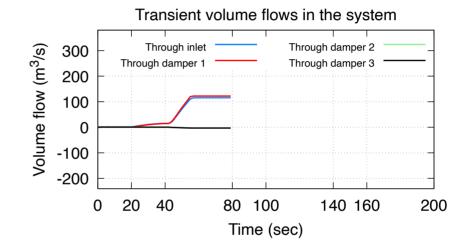
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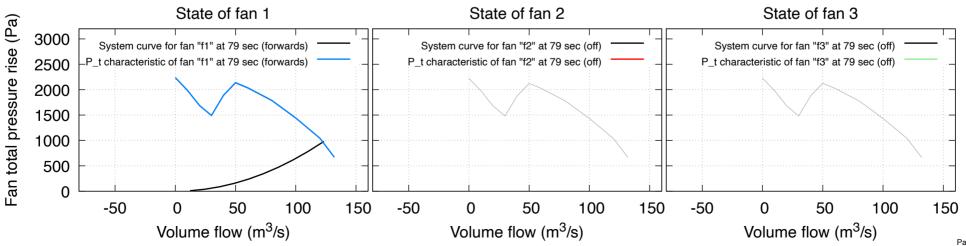
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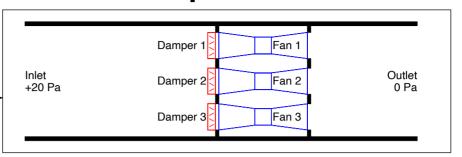
At 40 seconds, fan 1 starts

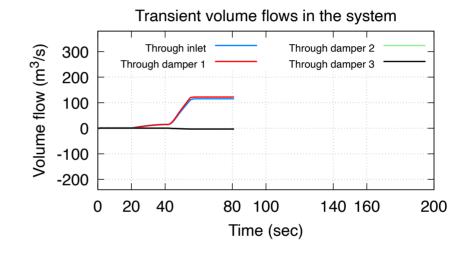
At 80 seconds, damper 2 opens

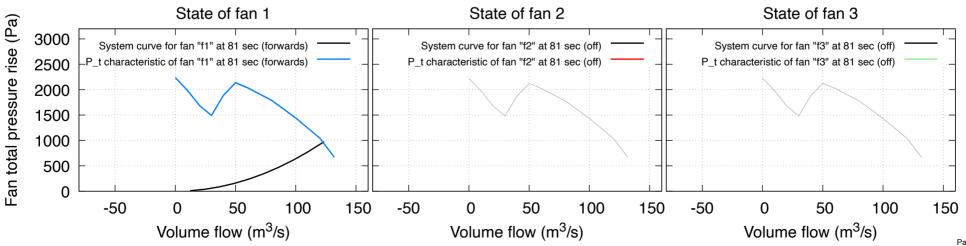
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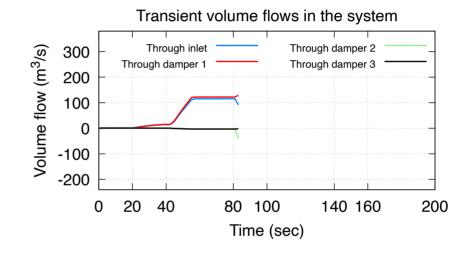
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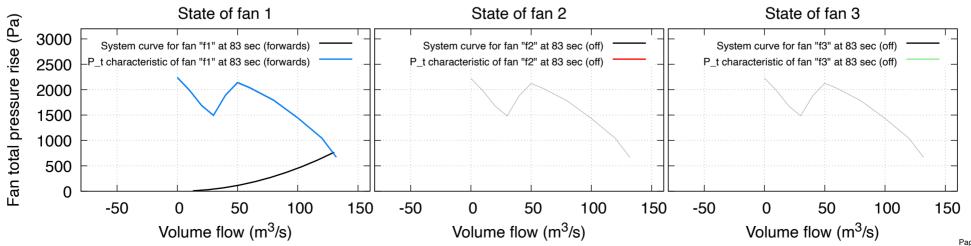
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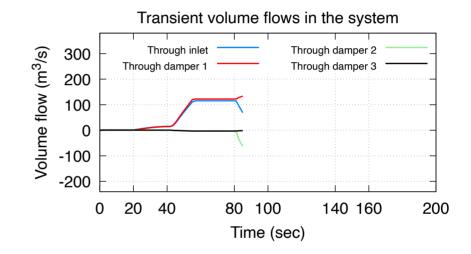
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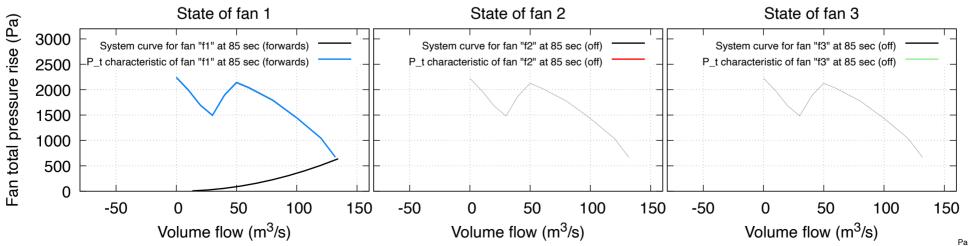
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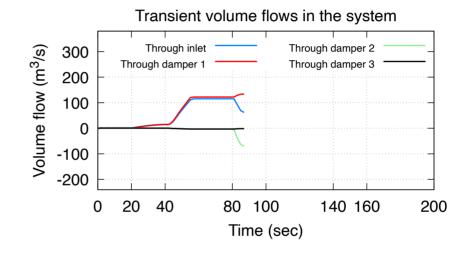
At 80 seconds, damper 2 opens

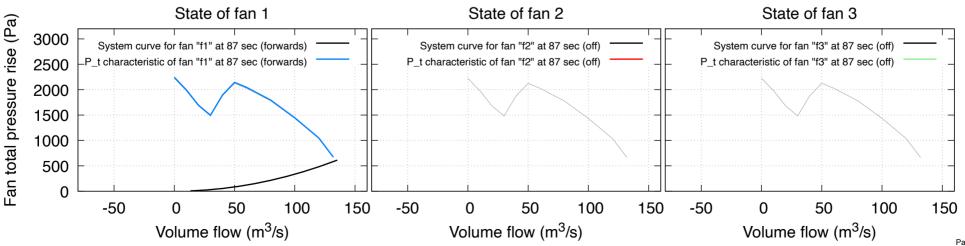
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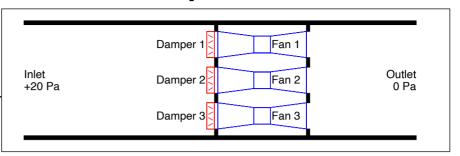
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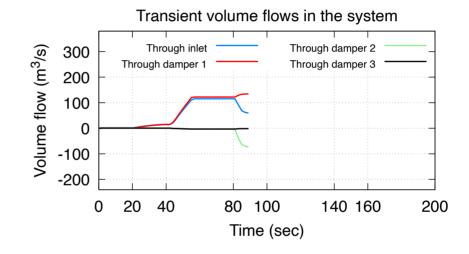
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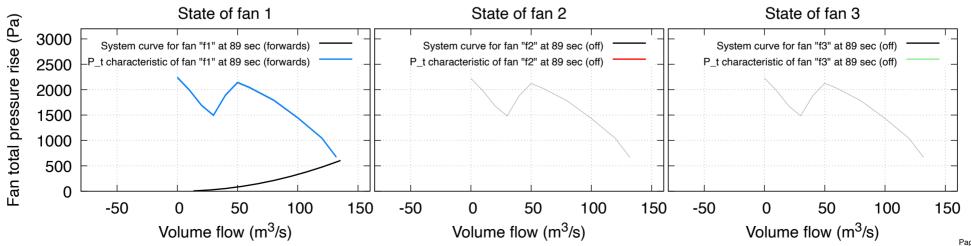
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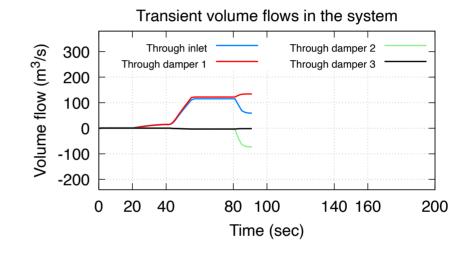
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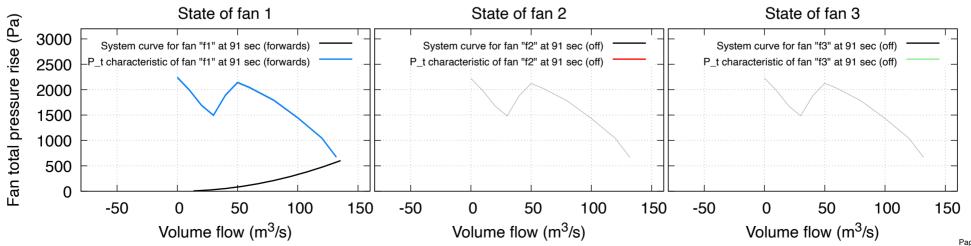
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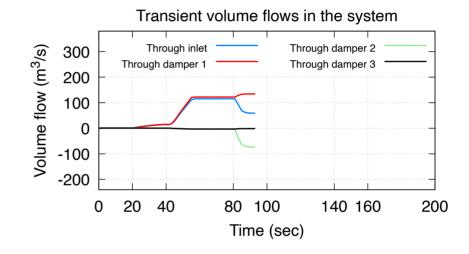
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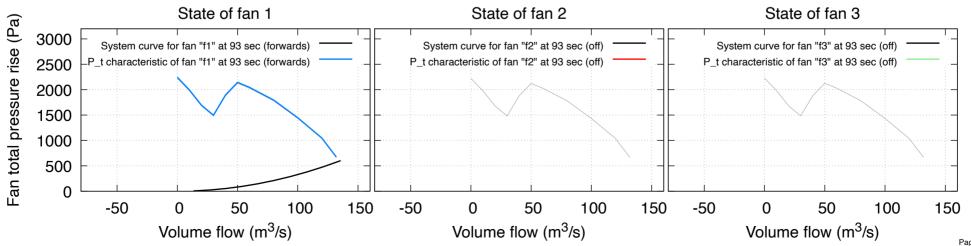
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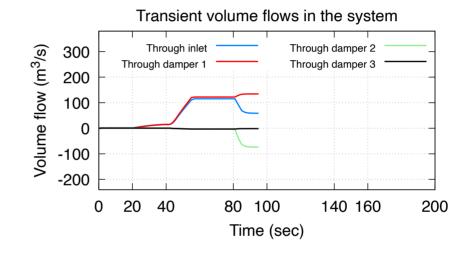
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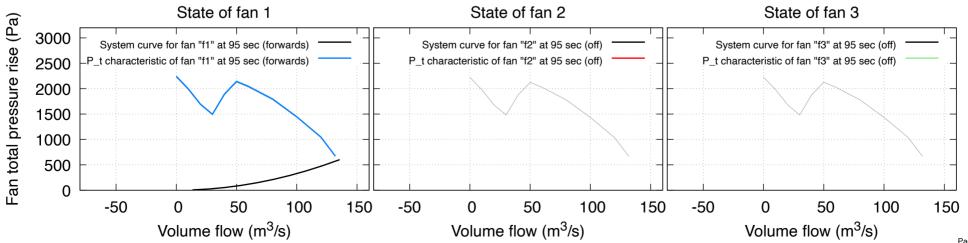
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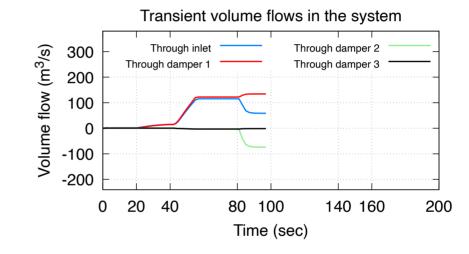
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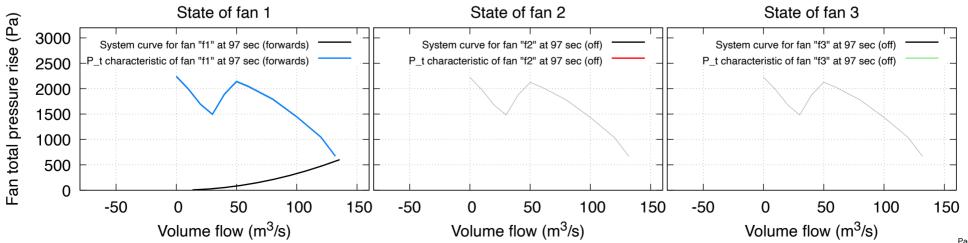
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Source file: ok-032-fans-in-parallel.txt.

J

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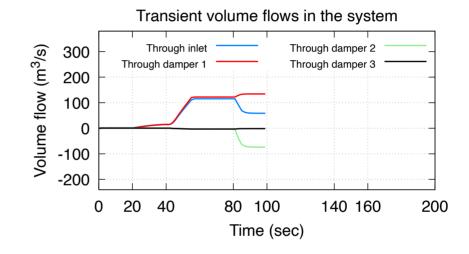
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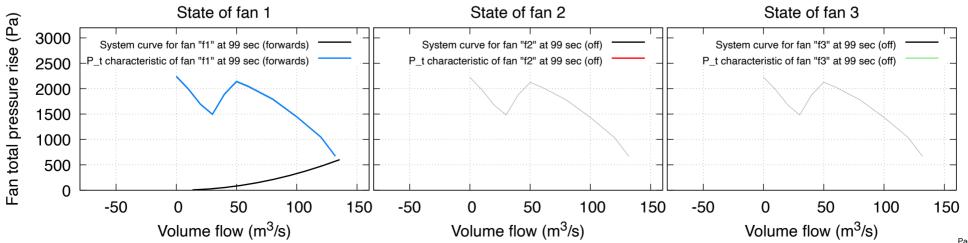
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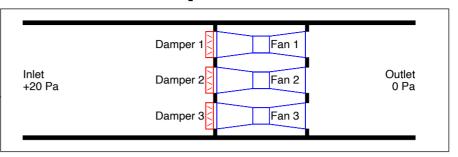
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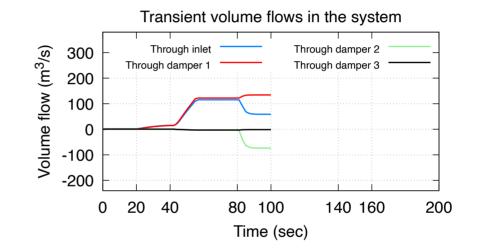
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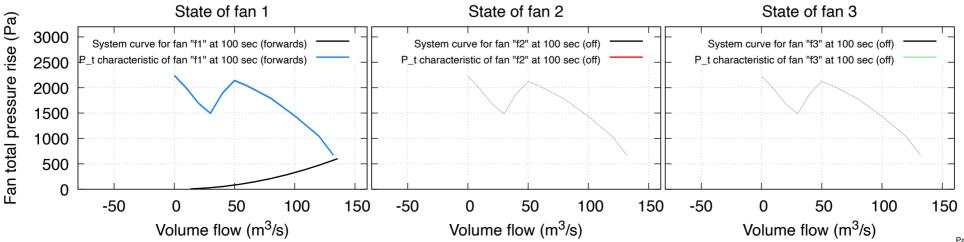
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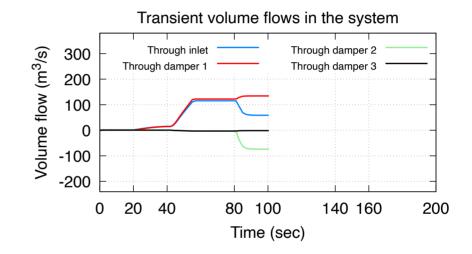
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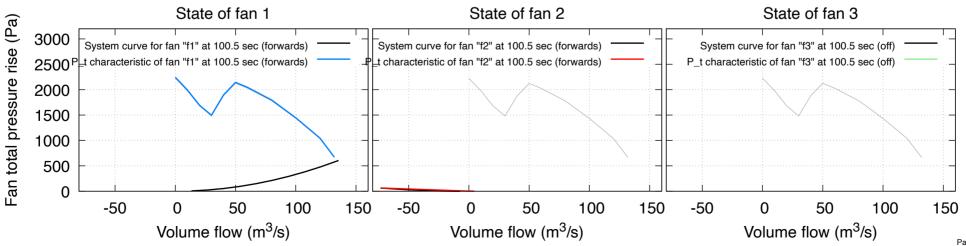
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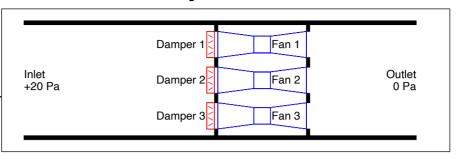
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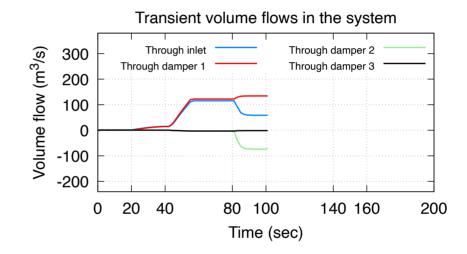
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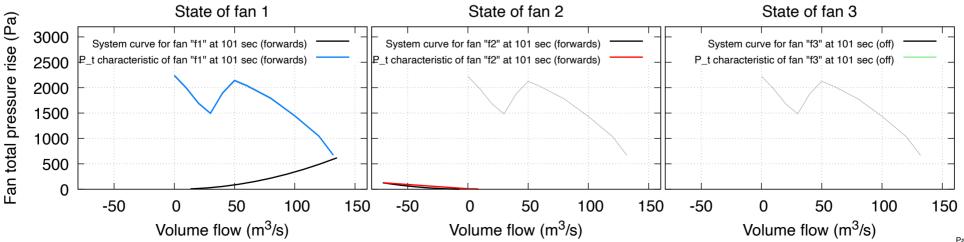
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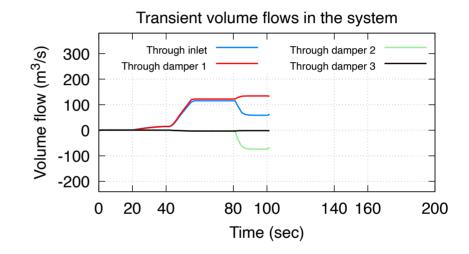
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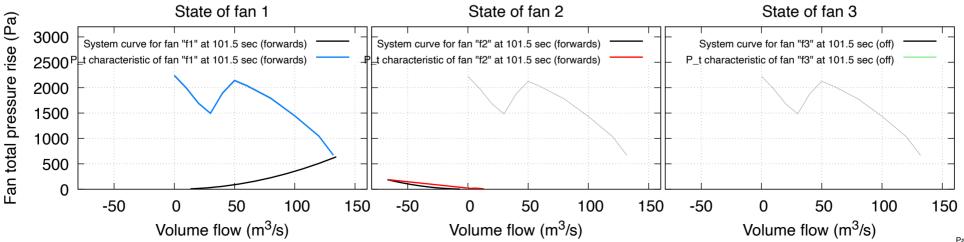
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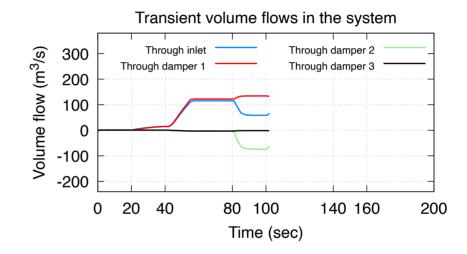
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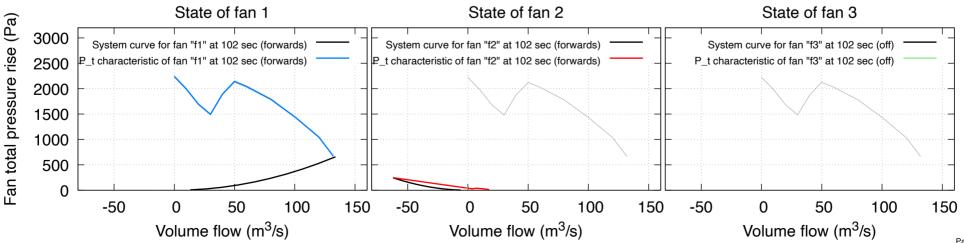
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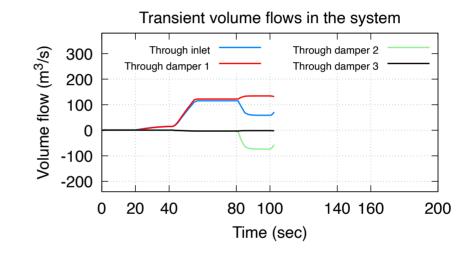
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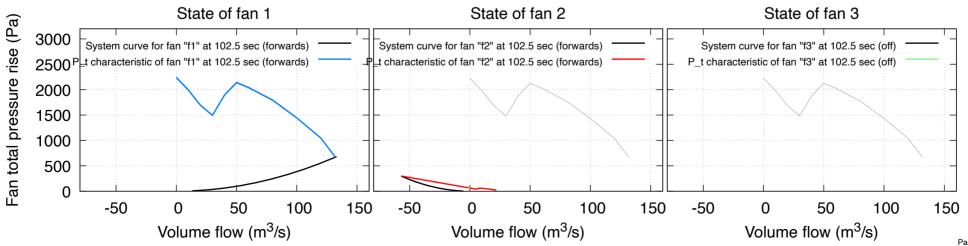
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Source file: ok-032-fans-in-parallel.txt.



