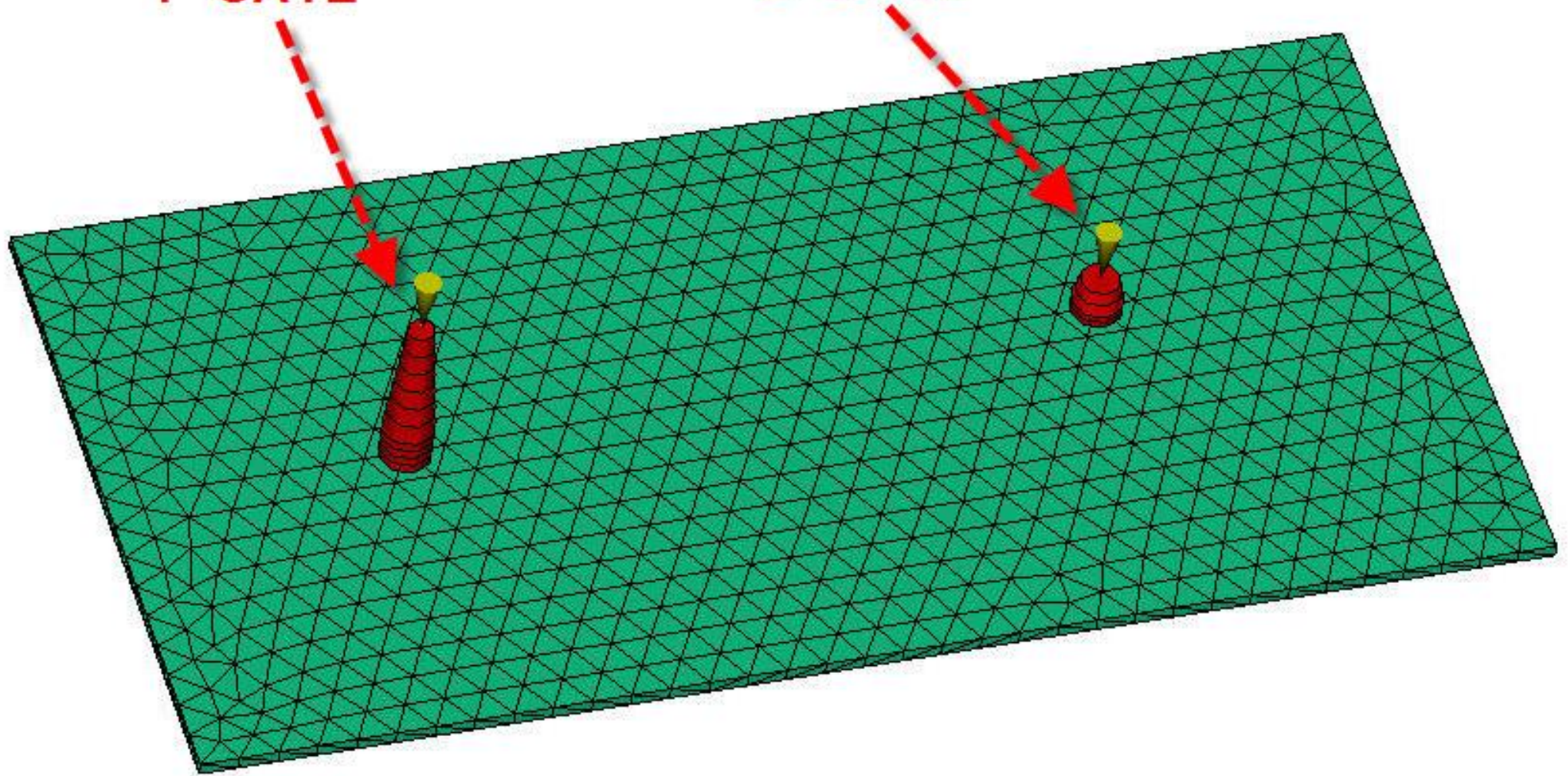


# SEQUENTIAL INJECTION

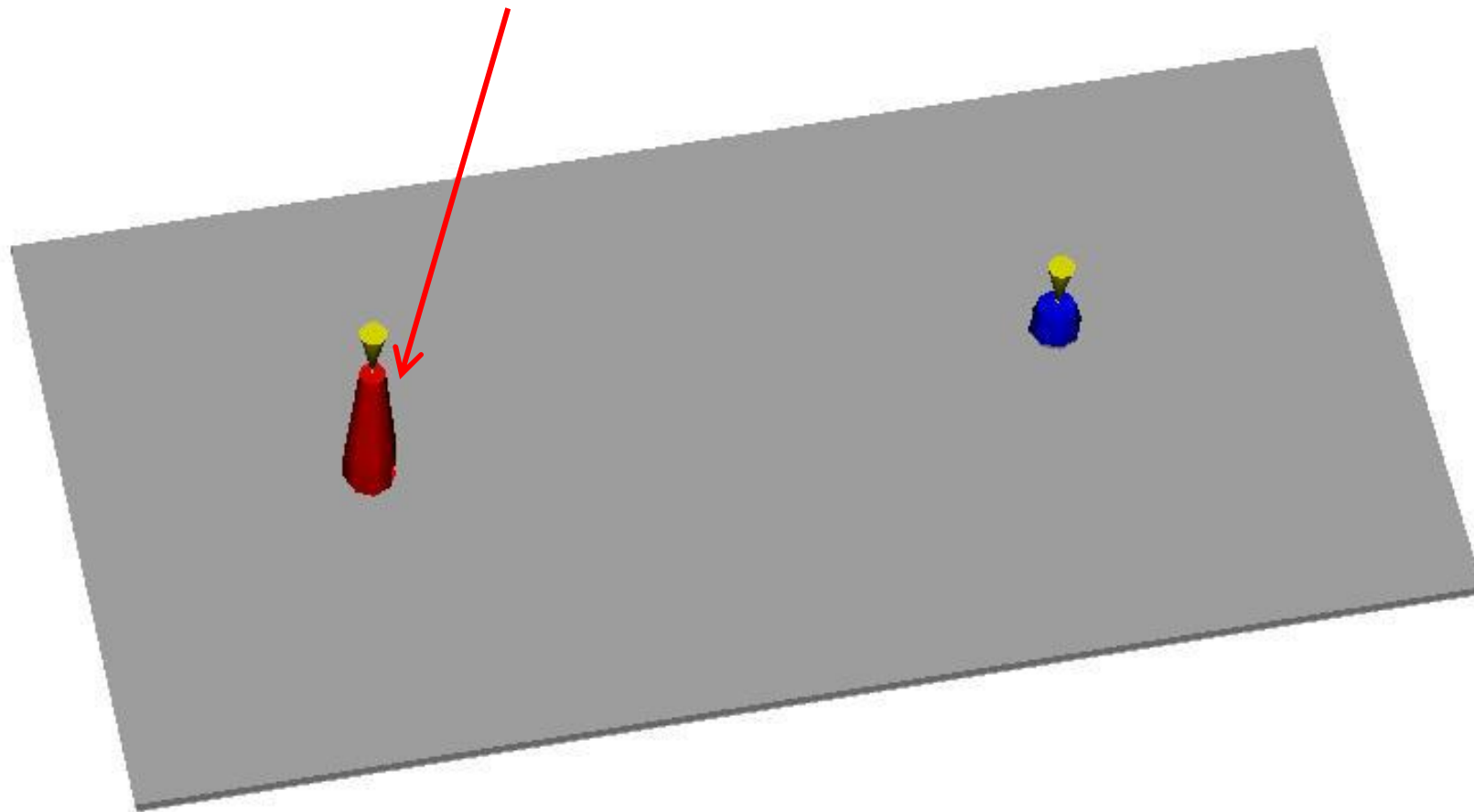
1° GATE

2° GATE





START: 1° GATE OPEN



Flow rate, beams  
Time = 0.1281[s]

[cm<sup>3</sup>/s]

