# Instructions to build the library:

**A – Replace Branch.ssc file from the *Hydraulic* library**

1. copy the branch.ssc file
2. Replace the branch.ssc file located in: MATLAB\_R2020a/toolbox/physmod/simscape/library/m/+foundation/+hydraulic

**B – Download and build the *Cardiovascular* library**

1. Take the *+Cardiovascular* folder and add it to the following path: MATLAB\_R2020a/toolbox/physmod/simscape/library/m.
2. Open any of the .ssc files on MATLAB and change the current folder to: MATLAB\_R2020a/toolbox/physmod/simscape/library/m/+Cardiovascular
3. Build the library by executing the “ssc\_build” command in the Command window or follow the instructions on the relative documentation: https://[www.mathworks.com/help/physmod/simscape/ref/ssc\_build.html](http://www.mathworks.com/help/physmod/simscape/ref/ssc_build.html)
4. The Cardiovascular\_lib.slx file should become visible in the /m directory and ready to use.

NOTE: use Matlab\_R20020a for these files to run properly because I generate these libraraies at R20020a version

Notes:

* 1. Windows users may need to have full writing permissions of the MATLAB\_R2020a/toolbox/physmod/simscape/library directory.
  2. If the following error occurs:

*Failed to generate ‘Cardiovascular\_lib’,*

*caused by: error using feval, unrecognized function of variable “Cardiovascular.variable\_c\_chamber”*

change the name of the file giving the error (both .ssc and .svg) as well as that in the block definition (line #1 of code), and ensure that they are given exactly the same name. Run again the ssc\_build command to build the library (step B3).

# Element description:

*Variable-Compliance Compliance Chamber:*

The block represents a variable-compliance compliance chamber. It is based on the constant volume hydraulic chamber element of the *Hydraulic* library with flexible walls. This element takes the compliance of the chamber as a time-varying user-defined input.

See documentation on *Hydraulic* library elements on: [https://www.mathworks.com/help/physmod/hydro/hydraulics- modeling.html?s\_tid=CRUX\_lftnav](http://www.mathworks.com/help/physmod/hydro/hydraulics-)