Created by Hobyah.py from ok-032-fans-in-parallel.txt, 12:59 on 24 Oct 2024 by ecb

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At 20 seconds, damper 1 opens

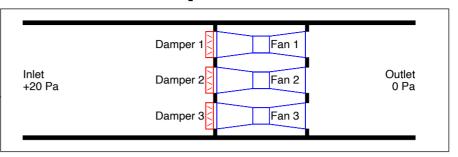
At 40 seconds, fan 1 starts

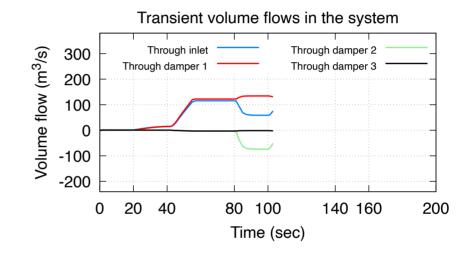
At 80 seconds, damper 2 opens

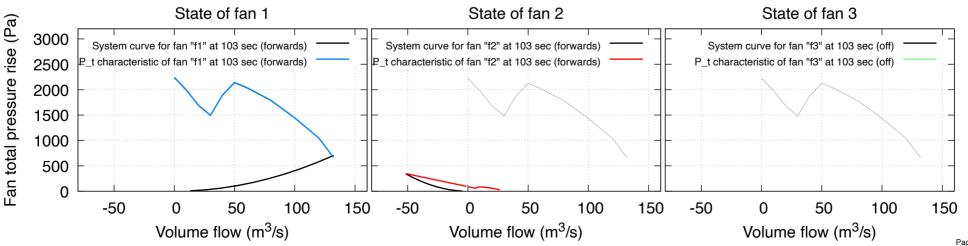
At 100 seconds, fan 2 starts

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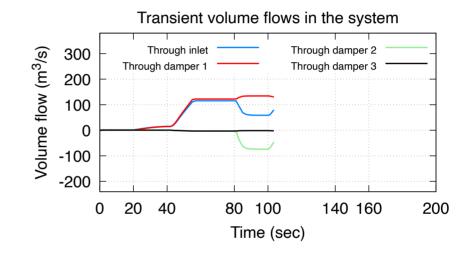
At 80 seconds, damper 2 opens

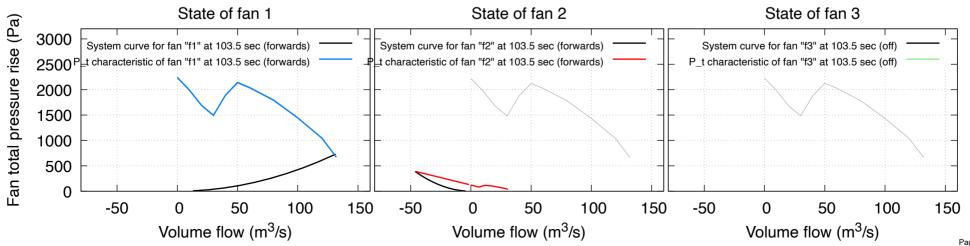
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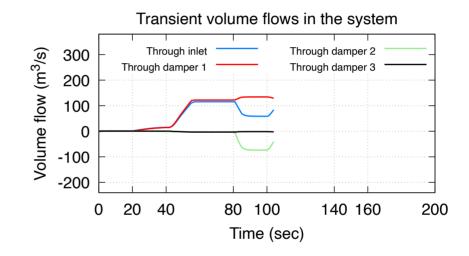
At 80 seconds, damper 2 opens

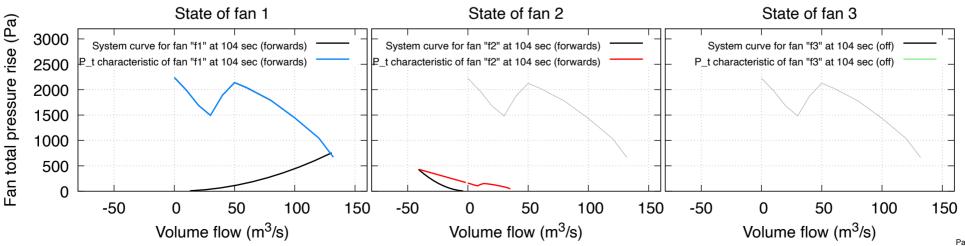
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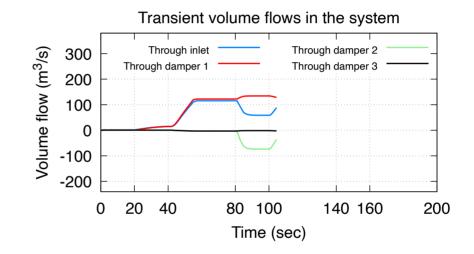
At 80 seconds, damper 2 opens

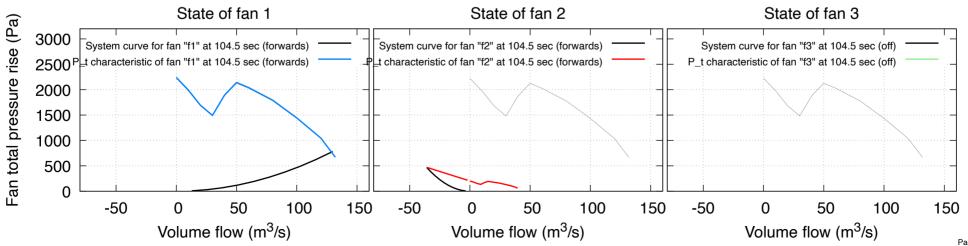
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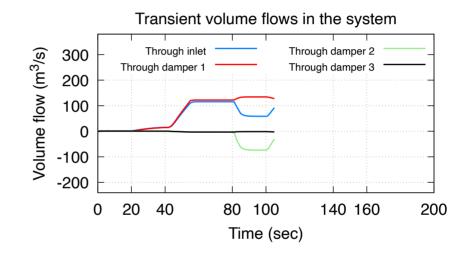
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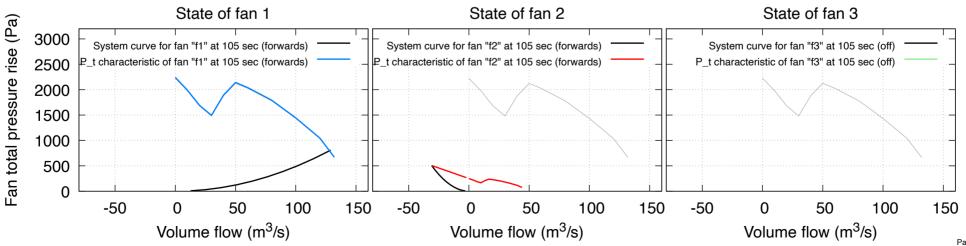
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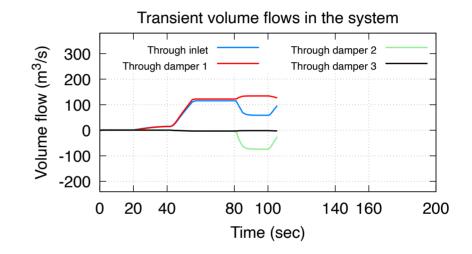
At 80 seconds, damper 2 opens

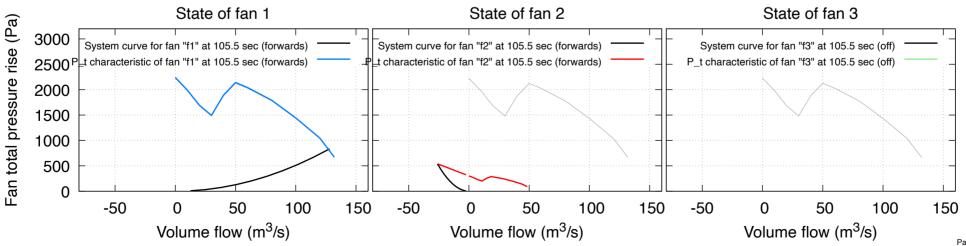
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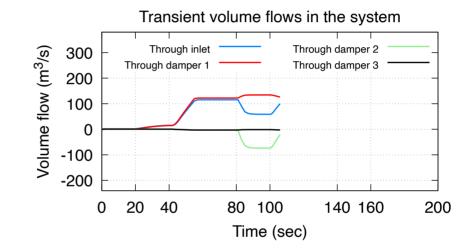
At 80 seconds, damper 2 opens

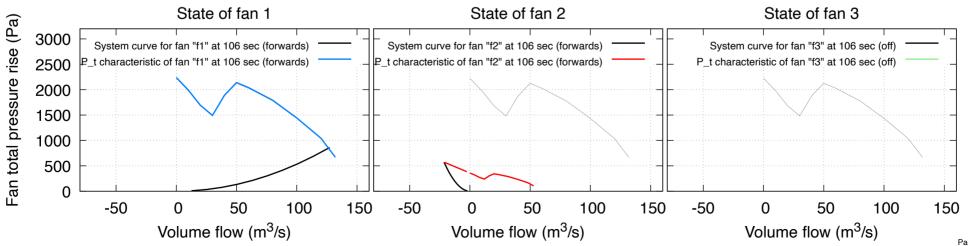
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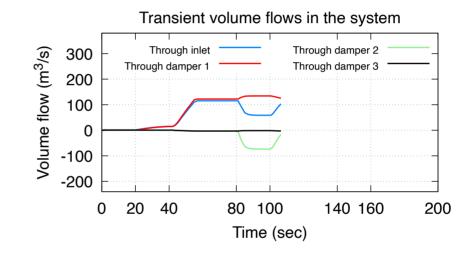
At 80 seconds, damper 2 opens

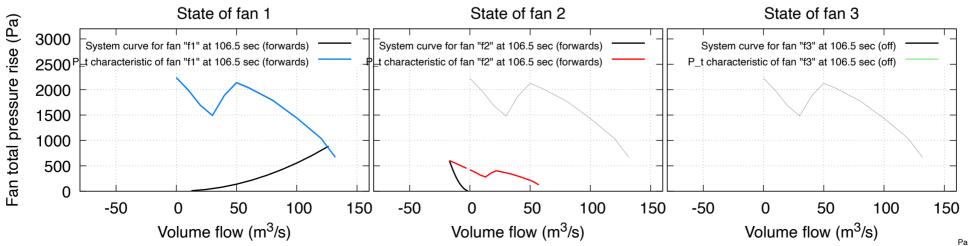
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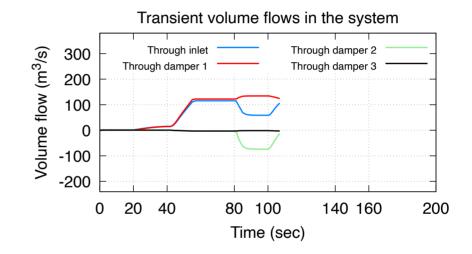
At 80 seconds, damper 2 opens