2.017

1.513

1.009

0.5043

0.0000



-34  
9  
9

**Moldflow**   
MOLDFLOW PLASTICS INSIGHT



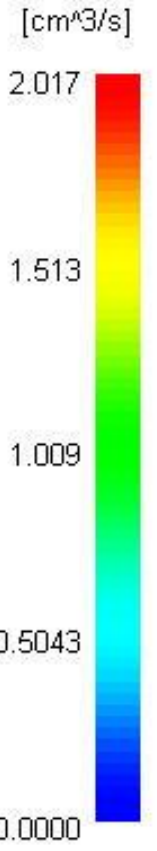
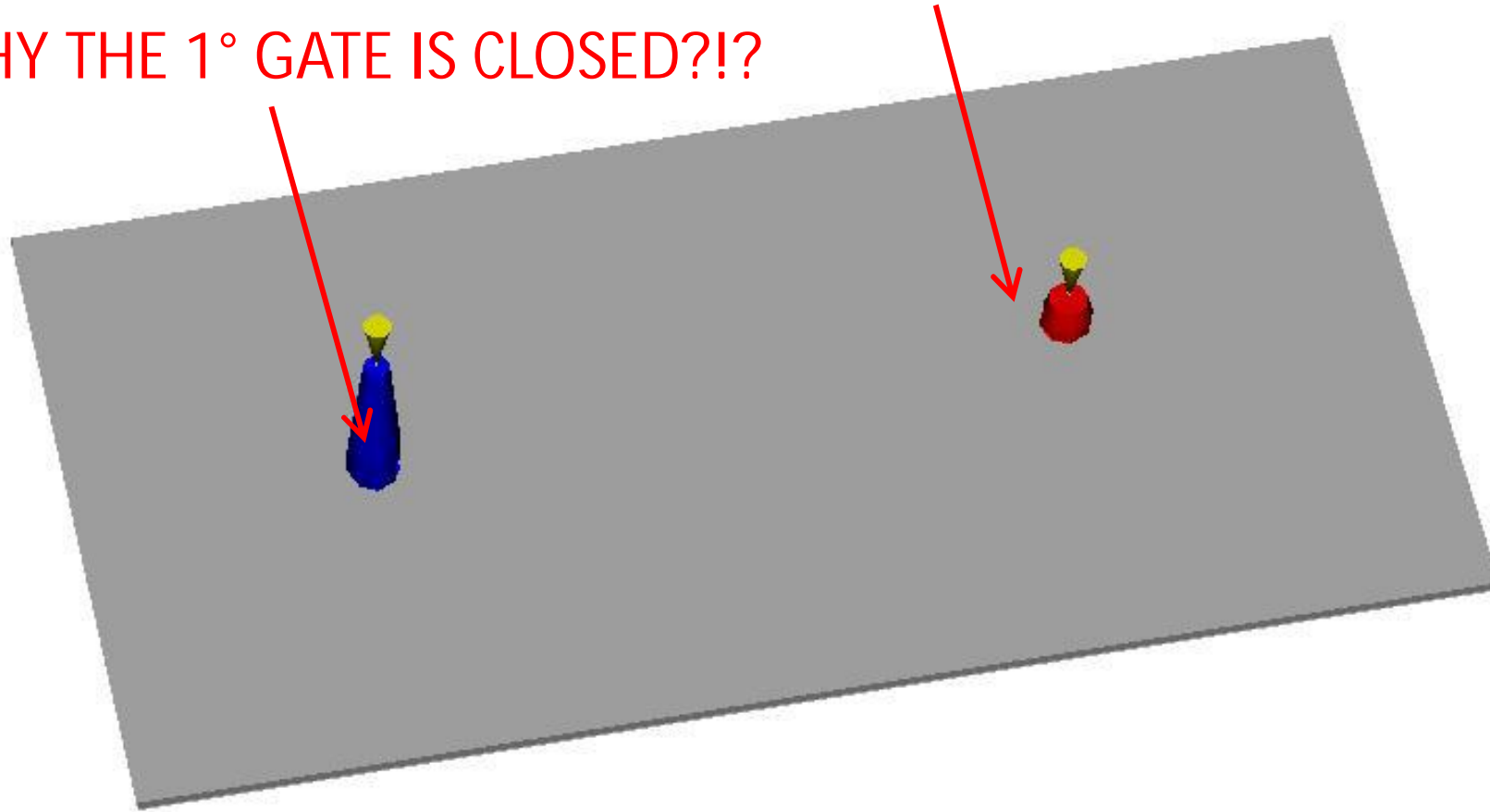
Scale (70 mm)

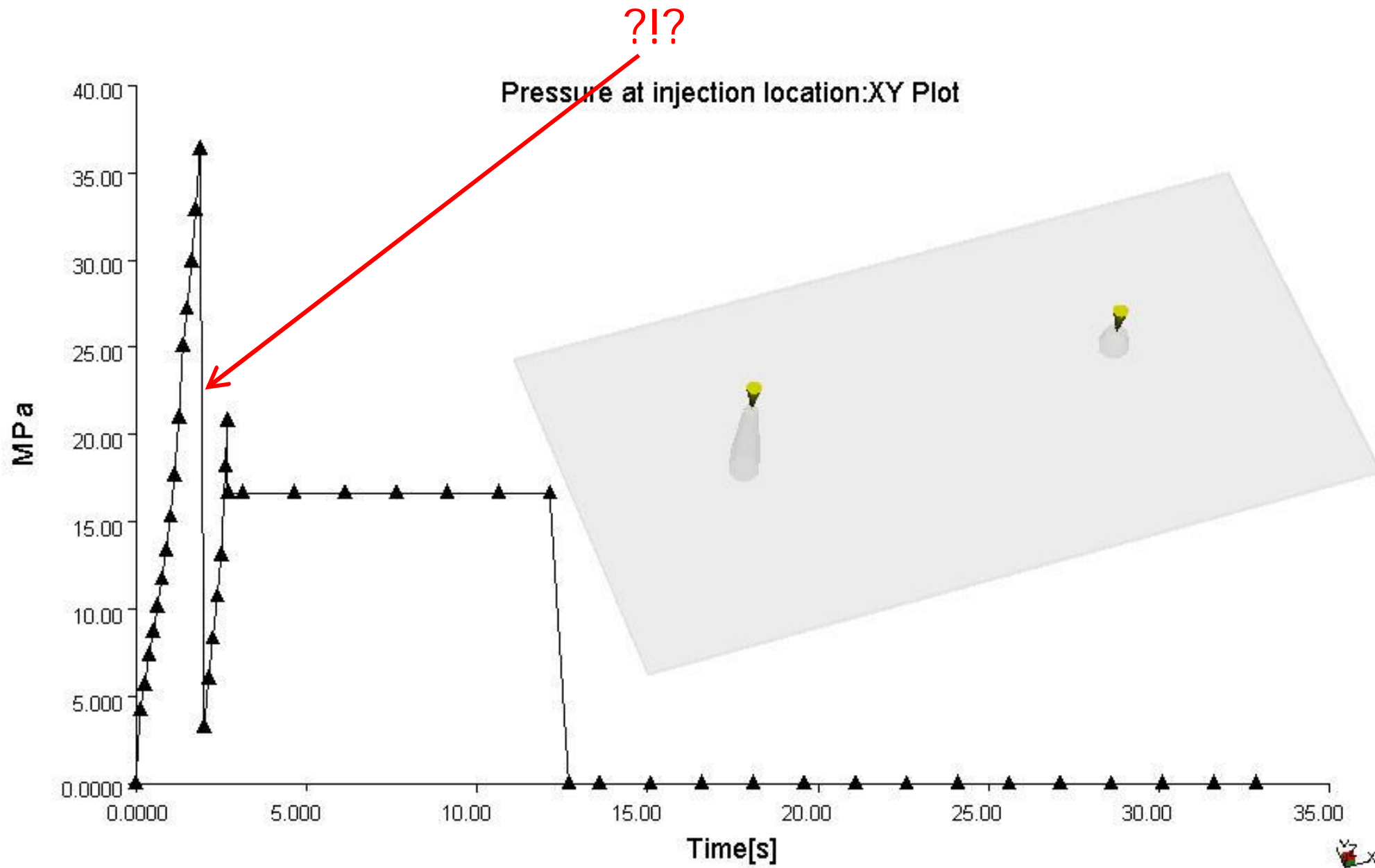


Flow rate, beams  
Time = 2.004[s]