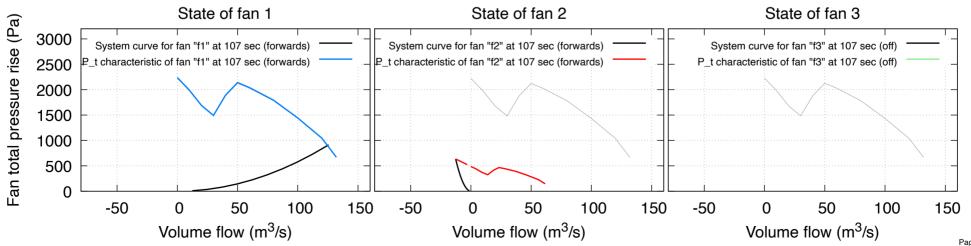
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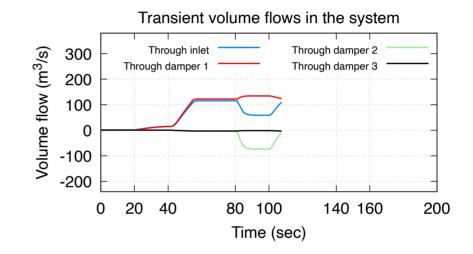
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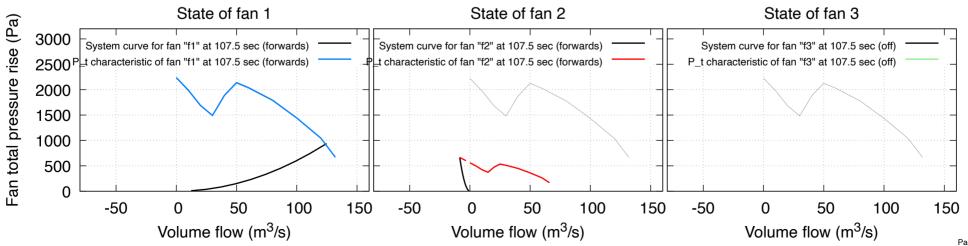
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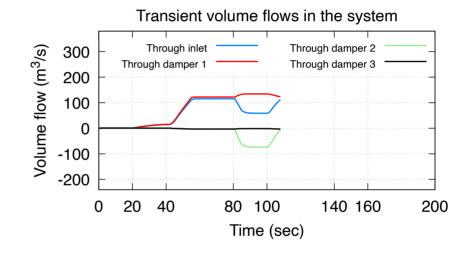
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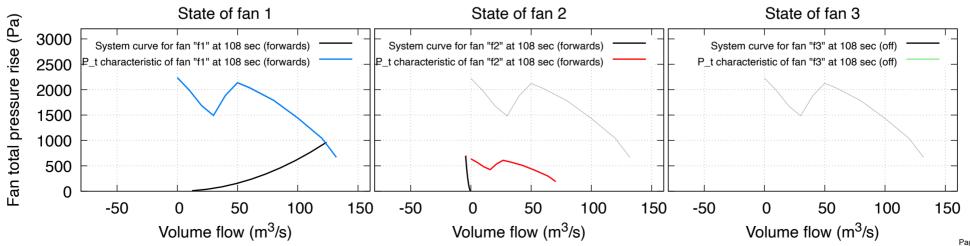
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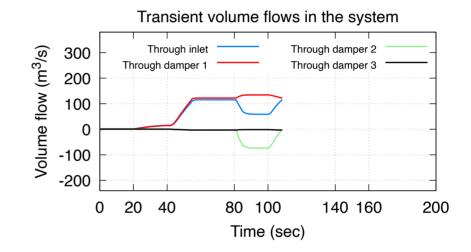
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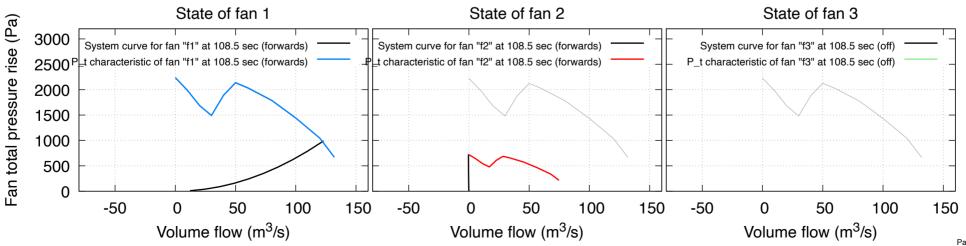
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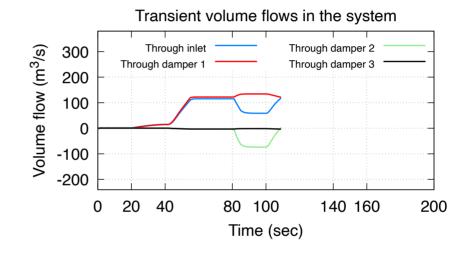
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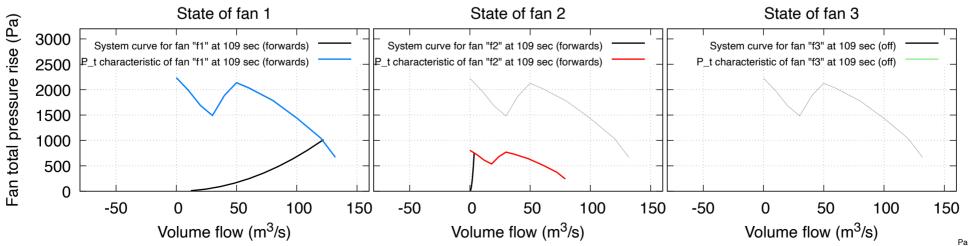
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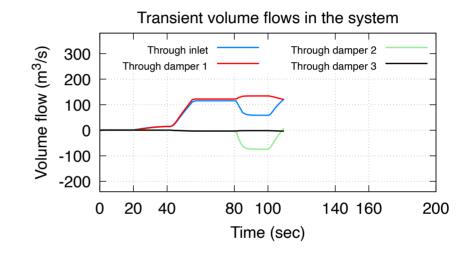
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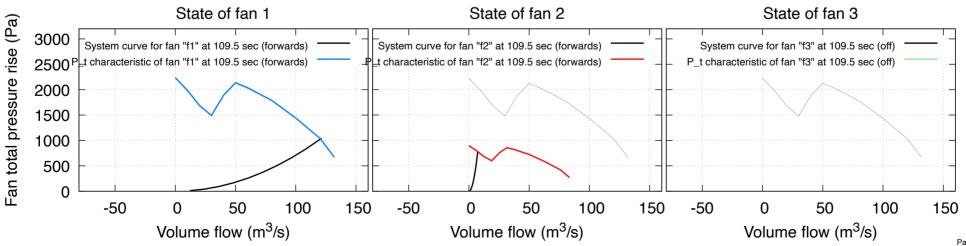
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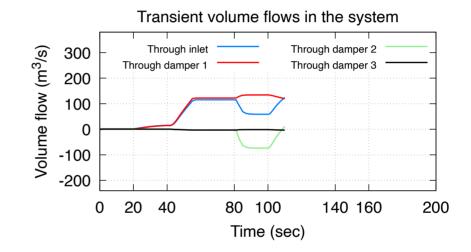
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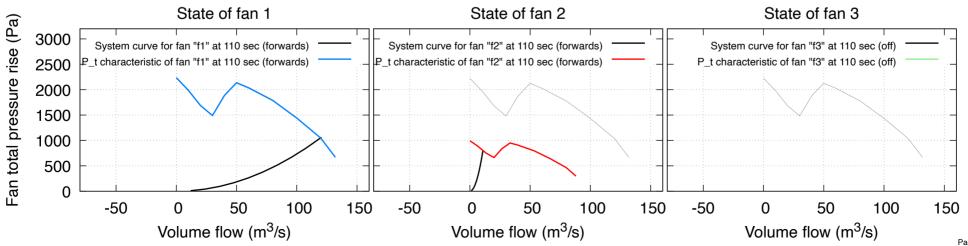
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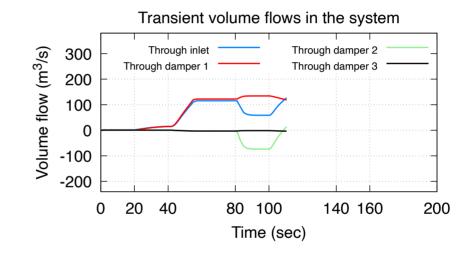
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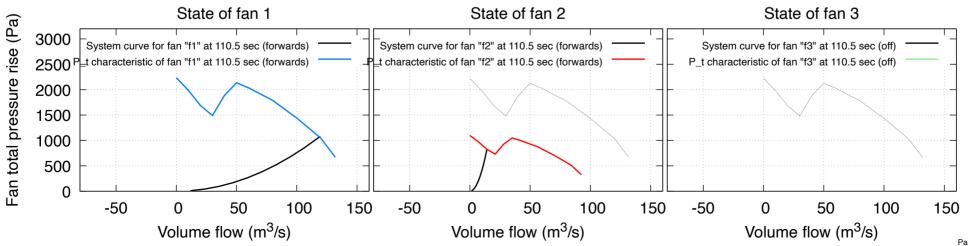
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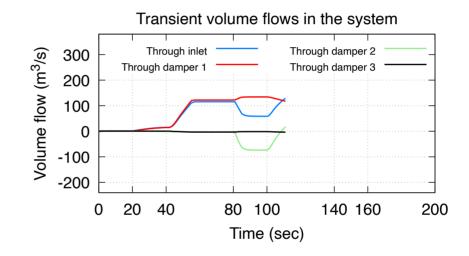
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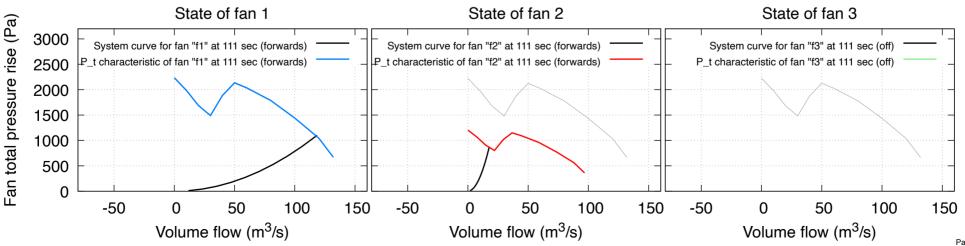
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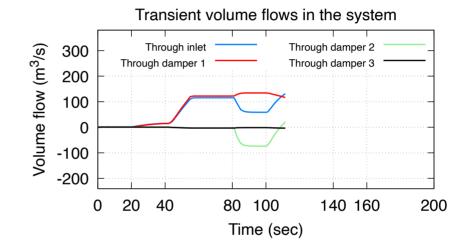
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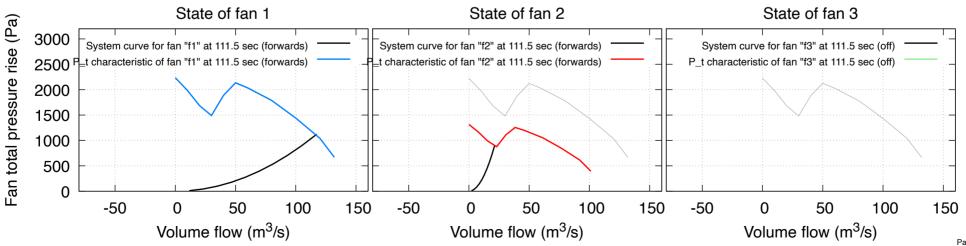
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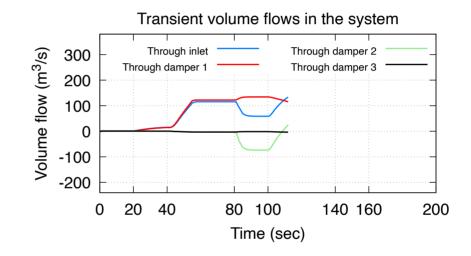
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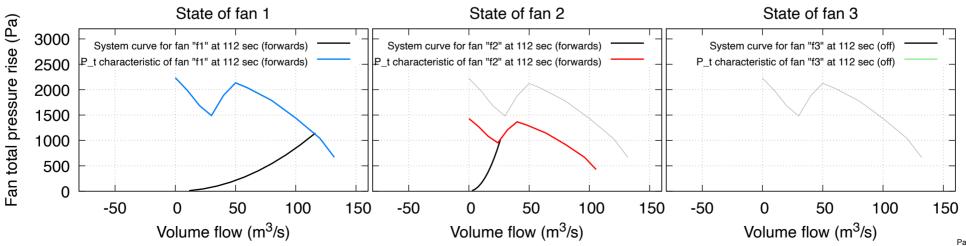
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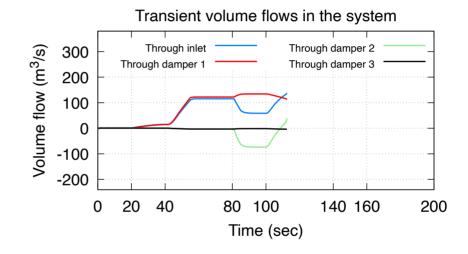
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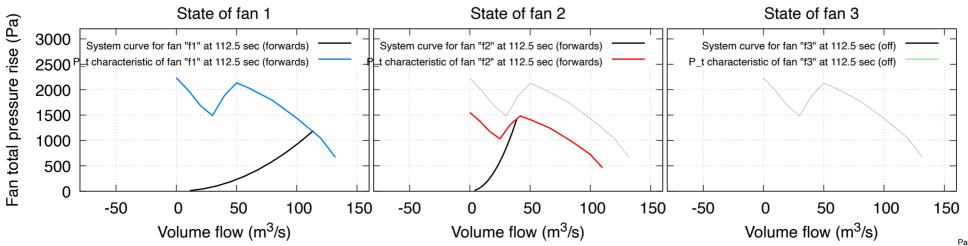
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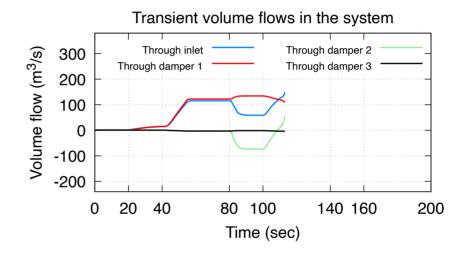
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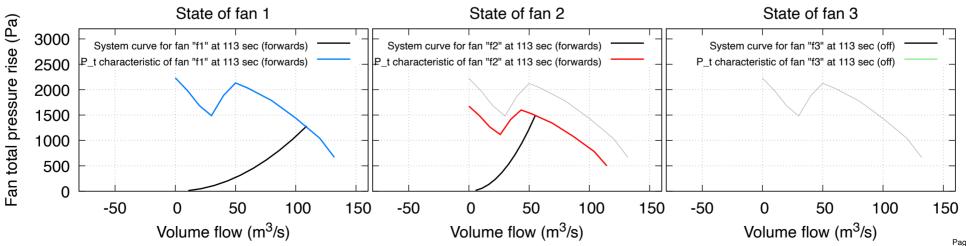
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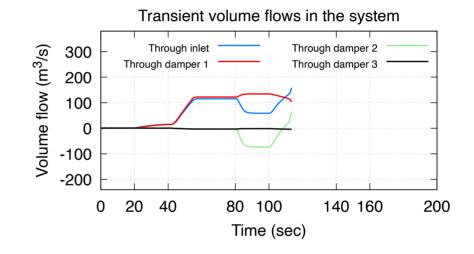
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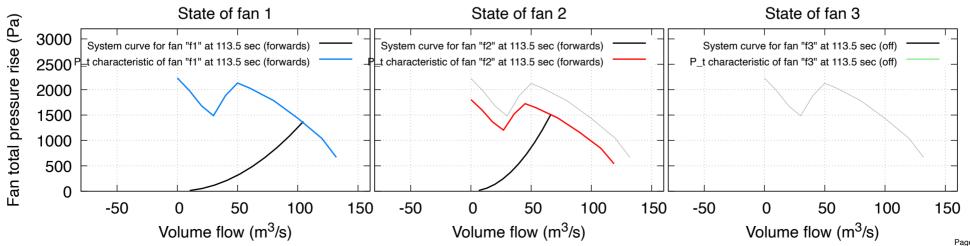
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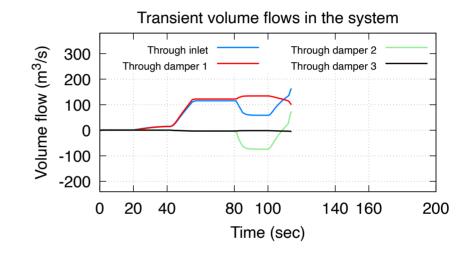
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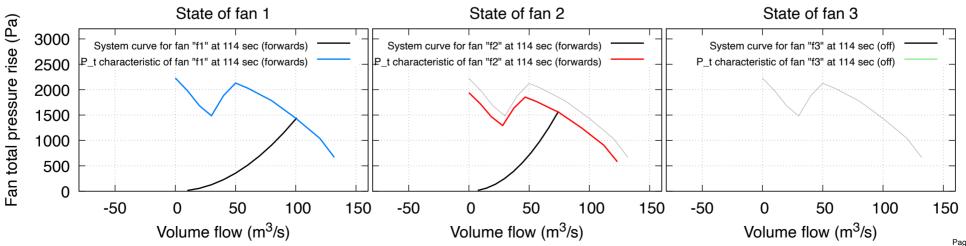
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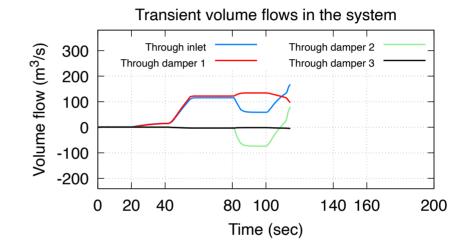
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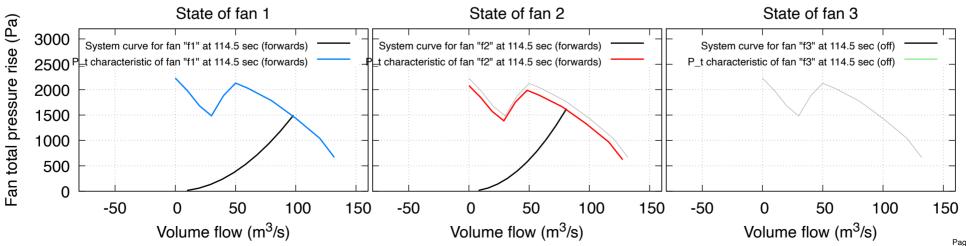
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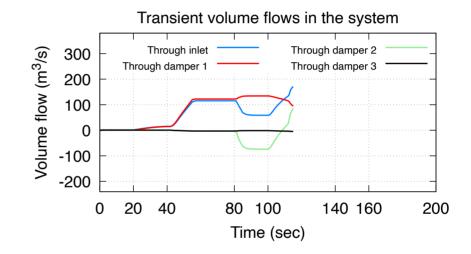
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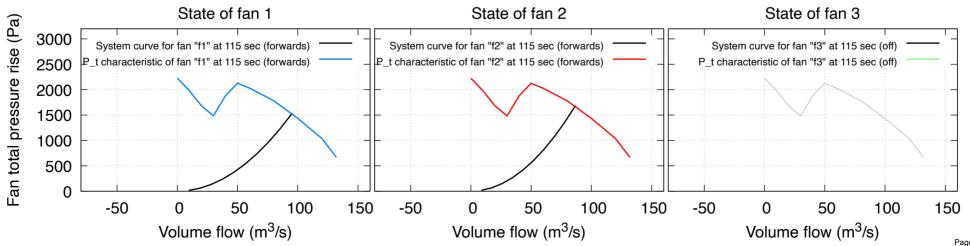
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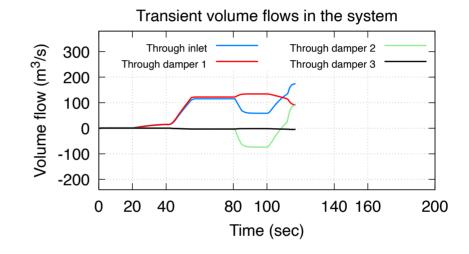
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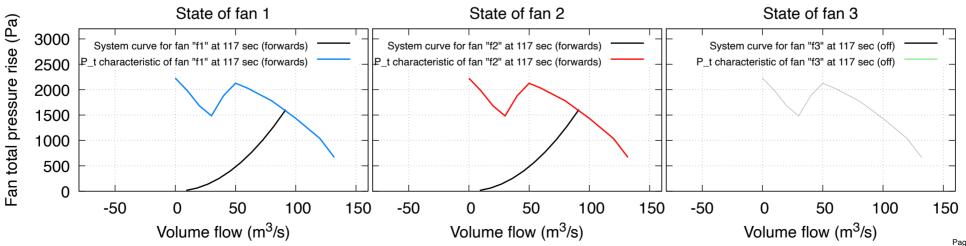
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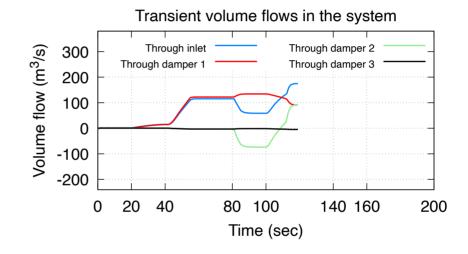
At 80 seconds, damper 2 opens

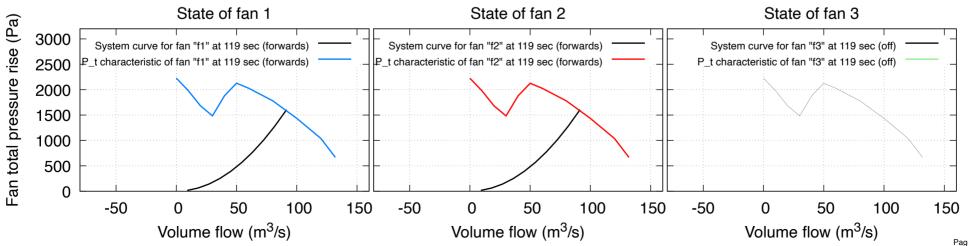
At 100 seconds, fan 2 starts

At 140 seconds, damper 3 opens

At 160 seconds, fan 3 starts









This flipbook illustrates a problem that can occur when you try to run fans in parallel that are unsuitable for running in parallel.

Consider three identical fans with isolation dampers, in parallel:— The fans have a Q-P<sub>tot</sub> characteristic with a bad stall hump.

The fans are started sequentially. Fans 1 and 2 get to suitable parts of their characteristics. Fan 3 can't get out of stall.