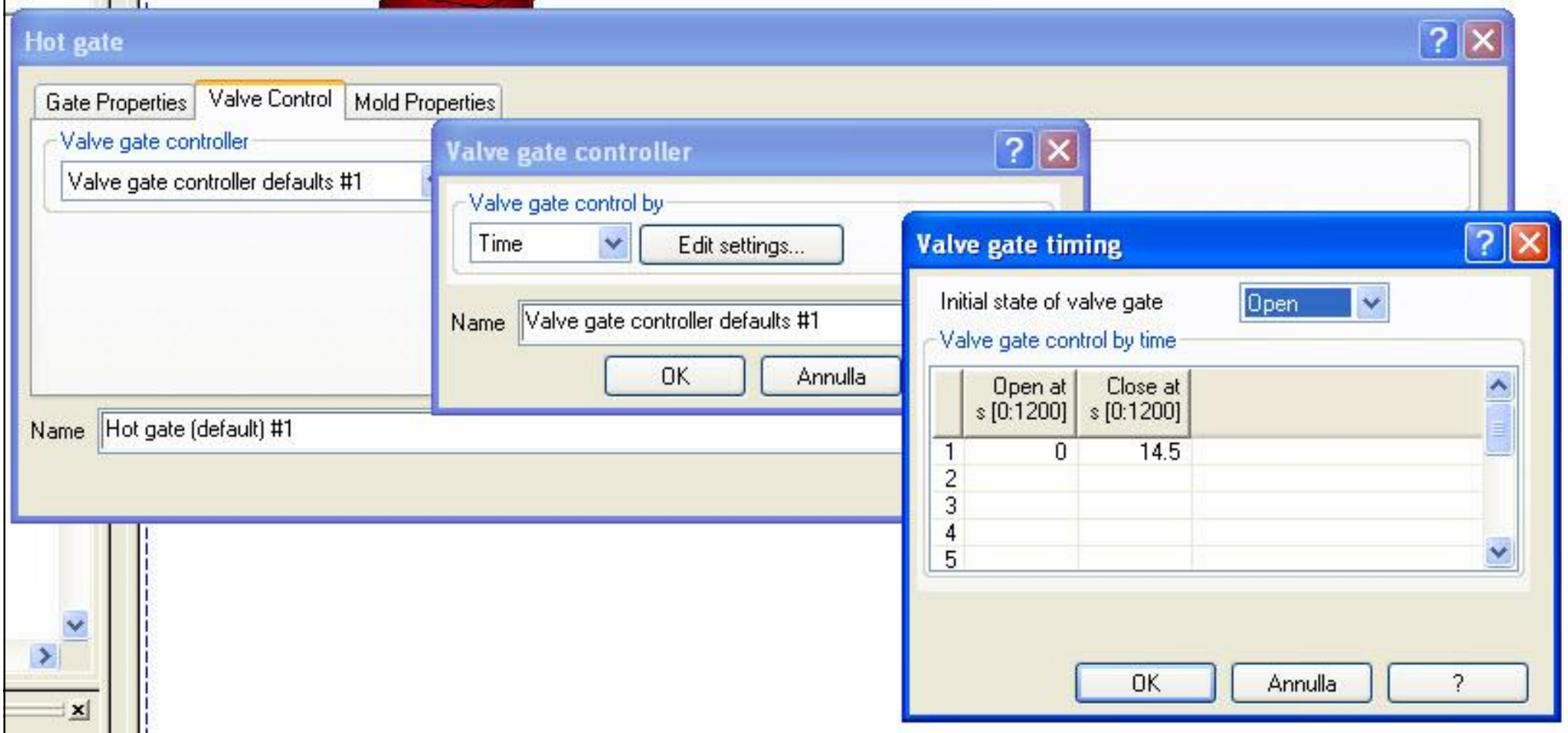
AT 2 s: 2° GATE OPEN

WHY THE 1° GATE IS CLOSED?!?





# 1 VALVE CONTROL



# 2 VALVE CONTROL

The image shows a software interface with two overlapping dialog boxes. The background dialog is titled "Hot gate" and has three tabs: "Gate Properties", "Valve Control", and "Mold Properties". The "Valve Control" tab is active, showing a "Valve gate controller" section with a dropdown menu set to "Valve gate controller defaults #2". Below this, there is a "Name" field containing "Hot gate (default) #3".

The foreground dialog is titled "Valve gate timing by flow front". It has a "Trigger location" dropdown menu set to "Gate". Below this is a "Delay time" field set to "0" with the unit "s [0:]". The "Valve gate control by time" section contains a table with the following data:

|   | Open at<br>s [0:1200] | Close at<br>s [0:1200] |
|---|-----------------------|------------------------|
| 1 | 0                     | 14                     |
| 2 |                       |                        |
| 3 |                       |                        |
| 4 |                       |                        |
| 5 |                       |                        |

At the bottom of the "Valve gate timing by flow front" dialog are three buttons: "OK", "Annulla", and "?".

| Time (s) | Volume (%) | Pressure (MPa)                       | Clamp force (tonne) | Flow rate (cm <sup>3</sup> /s) | Status |
|----------|------------|--------------------------------------|---------------------|--------------------------------|--------|
| 0.00     | 0.15       | valve gate = 1 (Elem = 2985) opened. |                     |                                |        |
| 0.13     | 3.93       | 4.21                                 | 0.01                | 1.93                           | U      |
| 0.25     | 8.58       | 5.68                                 | 0.05                | 1.92                           | U      |
| 0.38     | 13.56      | 7.31                                 | 0.12                | 1.92                           | U      |
| 0.50     | 18.21      | 8.70                                 | 0.20                | 1.95                           | U      |
| 0.63     | 22.94      | 10.13                                | 0.32                | 1.94                           | U      |
| 0.76     | 27.97      | 11.70                                | 0.48                | 1.96                           | U      |
| 0.88     | 32.72      | 13.36                                | 0.70                | 1.95                           | U      |
| 1.01     | 37.46      | 15.26                                | 1.00                | 1.95                           | U      |
| 1.13     | 42.07      | 17.64                                | 1.48                | 1.94                           | U      |
| 1.26     | 46.83      | 20.94                                | 2.24                | 1.95                           | U      |
| 1.38     | 50.94      | 25.05                                | 3.76                | 1.96                           | U      |
| 1.50     | 55.55      | 27.13                                | 4.44                | 1.97                           | U      |
| 1.63     | 60.33      | 29.87                                | 5.28                | 1.97                           | U      |
| 1.75     | 64.85      | 32.84                                | 6.19                | 1.97                           | U      |
| 1.88     | 69.50      | 36.30                                | 7.29                | 1.97                           | U      |
| 1.95     | 72.11      | valve gate = 2 (Elem = 2995) opened. |                     |                                |        |
| 2.00     | 74.09      | 3.27                                 | 1.99                | 1.94                           | U      |
| 2.13     | 78.76      | 6.05                                 | 1.35                | 1.98                           | U      |
| 2.25     | 83.40      | 8.29                                 | 1.37                | 1.99                           | U      |
| 2.38     | 88.34      | 10.69                                | 1.57                | 2.00                           | U      |
| 2.50     | 92.65      | 13.08                                | 2.00                | 2.00                           | U      |
| 2.63     | 97.24      | 18.15                                | 3.35                | 2.00                           | U      |
| 2.68     | 99.02      | 20.77                                | 4.39                | 1.94                           | U/P    |
| 2.69     | 99.33      | 16.62                                | 4.08                | 0.81                           | P      |
| 2.72     | 99.75      | 16.62                                | 4.02                | 0.71                           | P      |
| 2.72     | 100.00     | 16.62                                | 4.05                | 0.69                           | Filled |

Execution time in Filling Phase =

49.14 s



Packing phase:

| Time (s) | Packing (%) | Pressure (MPa)                       | Clamp force (tonne) | Status            |
|----------|-------------|--------------------------------------|---------------------|-------------------|
| 2.72     | 0.00        | 16.62                                | 4.06                | P                 |
| 3.13     | 1.37        | 16.62                                | 3.50                | P                 |
| 4.63     | 6.37        | 16.62                                | 0.65                | P                 |
| 6.13     | 11.38       | 16.62                                | 0.25                | P                 |
| 7.63     | 16.39       | 16.62                                | 0.18                | P                 |
| 9.13     | 21.40       | 16.62                                | 0.15                | P                 |
| 10.63    | 26.40       | 16.62                                | 0.15                | P                 |
| 12.13    | 31.41       | 16.62                                | 0.15                | P                 |
| 12.69    | 33.28       | 0.00                                 | 0.13                | P                 |
| 12.69    |             |                                      |                     | Pressure released |
| 13.59    | 36.27       | 0.00                                 | 0.06                | P                 |
| 14.09    | 37.94       | valve gate = 2 (Elem = 2995) closed. |                     |                   |
| 14.59    | 39.61       | valve gate = 1 (Elem = 2985) closed. |                     |                   |
| 15.09    | 41.28       | 0.00                                 | 0.04                | P                 |
| 16.59    | 46.28       | 0.00                                 | 0.03                | P                 |
| 18.09    | 51.29       | 0.00                                 | 0.03                | P                 |
| 19.59    | 56.30       | 0.00                                 | 0.02                | P                 |
| 21.09    | 61.31       | 0.00                                 | 0.02                | P                 |
| 22.59    | 66.31       | 0.00                                 | 0.02                | P                 |
| 24.09    | 71.32       | 0.00                                 | 0.02                | P                 |
| 25.59    | 76.33       | 0.00                                 | 0.02                | P                 |
| 27.09    | 81.34       | 0.00                                 | 0.02                | P                 |
| 28.59    | 86.34       | 0.00                                 | 0.02                | P                 |
| 30.09    | 91.35       | 0.00                                 | 0.02                | P                 |
| 31.59    | 96.36       | 0.00                                 | 0.02                | P                 |
| 32.84    | 100.00      | 0.00                                 | 0.02                | P                 |