At 20 seconds, damper 1 opens

At 40 seconds, fan 1 starts

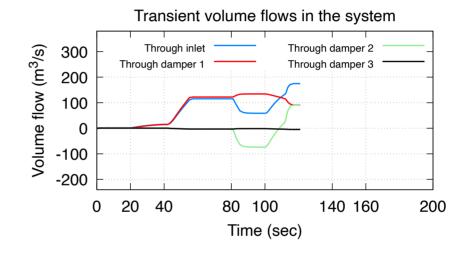
At 80 seconds, damper 2 opens

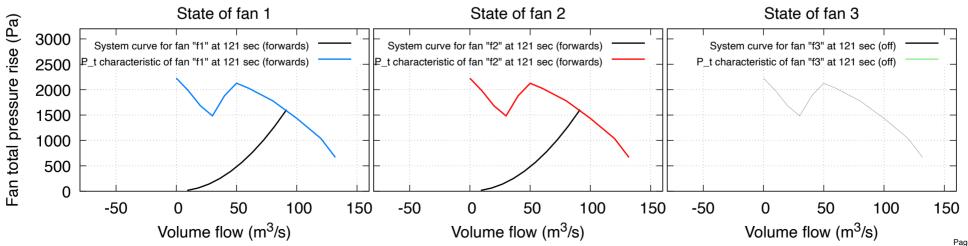
At 100 seconds, fan 2 starts

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At 20 seconds, damper 1 opens

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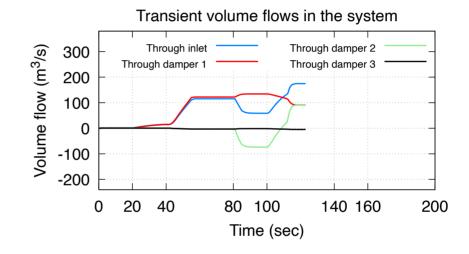
At 80 seconds, damper 2 opens

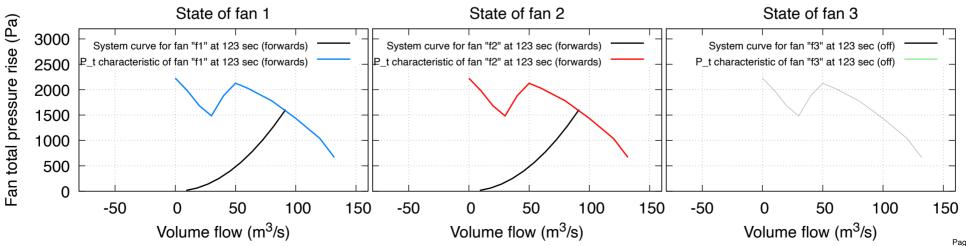
At 100 seconds, fan 2 starts

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At 160 seconds, fan 3 starts









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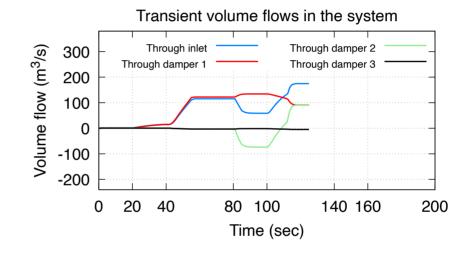
At 80 seconds, damper 2 opens

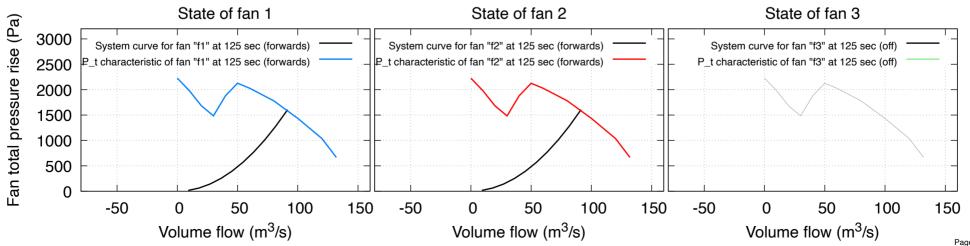
At 100 seconds, fan 2 starts

At 140 seconds, damper 3 opens

At 160 seconds, fan 3 starts









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At 20 seconds, damper 1 opens

At 40 seconds, fan 1 starts

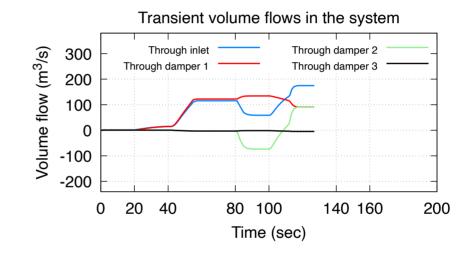
At 80 seconds, damper 2 opens

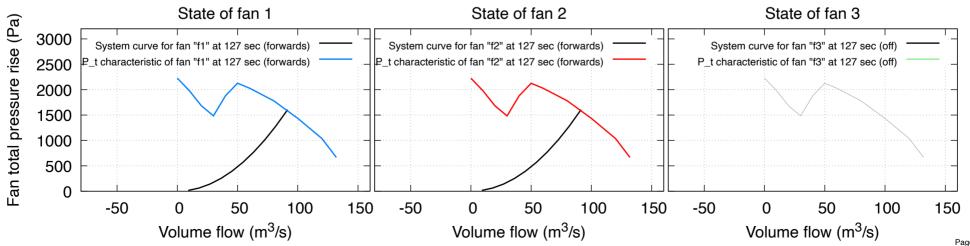
At 100 seconds, fan 2 starts

At 140 seconds, damper 3 opens

At 160 seconds, fan 3 starts









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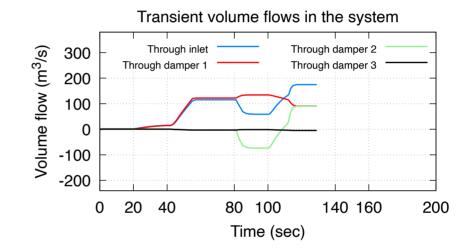
At 80 seconds, damper 2 opens

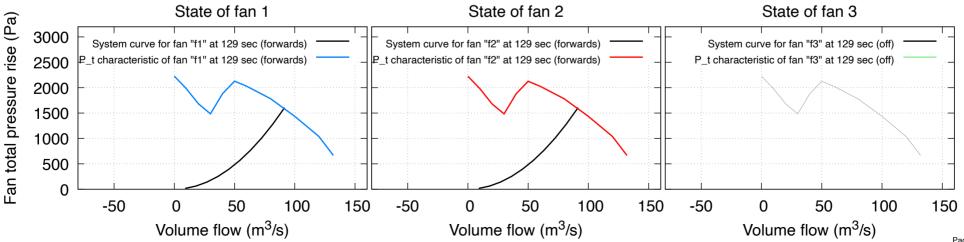
At 100 seconds, fan 2 starts

At 140 seconds, damper 3 opens

At 160 seconds, fan 3 starts







Source file: ok-032-fans-in-parallel.txt.



Page 111

This flipbook illustrates a problem that can occur when you try to run fans in parallel that are unsuitable for running in parallel.

Consider three identical fans with isolation dampers, in parallel:— The fans have a Q-P<sub>tot</sub> characteristic with a bad stall hump.

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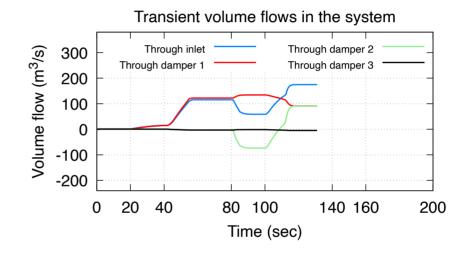
At 80 seconds, damper 2 opens

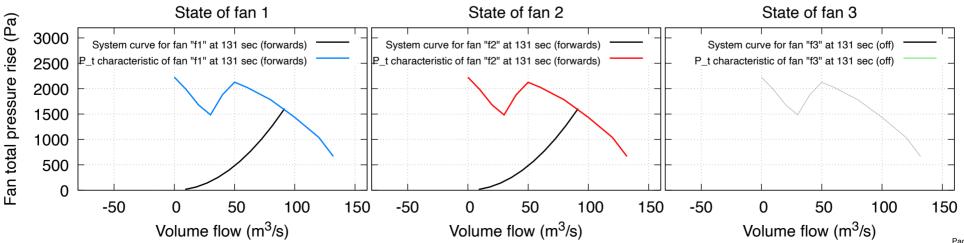
At 100 seconds, fan 2 starts

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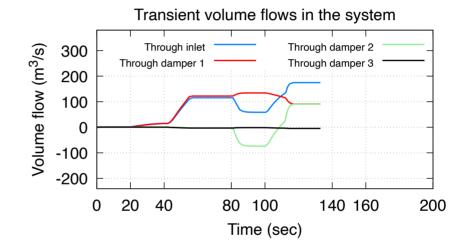
At 80 seconds, damper 2 opens

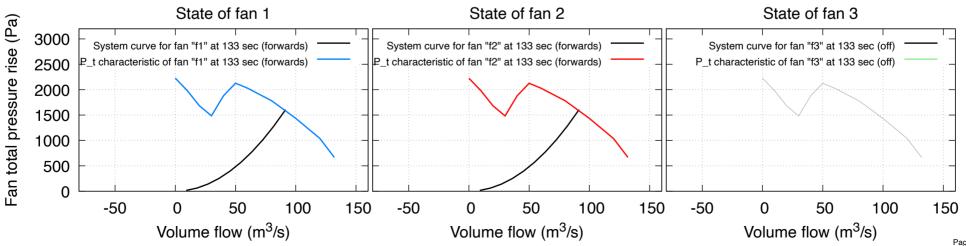
At 100 seconds, fan 2 starts

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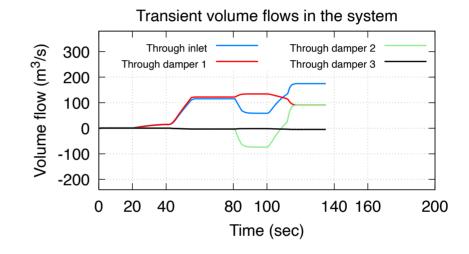
At 80 seconds, damper 2 opens

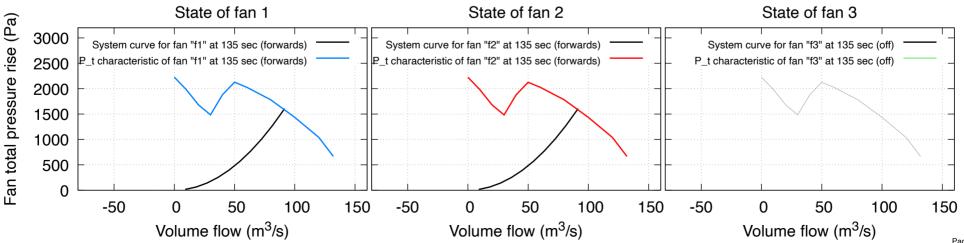
At 100 seconds, fan 2 starts

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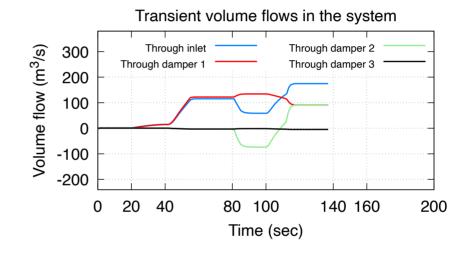
At 80 seconds, damper 2 opens

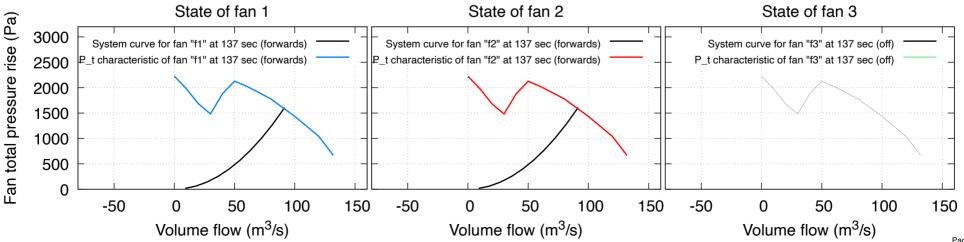
At 100 seconds, fan 2 starts

At 140 seconds, damper 3 opens

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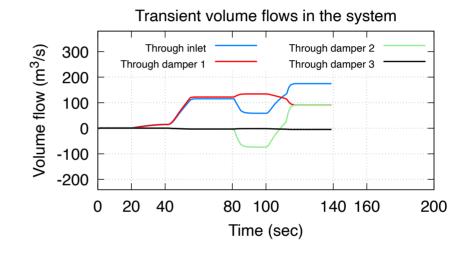
At 80 seconds, damper 2 opens

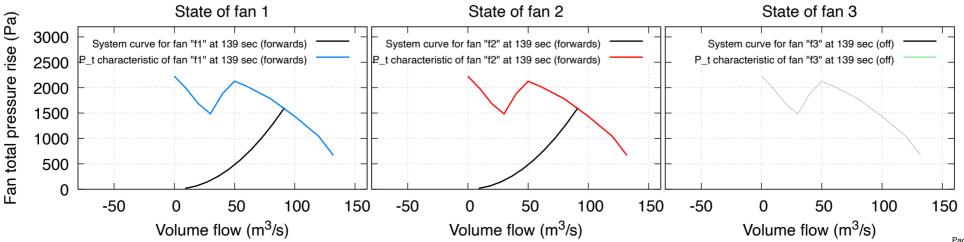
At 100 seconds, fan 2 starts

At 140 seconds, damper 3 opens

At 160 seconds, fan 3 starts







Source file: ok-032-fans-in-parallel.txt.

F

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At 40 seconds, fan 1 starts

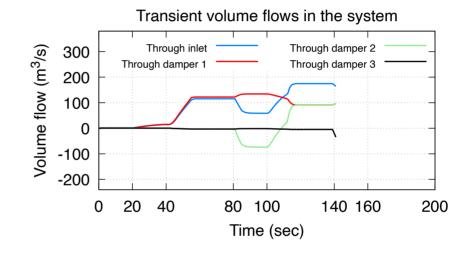
At 80 seconds, damper 2 opens

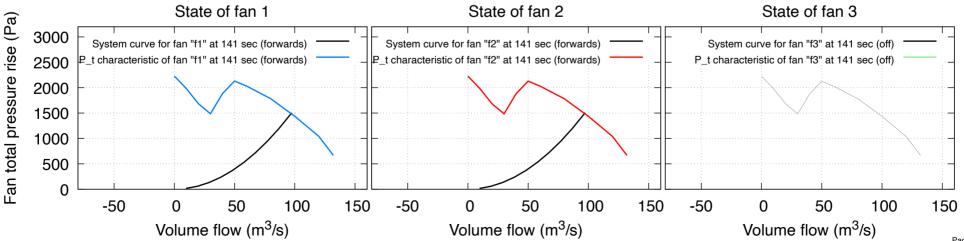
At 100 seconds, fan 2 starts

At 140 seconds, damper 3 opens

At 160 seconds, fan 3 starts







Source file: ok-032-fans-in-parallel.txt.

J

Page 117

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At 20 seconds, damper 1 opens

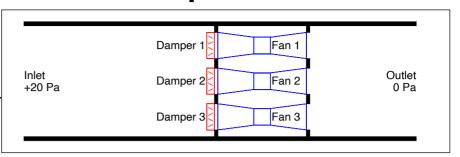
At 40 seconds, fan 1 starts

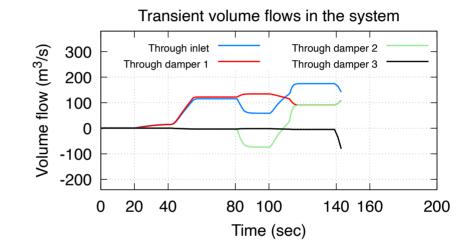
At 80 seconds, damper 2 opens

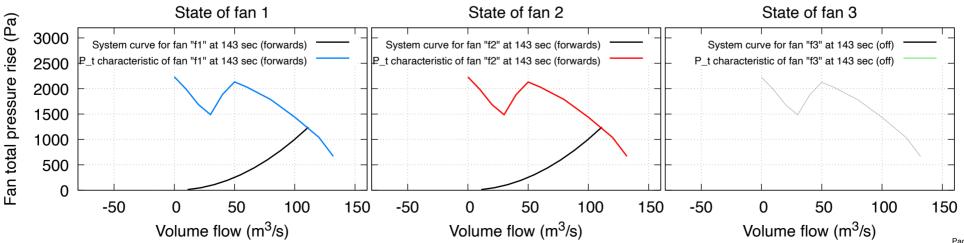
At 100 seconds, fan 2 starts

At 140 seconds, damper 3 opens

At 160 seconds, fan 3 starts







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J

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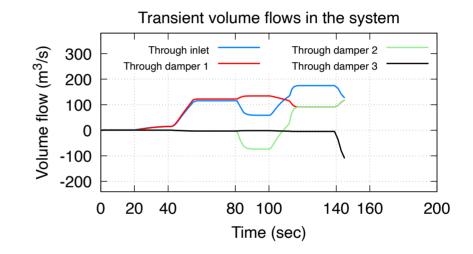
At 80 seconds, damper 2 opens

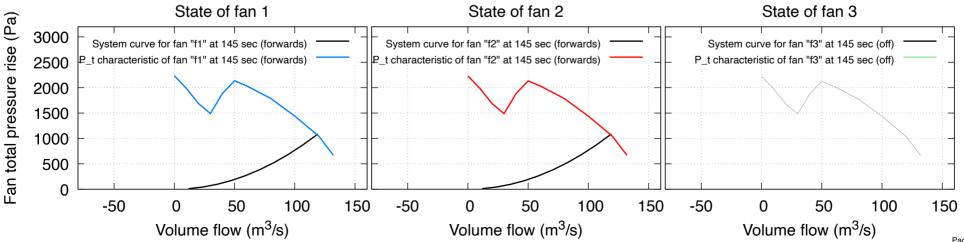
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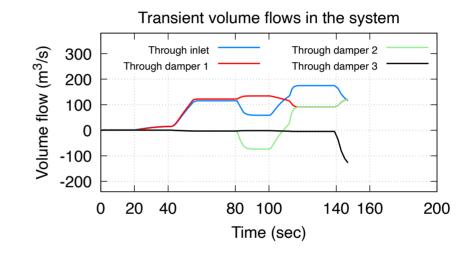
At 80 seconds, damper 2 opens

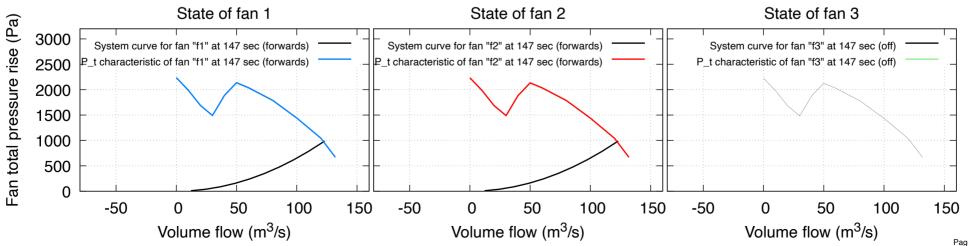
At 100 seconds, fan 2 starts

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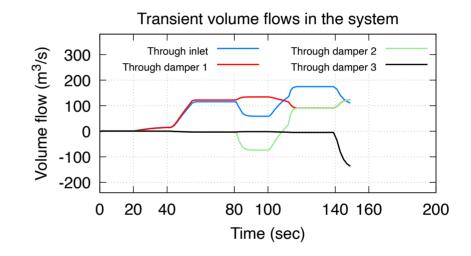
At 80 seconds, damper 2 opens

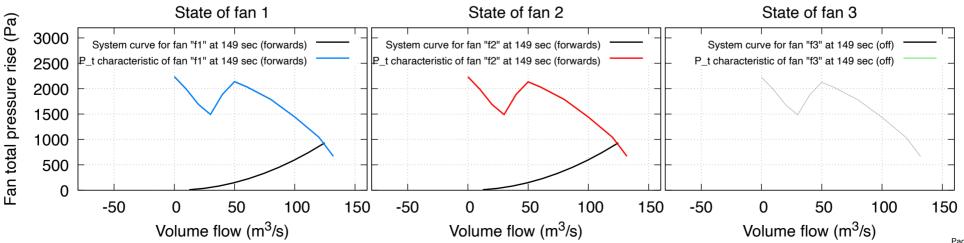
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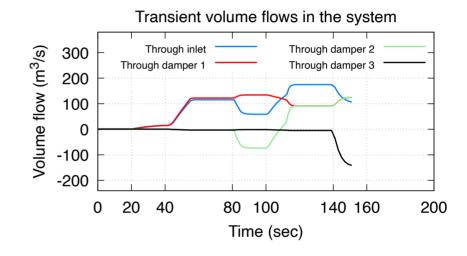
At 80 seconds, damper 2 opens

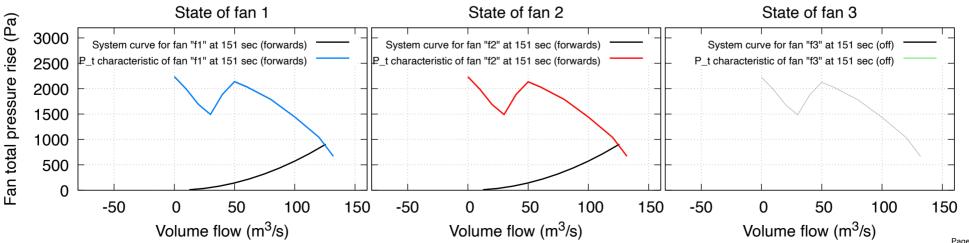
At 100 seconds, fan 2 starts

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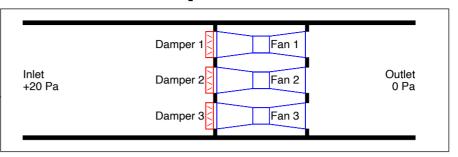
At 40 seconds, fan 1 starts

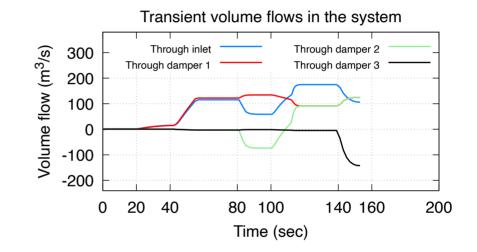
At 80 seconds, damper 2 opens

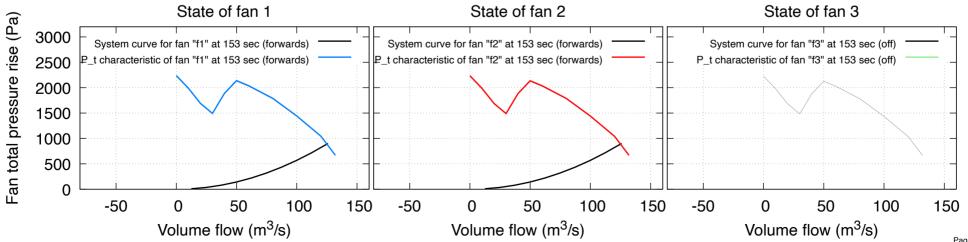
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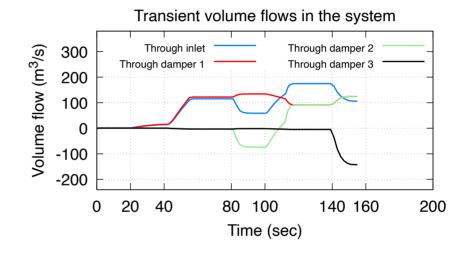
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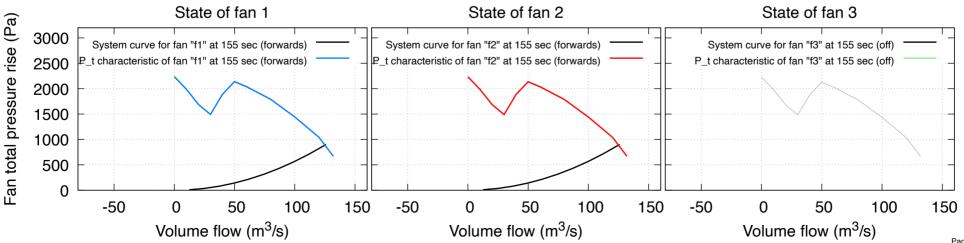
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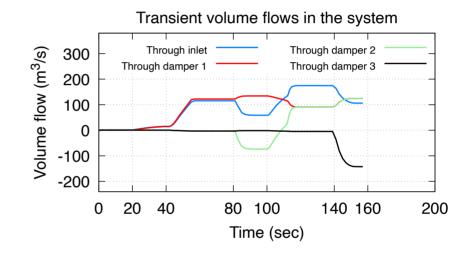
At 80 seconds, damper 2 opens

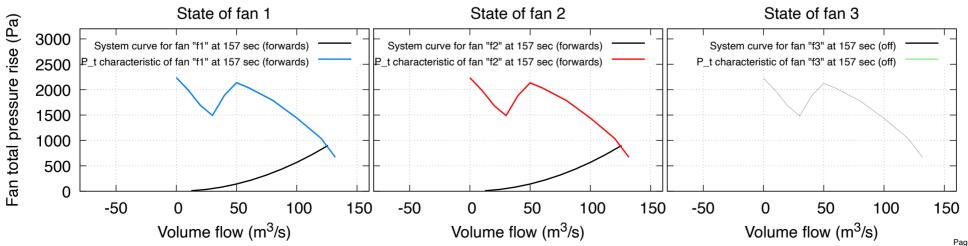
At 100 seconds, fan 2 starts

At 140 seconds, damper 3 opens

At 160 seconds, fan 3 starts







Source file: ok-032-fans-in-parallel.txt.



Created by Hobyah.py from ok-032-fans-in-parallel.txt, 12:59 on 24 Oct 2024 by ecb

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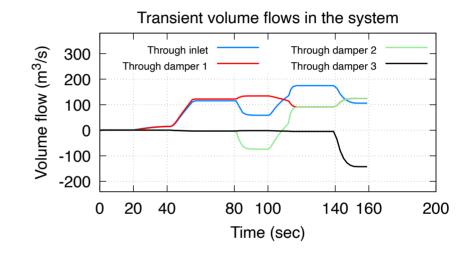
At 80 seconds, damper 2 opens

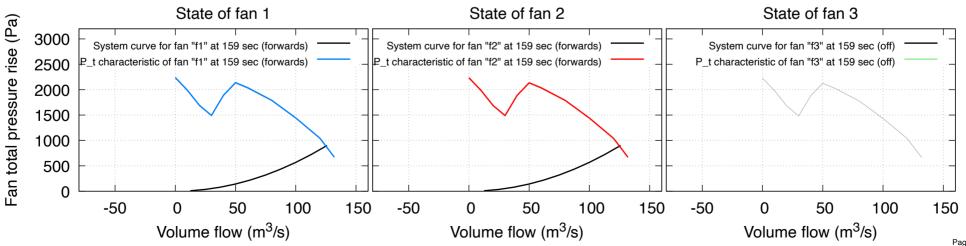
At 100 seconds, fan 2 starts

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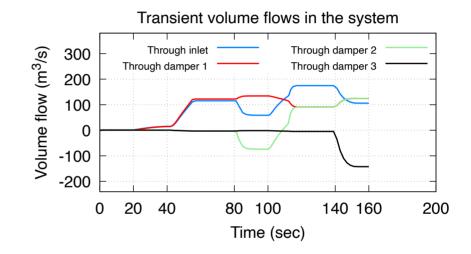
At 80 seconds, damper 2 opens

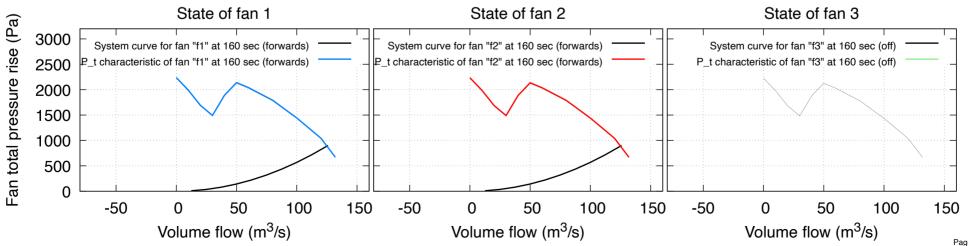
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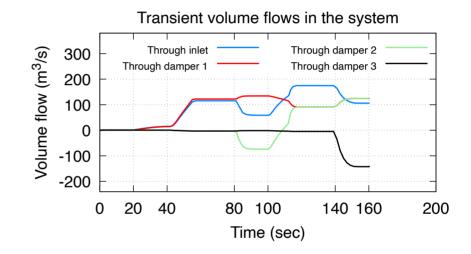
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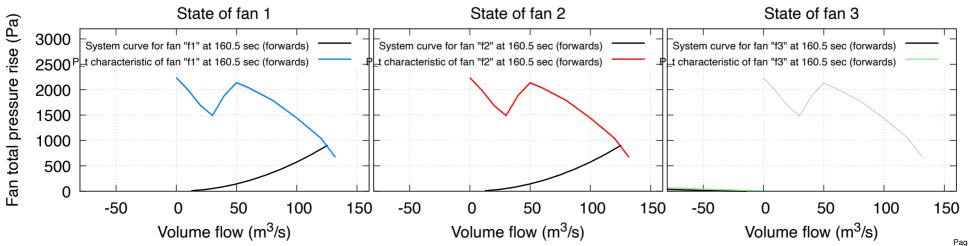
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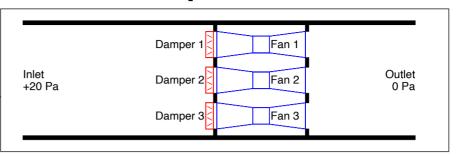
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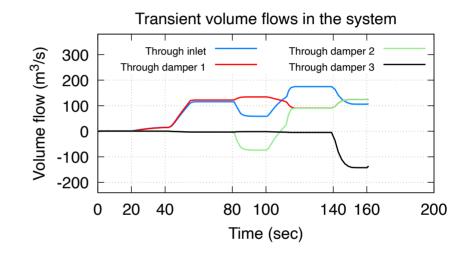
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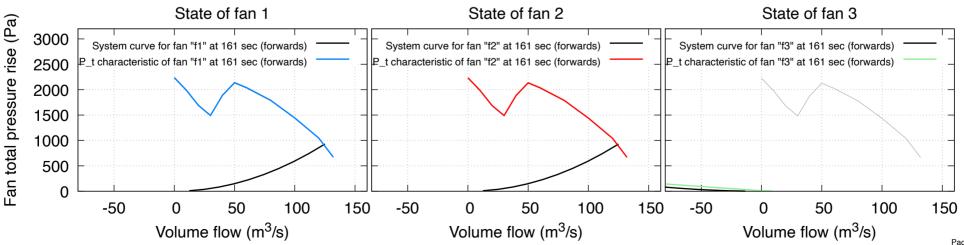
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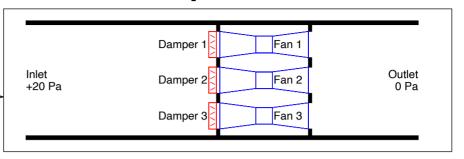
At 40 seconds, fan 1 starts

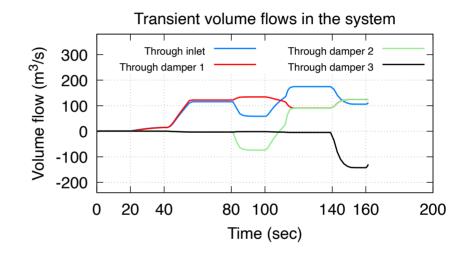
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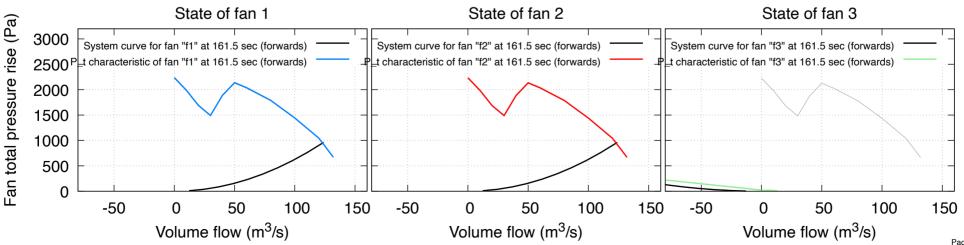
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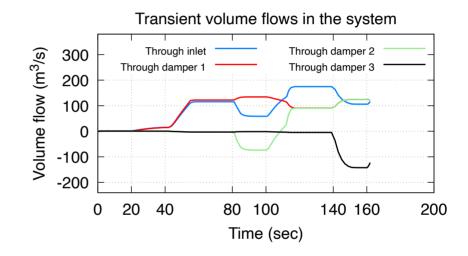
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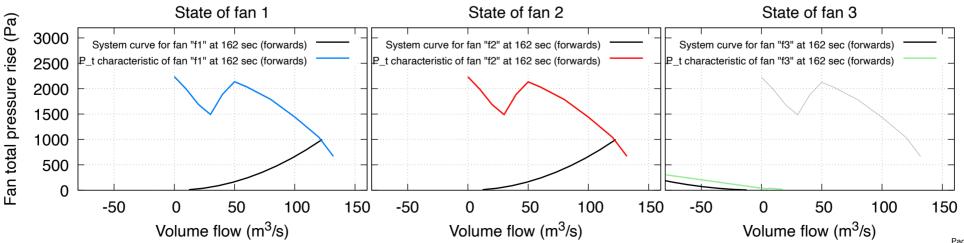
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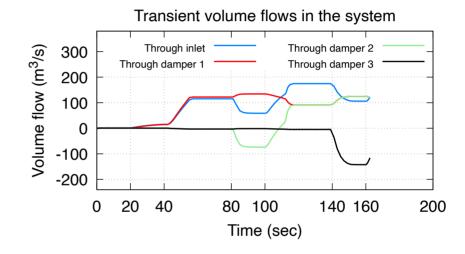
At 80 seconds, damper 2 opens

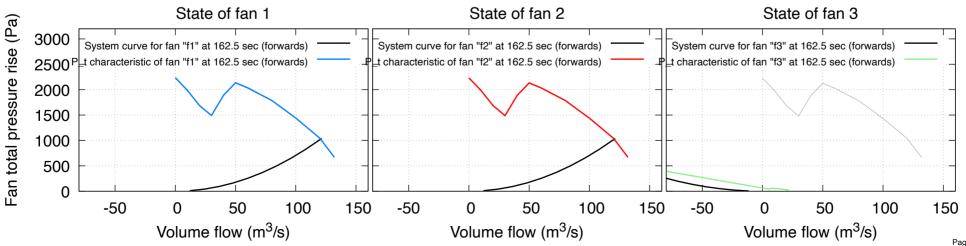
At 100 seconds, fan 2 starts

At 140 seconds, damper 3 opens

At 160 seconds, fan 3 starts









This flipbook illustrates a problem that can occur when you try to run fans in parallel that are unsuitable for running in parallel.

Consider three identical fans with isolation dampers, in parallel:— The fans have a Q-P<sub>tot</sub> characteristic with a bad stall hump.

The fans are started sequentially. Fans 1 and 2 get to suitable parts of their characteristics. Fan 3 can't get out of stall.

At 20 seconds, damper 1 opens

At 40 seconds, fan 1 starts

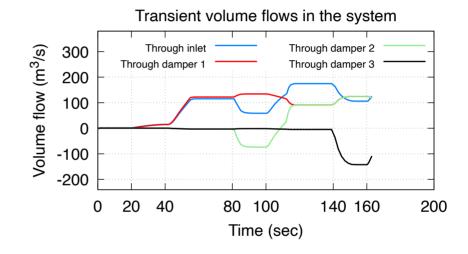
At 80 seconds, damper 2 opens

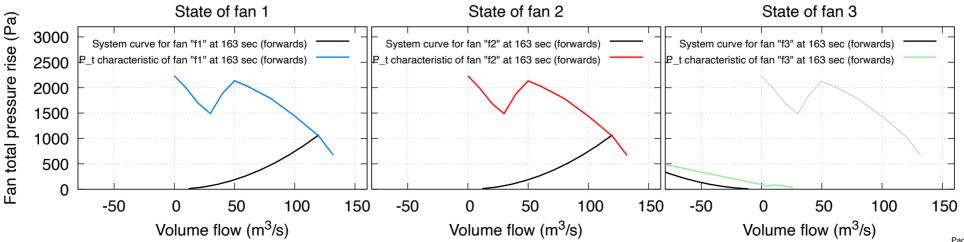
At 100 seconds, fan 2 starts

At 140 seconds, damper 3 opens

At 160 seconds, fan 3 starts







Source file: ok-032-fans-in-parallel.txt.