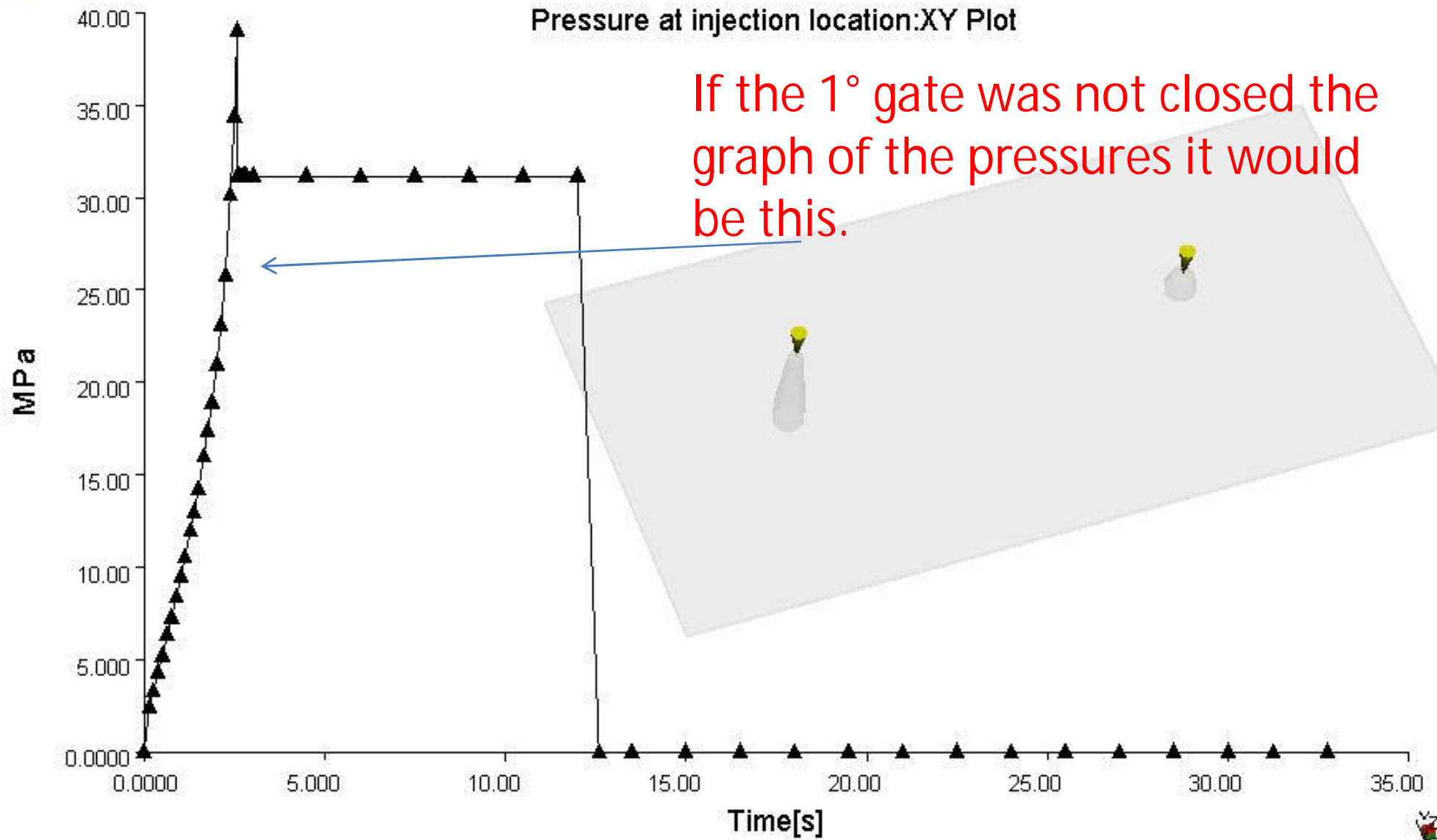
Filling phase results summary :

Maximum injection pressure (at 1.879 s) = 36.3033 MPa

# NORMAL INJECTION



Pressure at injection location:XY Plot



If the 1° gate was not closed the graph of the pressures it would be this.