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Page 133

This flipbook illustrates a problem that can occur when you try to run fans in parallel that are unsuitable for running in parallel.

Consider three identical fans with isolation dampers, in parallel:— The fans have a Q-P<sub>tot</sub> characteristic with a bad stall hump.

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At 20 seconds, damper 1 opens

At 40 seconds, fan 1 starts

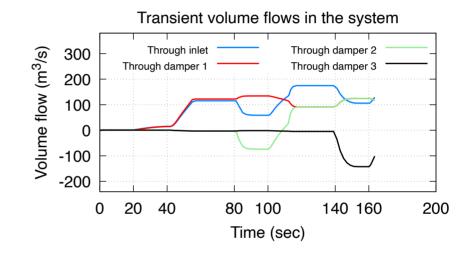
At 80 seconds, damper 2 opens

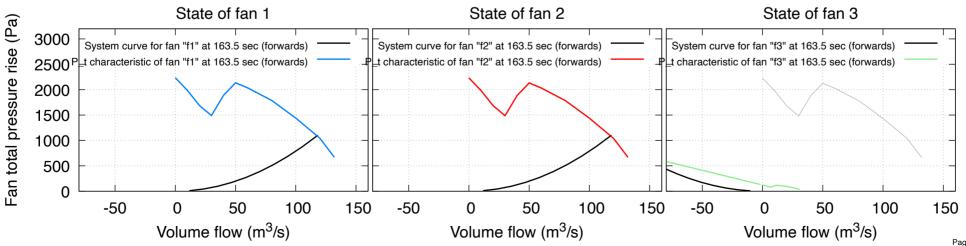
At 100 seconds, fan 2 starts

At 140 seconds, damper 3 opens

At 160 seconds, fan 3 starts









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At 20 seconds, damper 1 opens

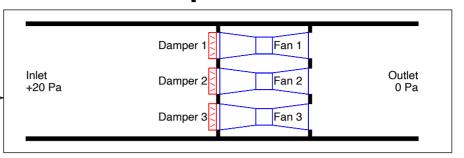
At 40 seconds, fan 1 starts

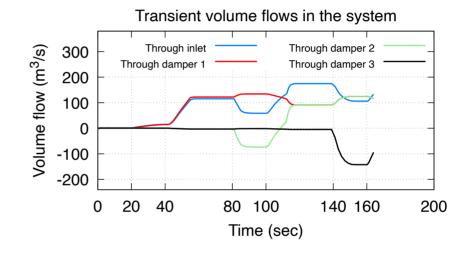
At 80 seconds, damper 2 opens

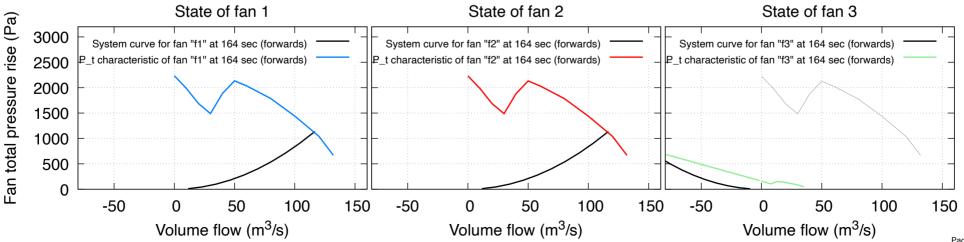
At 100 seconds, fan 2 starts

At 140 seconds, damper 3 opens

At 160 seconds, fan 3 starts







Source file: ok-032-fans-in-parallel.txt.

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Page 135

This flipbook illustrates a problem that can occur when you try to run fans in parallel that are unsuitable for running in parallel.

Consider three identical fans with isolation dampers, in parallel:— The fans have a Q-P<sub>tot</sub> characteristic with a bad stall hump.

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At 20 seconds, damper 1 opens

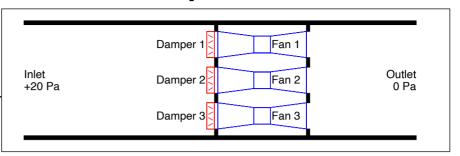
At 40 seconds, fan 1 starts

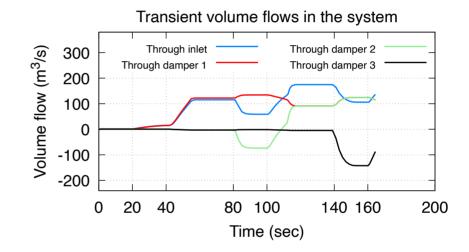
At 80 seconds, damper 2 opens

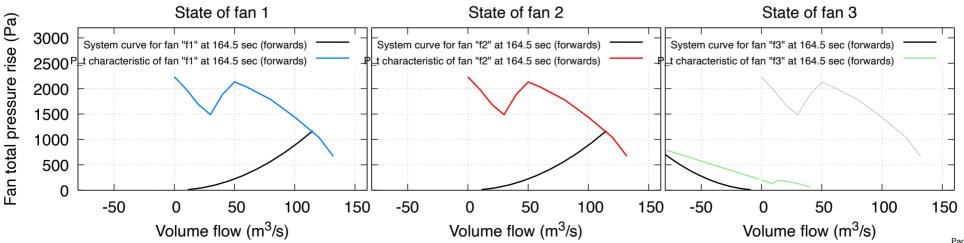
At 100 seconds, fan 2 starts

At 140 seconds, damper 3 opens

At 160 seconds, fan 3 starts









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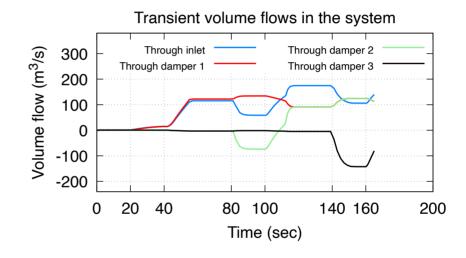
At 80 seconds, damper 2 opens

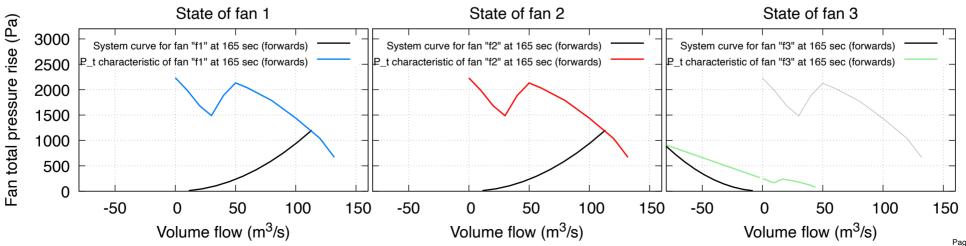
At 100 seconds, fan 2 starts

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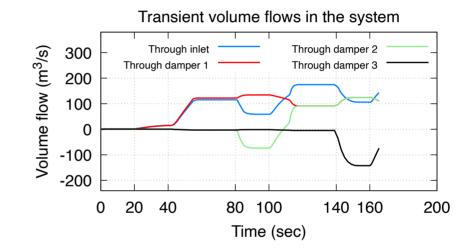
At 80 seconds, damper 2 opens

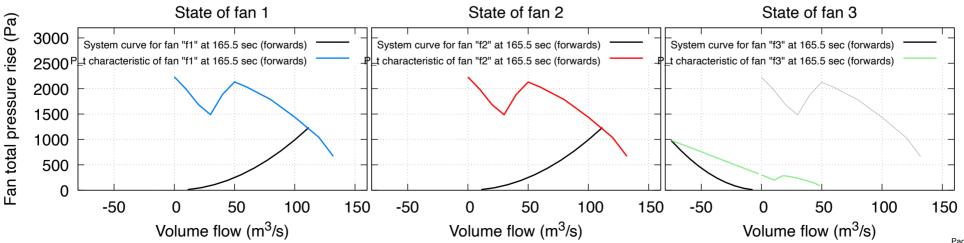
At 100 seconds, fan 2 starts

At 140 seconds, damper 3 opens

At 160 seconds, fan 3 starts









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At 20 seconds, damper 1 opens

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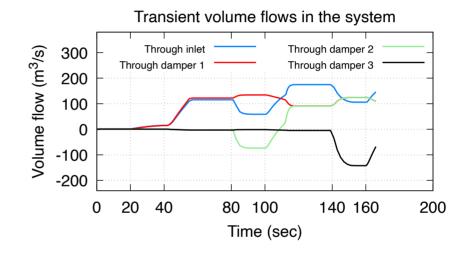
At 80 seconds, damper 2 opens

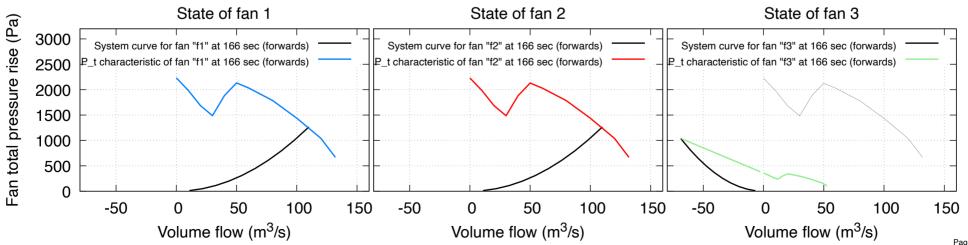
At 100 seconds, fan 2 starts

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At 160 seconds, fan 3 starts









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At 40 seconds, fan 1 starts

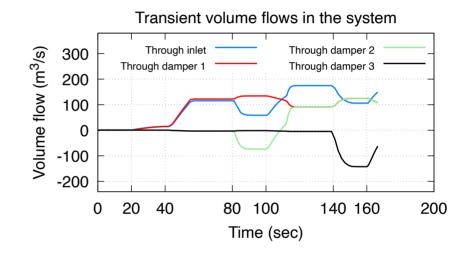
At 80 seconds, damper 2 opens

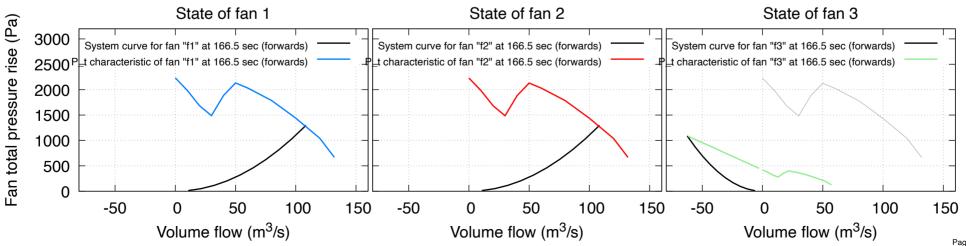
At 100 seconds, fan 2 starts

At 140 seconds, damper 3 opens

At 160 seconds, fan 3 starts









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At 40 seconds, fan 1 starts

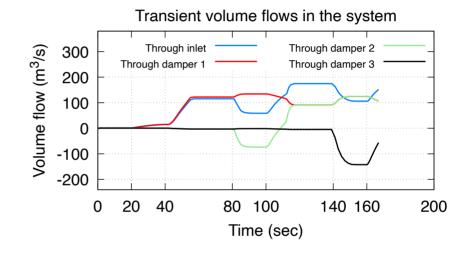
At 80 seconds, damper 2 opens

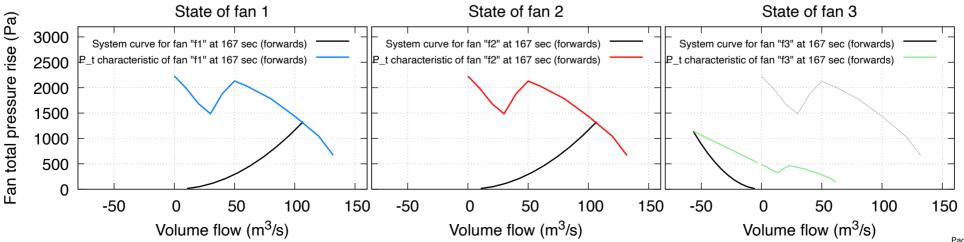
At 100 seconds, fan 2 starts

At 140 seconds, damper 3 opens

At 160 seconds, fan 3 starts







Source file: ok-032-fans-in-parallel.txt.

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Page 14

This flipbook illustrates a problem that can occur when you try to run fans in parallel that are unsuitable for running in parallel.

Consider three identical fans with isolation dampers, in parallel:— The fans have a Q-P<sub>tot</sub> characteristic with a bad stall hump.

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At 20 seconds, damper 1 opens

At 40 seconds, fan 1 starts

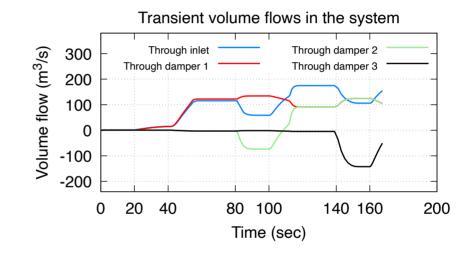
At 80 seconds, damper 2 opens

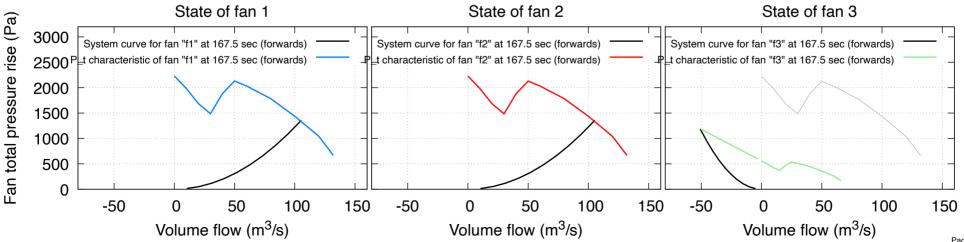
At 100 seconds, fan 2 starts

At 140 seconds, damper 3 opens

At 160 seconds, fan 3 starts









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At 20 seconds, damper 1 opens

At 40 seconds, fan 1 starts

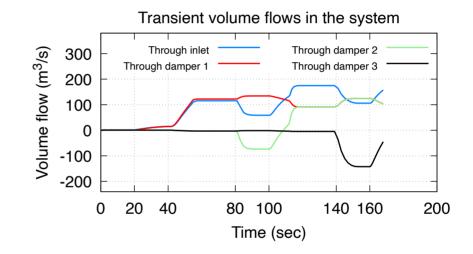
At 80 seconds, damper 2 opens

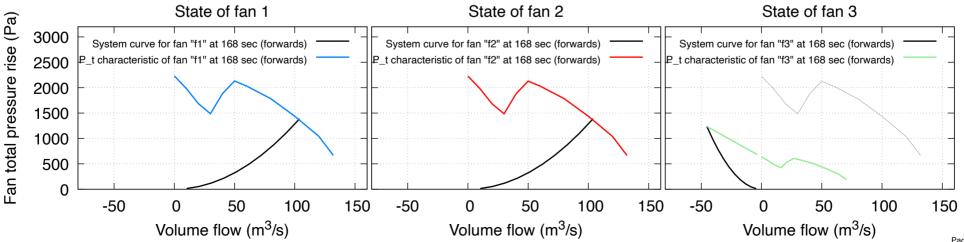
At 100 seconds, fan 2 starts

At 140 seconds, damper 3 opens

At 160 seconds, fan 3 starts







Source file: ok-032-fans-in-parallel.txt.

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Page 143

This flipbook illustrates a problem that can occur when you try to run fans in parallel that are unsuitable for running in parallel.

Consider three identical fans with isolation dampers, in parallel:— The fans have a Q-P<sub>tot</sub> characteristic with a bad stall hump.

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At 20 seconds, damper 1 opens

At 40 seconds, fan 1 starts

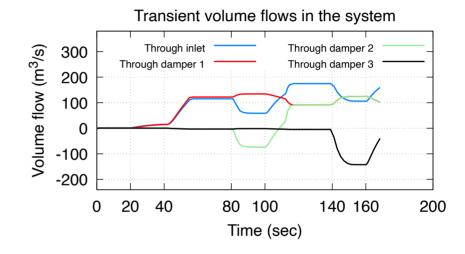
At 80 seconds, damper 2 opens

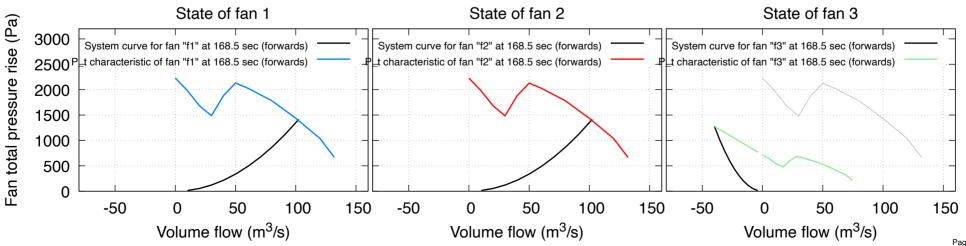
At 100 seconds, fan 2 starts

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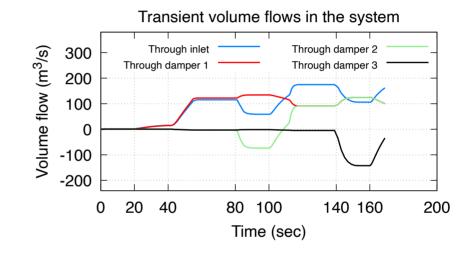
At 80 seconds, damper 2 opens

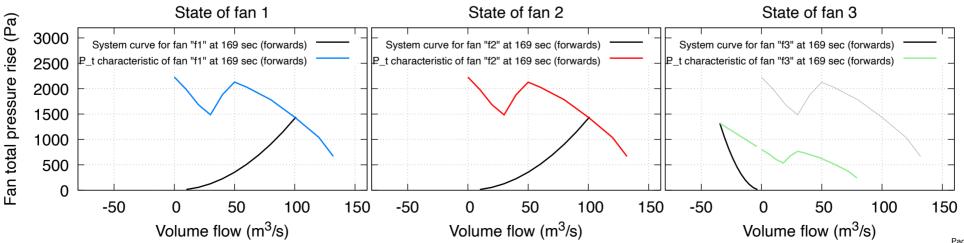
At 100 seconds, fan 2 starts

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At 160 seconds, fan 3 starts







Source file: ok-032-fans-in-parallel.txt.

**F** 

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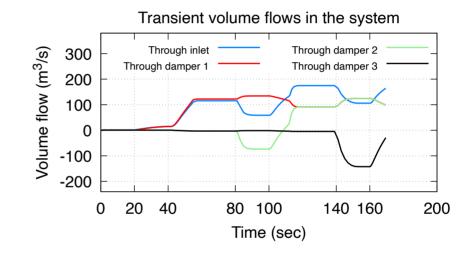
At 80 seconds, damper 2 opens

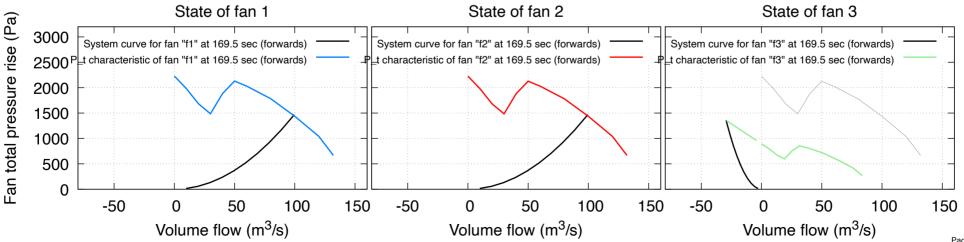
At 100 seconds, fan 2 starts

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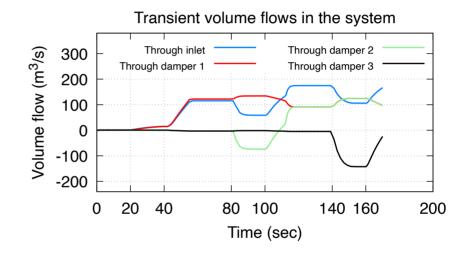
At 80 seconds, damper 2 opens

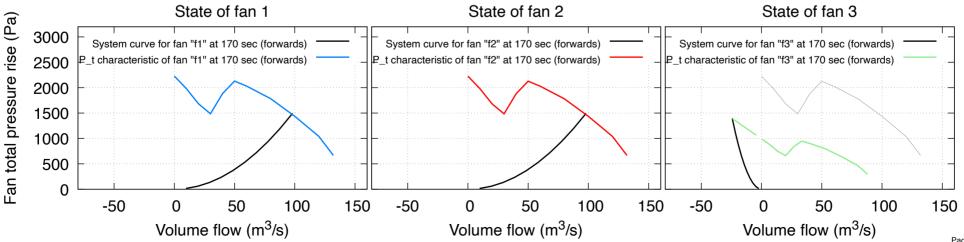
At 100 seconds, fan 2 starts

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At 20 seconds, damper 1 opens

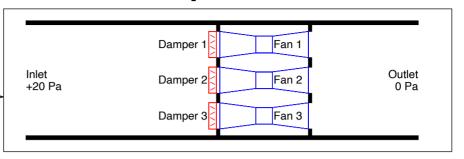
At 40 seconds, fan 1 starts

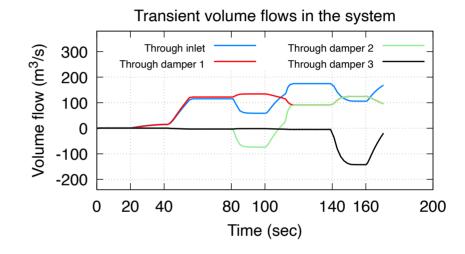
At 80 seconds, damper 2 opens

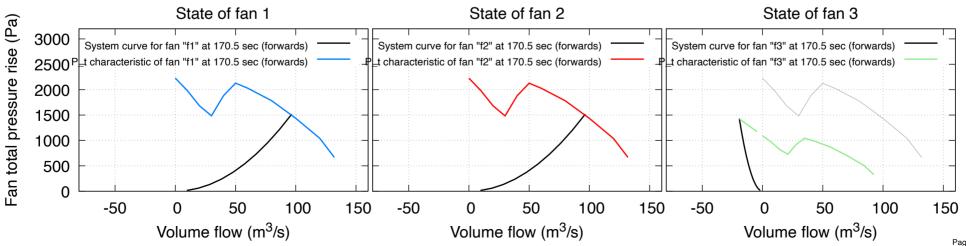
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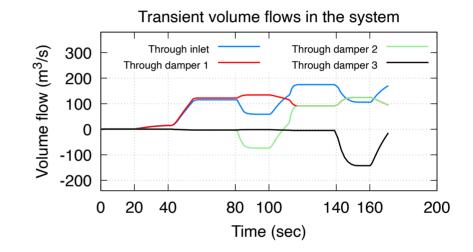
At 80 seconds, damper 2 opens

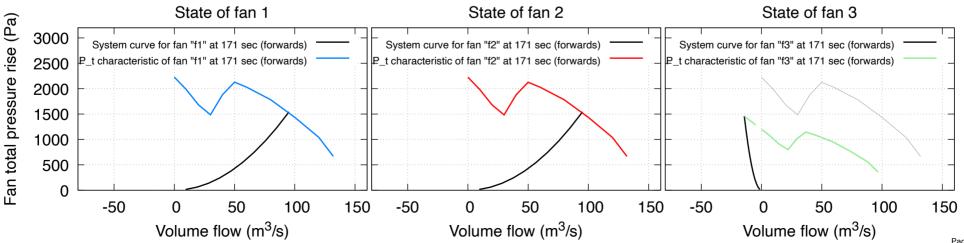
At 100 seconds, fan 2 starts

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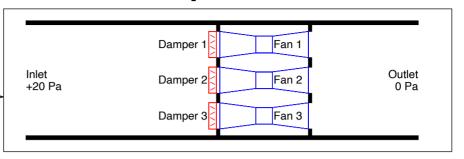
At 40 seconds, fan 1 starts

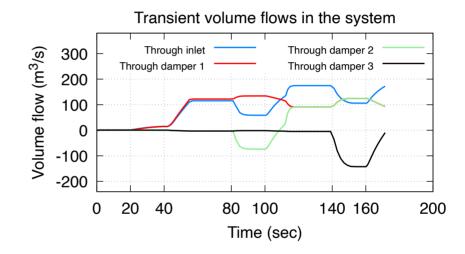
At 80 seconds, damper 2 opens

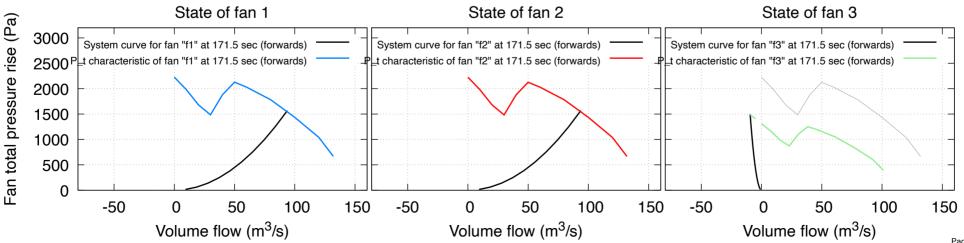
At 100 seconds, fan 2 starts

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Source file: ok-032-fans-in-parallel.txt.



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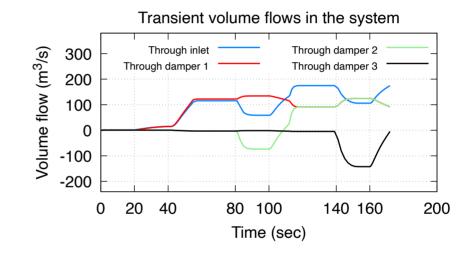
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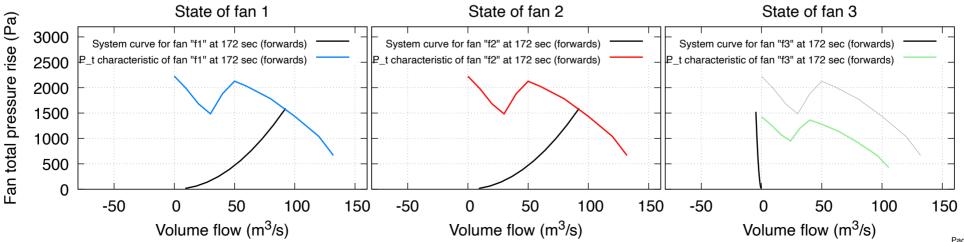
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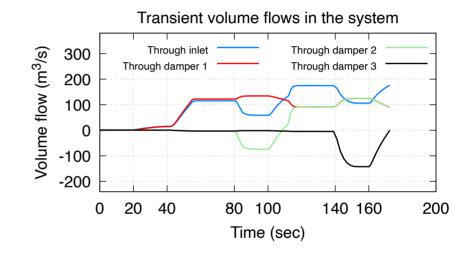
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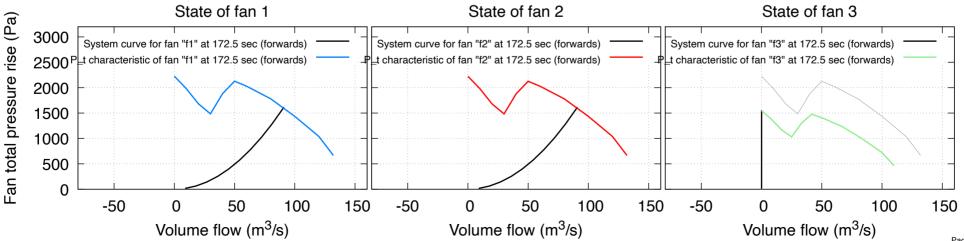
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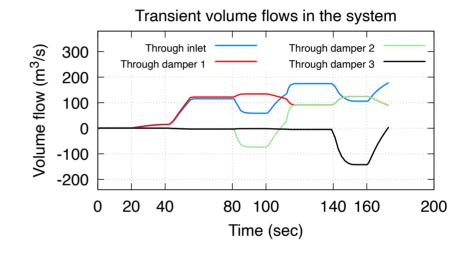
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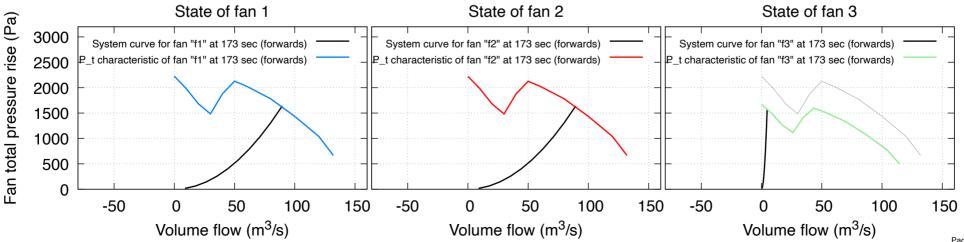
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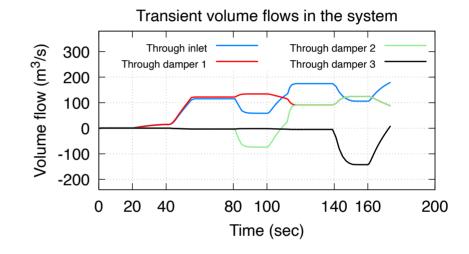
At 80 seconds, damper 2 opens

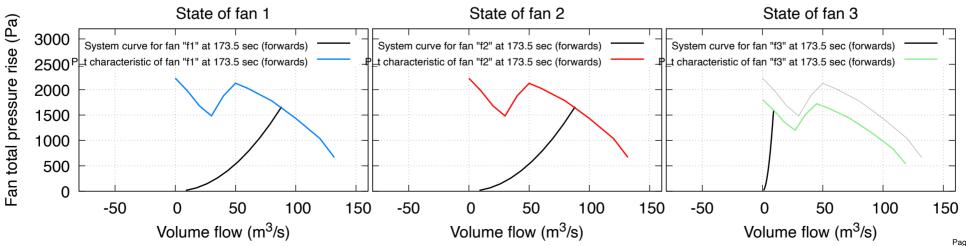
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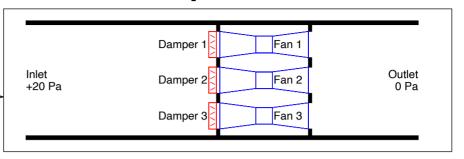
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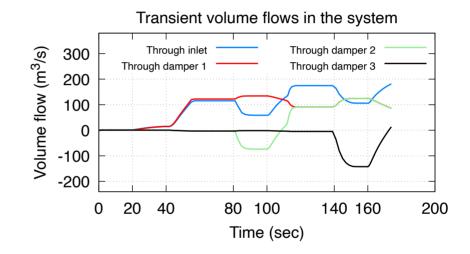
At 80 seconds, damper 2 opens

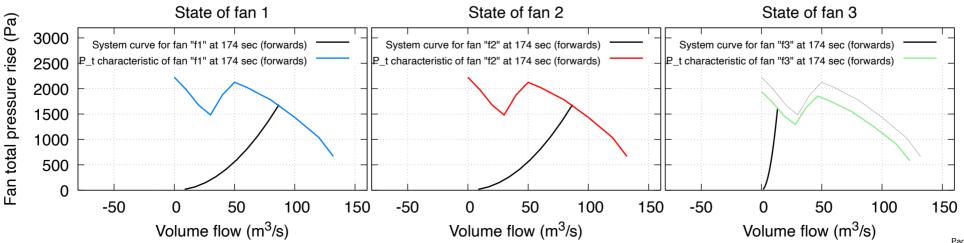
At 100 seconds, fan 2 starts

At 140 seconds, damper 3 opens

At 160 seconds, fan 3 starts







Source file: ok-032-fans-in-parallel.txt.



rage 155

This flipbook illustrates a problem that can occur when you try to run fans in parallel that are unsuitable for running in parallel.

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At 20 seconds, damper 1 opens

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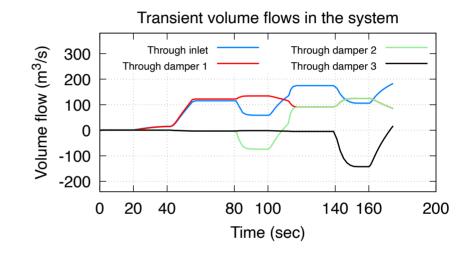
At 80 seconds, damper 2 opens

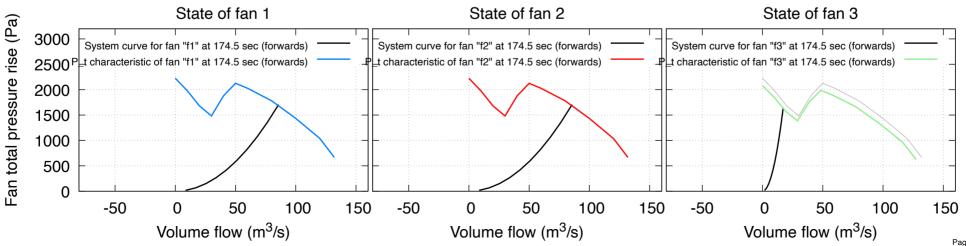
At 100 seconds, fan 2 starts

At 140 seconds, damper 3 opens

At 160 seconds, fan 3 starts







Source file: ok-032-fans-in-parallel.txt.



Created by Hobyah.py from ok-032-fans-in-parallel.txt, 12:59 on 24 Oct 2024 by ecb

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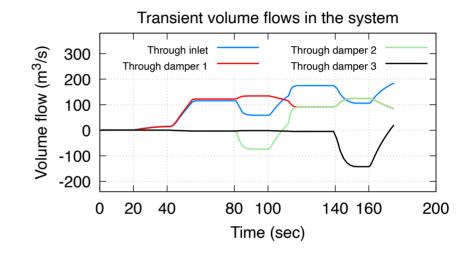
At 80 seconds, damper 2 opens

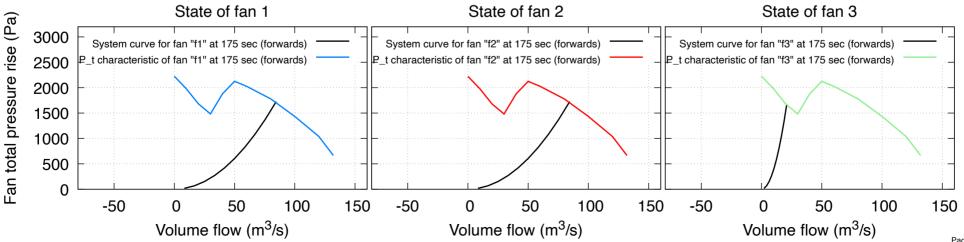
At 100 seconds, fan 2 starts

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Source file: ok-032-fans-in-parallel.txt.

**I** 

This flipbook illustrates a problem that can occur when you try to run fans in parallel that are unsuitable for running in parallel.

Consider three identical fans with isolation dampers, in parallel:— The fans have a Q-P<sub>tot</sub> characteristic with a bad stall hump.

The fans are started sequentially. Fans 1 and 2 get to suitable parts of their characteristics. Fan 3 can't get out of stall.

At 20 seconds, damper 1 opens

At 40 seconds, fan 1 starts

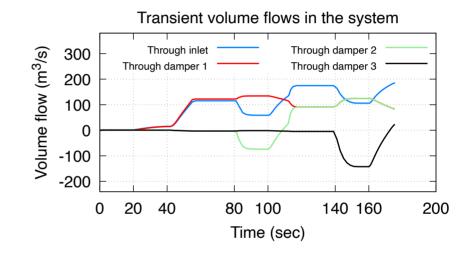
At 80 seconds, damper 2 opens

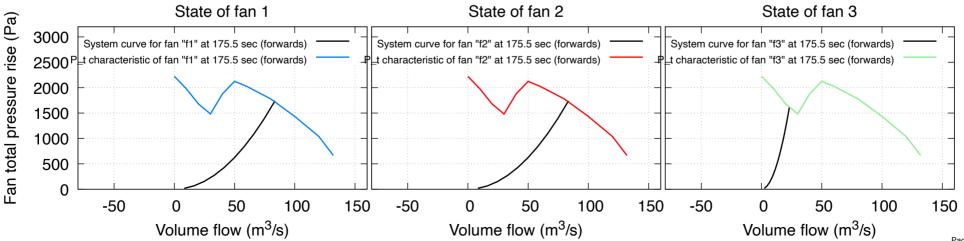
At 100 seconds, fan 2 starts

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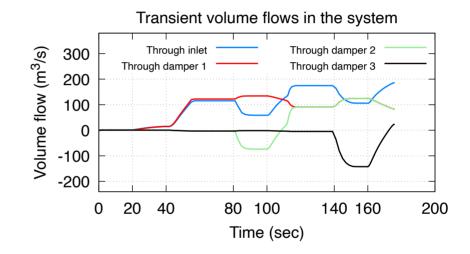
At 80 seconds, damper 2 opens

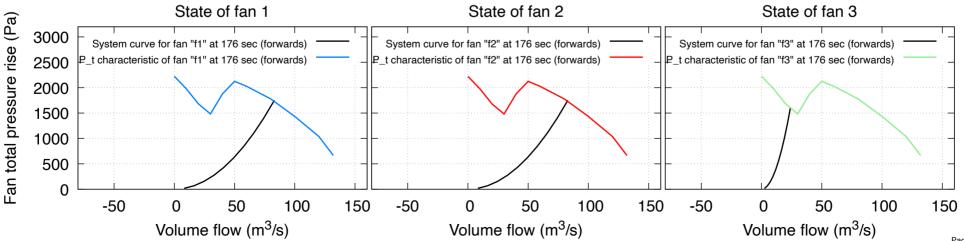
At 100 seconds, fan 2 starts

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Source file: ok-032-fans-in-parallel.txt.

J

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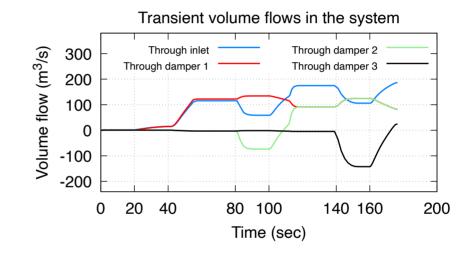
At 80 seconds, damper 2 opens

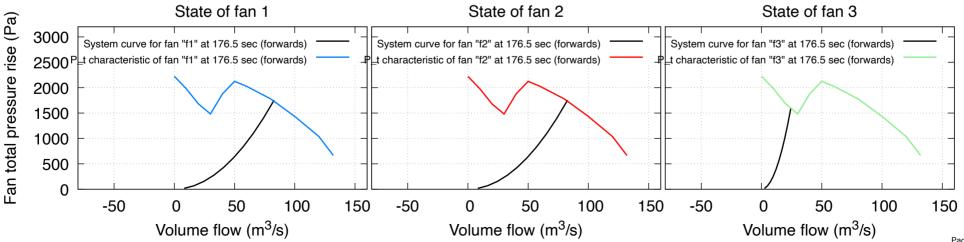
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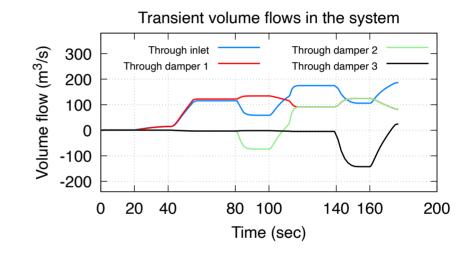
At 80 seconds, damper 2 opens

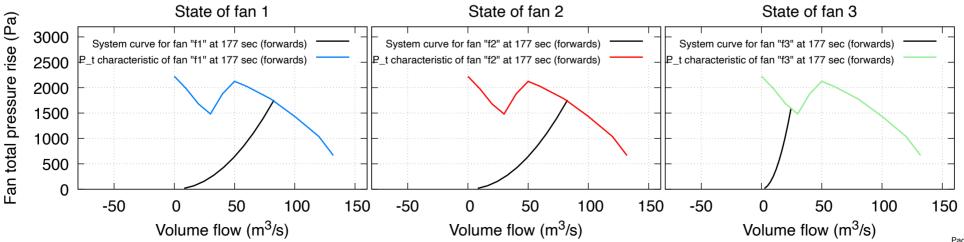
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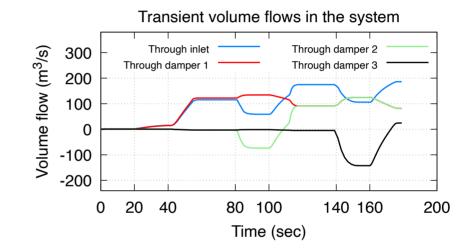
At 80 seconds, damper 2 opens

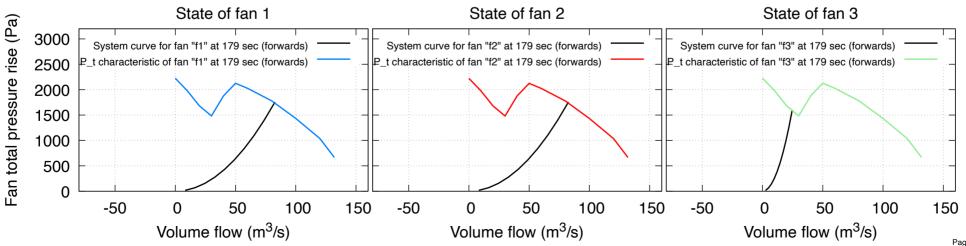
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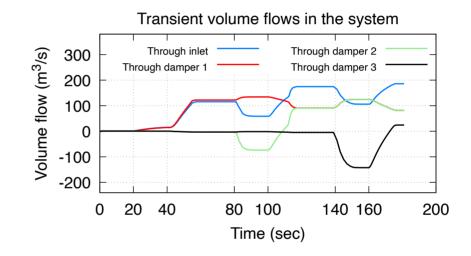
At 80 seconds, damper 2 opens

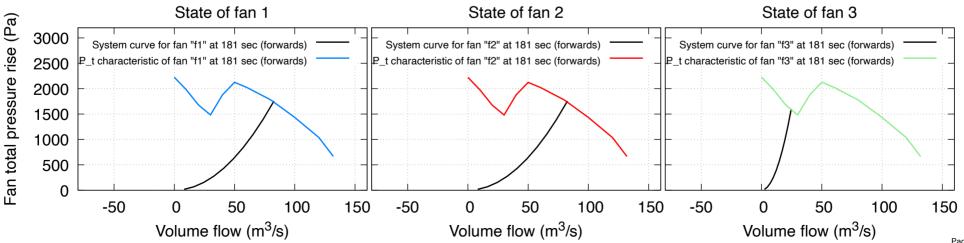
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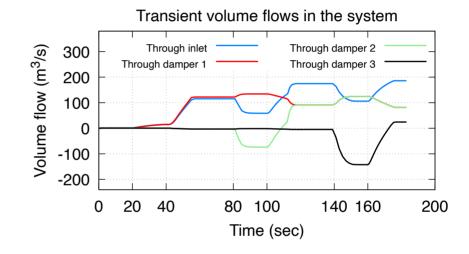
At 80 seconds, damper 2 opens

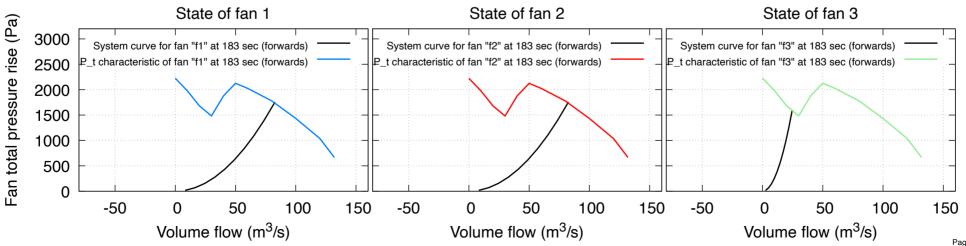
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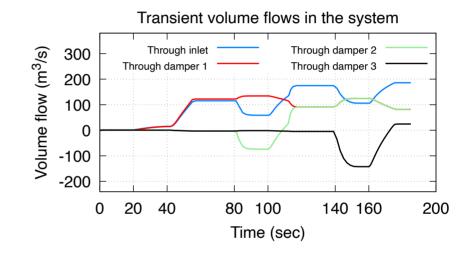
At 80 seconds, damper 2 opens

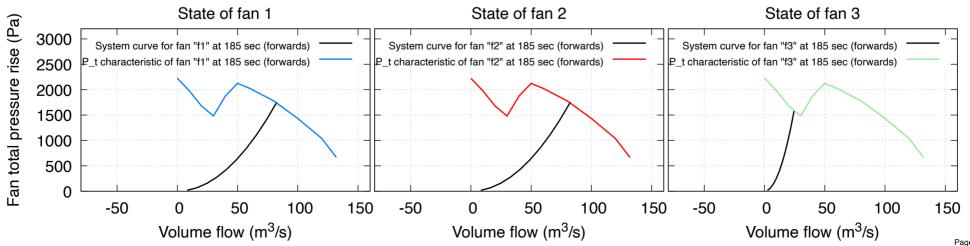
At 100 seconds, fan 2 starts

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Source file: ok-032-fans-in-parallel.txt.



Created by Hobyah.py from ok-032-fans-in-parallel.txt, 12:59 on 24 Oct 2024 by ecb

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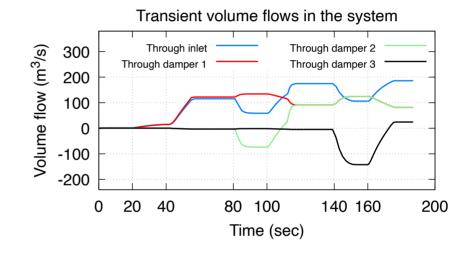
At 80 seconds, damper 2 opens

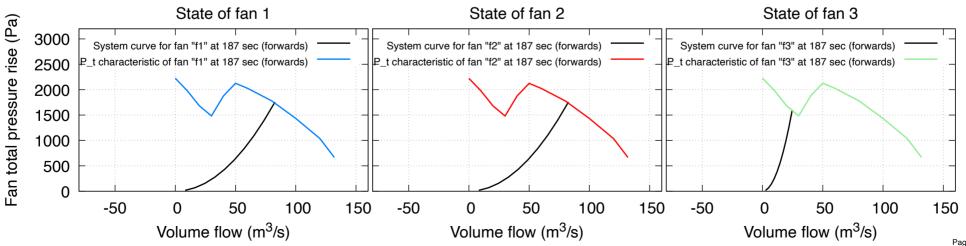
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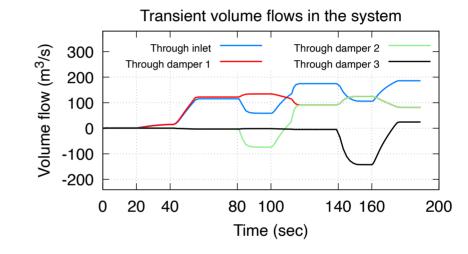
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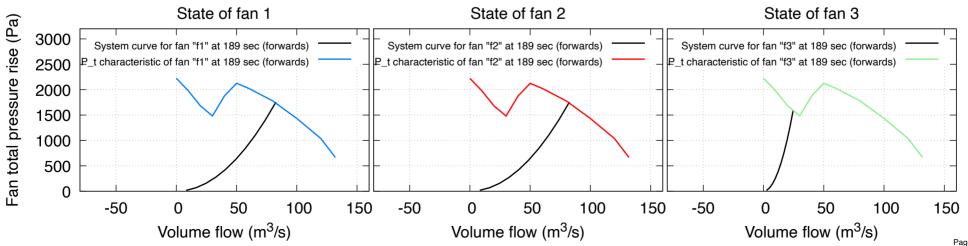
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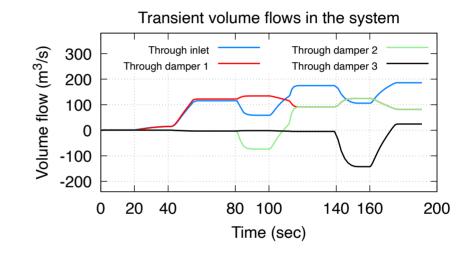
At 80 seconds, damper 2 opens

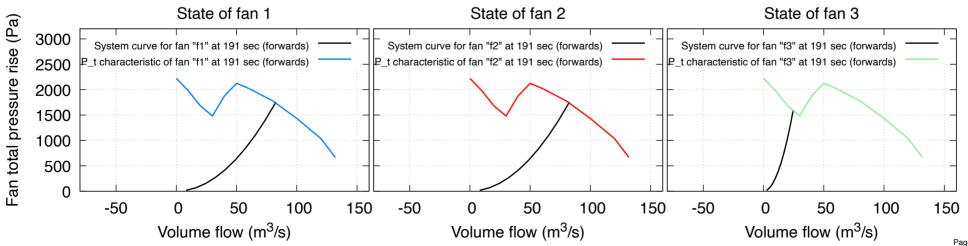
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Source file: ok-032-fans-in-parallel.txt.

Project no: 2 Project name: Software testing



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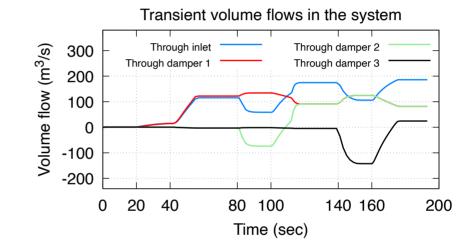
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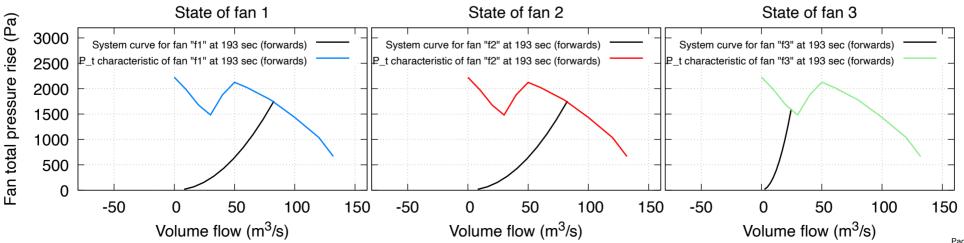
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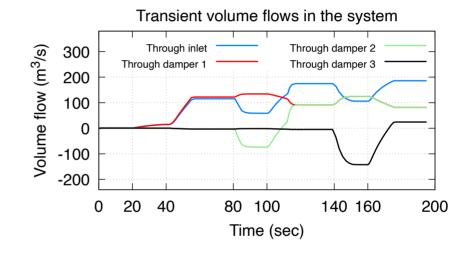
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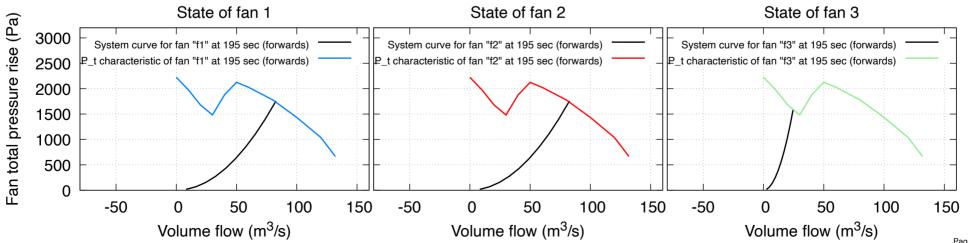
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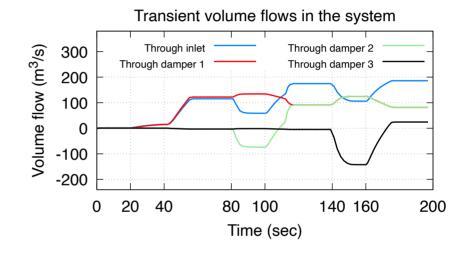
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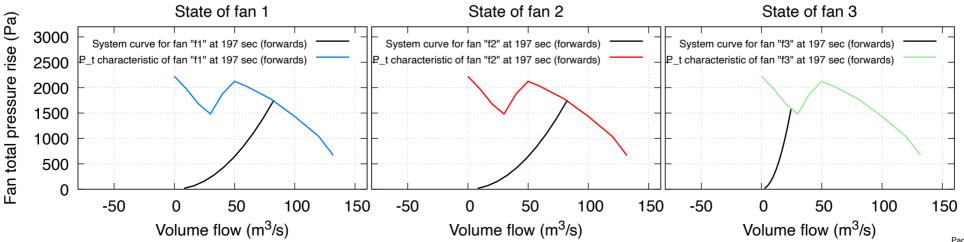
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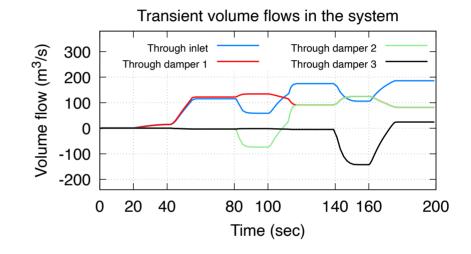
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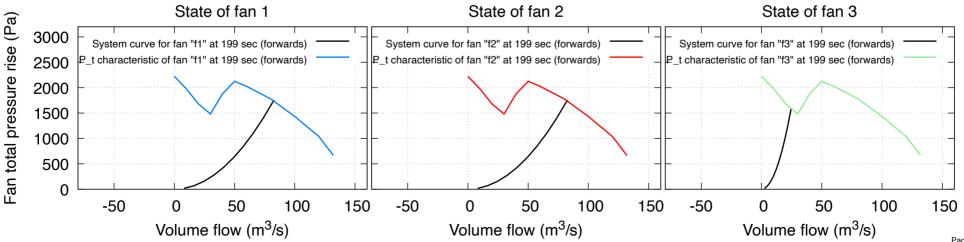
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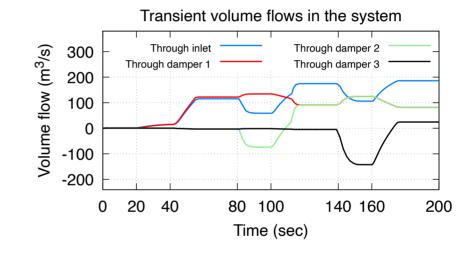
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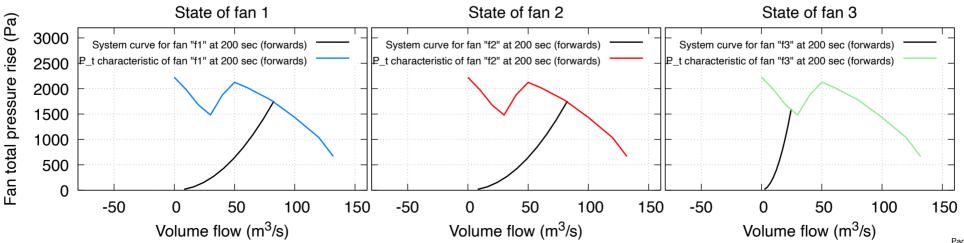
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