

P-1

BlockName	$R_{\text{Poiseuille}}$	E	L	Stenosis Coeff
	$\text{g cm}^{-4} \text{s}^{-1}$	$\text{g cm}^{-4} \text{s}^{-2}$	$\text{g cm}^{-4}$	-
Aortic Root	0.0018246	6610.29	0.23075276 --	
Ascending Aorta	0.0045851	3677.30	0.52694440	0.005989672
Proximal Aortic Arch	0.3227533	1465053.27	1.57276163	0.000000245
Distal Aortic Arch	4.9000102	159430.41	20.19797467	0.017294612
Descending Aorta	1.9940856	166201.11	10.93918042	0.012415603
Peripheral Arteries	3.4210714	1689.75	4.32661425 --	
Resistance Arteries	8.7460654	7593.54	0.27004666 --	
Right Carotid Artery	10.5775240	43580.47	51.98271040	0.004630436
Right Carotid Resistance Arteries	51.0187148	88591.34	1.57527218 --	
Right Carotid Capillaries	0.7971674	553.70	0.00000985 --	
Right Carotid Vein	0.4783005	18.46	0.23629083 --	
Left Carotid Artery (segment 1)	65.5783120	1768795.68	51.04828476	8.75548823
Left Carotid Artery (segment 2)	234.2578474	264292.97	224.80249013	0
Left Carotid Resistance Arteries	51.0187148	88591.34	1.57527218 --	
Left Carotid Capillaries	0.7971674	553.70	0.00000985 --	
Left Carotid Vein	0.4783005	18.46	0.23629083 --	
Systemic Capillaries	0.1708216	118.65	0.00000211 --	
Capacitance Vessels	0.1024930	3.95	0.05063375 --	
Superior Caval Vein	0.0186758	1513.38	1.80834816 --	
Inferior Caval Vein	0.0311264	908.03	3.01391360 --	
Pulmonary Trunk	0.0059049	2953.04	0.65636341 --	
Pulmonary Artery	0.0118099	1181.22	1.31272681 --	
Pulmonary Resistance Arteries	0.2306619	7690.22	0.04102271 --	
Pulmonary Capillaries	0.2391502	166.11	0.00000295 --	
Pulmonary Small Veins	0.2919314	36.05	0.09230110 --	
Pulmonary Veins	0.0373517	4035.68	0.90417408 --	

Patient's Parameters	Value
Height (cm)	162
Weight (kg)	90
BSA (m <sup>2</sup> )	1.94
Blood Volume (mL)	6750

Cardiac Chambers	E <sub>max</sub> (mmHg/ml)	E <sub>min</sub> (mmHg/ml)	alpha 1	alpha 2	m1	m2	Q <sub>max</sub> (mL)	R <sub>wall</sub>	sigma	tdelay	v0	V <sub>max</sub>
Left Atrium	0.12	0.12	0.088	0.176	1.31	9.1	4428	0.0005	0.0014	0.108	95	277
Left Ventricle	2.8	0.03	0.176	0.264	1.31	18.3	2214	1.00E-03	0.009361	0.318	130	387
Right Atrium	0.08	0.08	0.088	0.176	1.31	9.1	4428	0.0005	0.001413	0.085	55	277
Right Ventricle	0.6	0.015	0.176	0.264	1.31	9.1	2214	0.0002	0.009361	0.318	110	387

Cardiac Valves	A <sub>ann</sub>	DP <sub>close</sub>	DP <sub>open</sub>	K <sub>vc</sub>	K <sub>vo</sub>	M <sub>rg</sub>	M <sub>st</sub>
Mitral valve	5	0	0	20	40	0	1
Aortic valve	5	0	0	20	20	0	1
Tricuspid valve	5	0	0	30	40	0	1
Pulmonary valve	5	0	0	30	30	0	1

Minimum pericardial pressure	Pericardial pressure constant	Pericardial volume constant	Pericardial volume constant 2	Atrial septal stiffness	Ventricular septal stiffness
-2	1	300.4	50	10	10

P-2

BlockName	$R_{\text{Poisuille}}$	E	L	Stenosis Coeff
	$\text{g cm}^{-4} \text{s}^{-1}$	$\text{g cm}^{-4} \text{s}^{-2}$	$\text{g cm}^{-4}$	-
Aortic Root	0.0029481	12533.43	0.27077549 --	
Ascending Aorta	0.2623624	74398.08	3.69925308	0.003872
Proximal Aortic Arch	0.6094570	990316.75	2.73781581	0.004352
Distal Aortic Arch	5.1304183	257468.46	17.75118680	0.454634
Descending Aorta	0.9797046	45626.74	10.47990087	0.000455
Peripheral Arteries	5.5277635	3203.84	5.07704035 --	
Resistance Arteries	14.1318831	14397.74	0.31688468 --	
Right Carotid Artery	3.5611773	16840.16	30.16224802	0.036001
Right Carotid Resistance Arteries	82.4359845	167973.60	1.84849398 --	
Right Carotid Capillaries	1.2880623	1049.83	0.00001155 --	
Right Carotid Vein	0.7728374	34.99	0.27727410 --	
Left Carotid Artery	6.1268599	25297.61	39.56269655	0.056135
Left Carotid Resistance Arteries	82.4359845	167973.60	1.84849398 --	
Left Carotid Capillaries	1.2880623	1049.83	0.00001155 --	
Left Carotid Vein	0.7728374	34.99	0.27727410 --	
Systemic Capillaries	0.2760133	224.96	0.00000248 --	
Capacitance Vessels	0.1656080	7.50	0.05941588 --	
Superior Caval Vein	0.0301764	2869.45	2.12199564 --	
Inferior Caval Vein	0.0502940	1721.67	3.53665940 --	
Pulmonary Trunk	0.0095412	5599.12	0.77020582 --	
Pulmonary Artery	0.0190824	2239.65	1.54041165 --	
Pulmonary Resistance Arteries	0.3727032	14581.04	0.04813786 --	
Pulmonary Capillaries	0.3864187	314.95	0.00000347 --	
Pulmonary Small Veins	0.4717025	68.35	0.10831019 --	
Pulmonary Veins	0.0603528	7651.86	1.06099782 --	

Patient's Parameters	Value
Height (cm)	155
Weight (kg)	55.7
BSA (m <sup>2</sup> )	1.54
Blood Volume (mL)	4177.5

Cardiac Chambers	Emax (mmHg/ml)	Emin (mmHg/ml)	alpha 1	alpha 2	m1	m2	Qmax (mL)	Rwall	sigma	tdelay	v0	V_max
Left Atrium	0.12	0.12	0.088	0.176	1.31	9.1	4000	0.0005	0.0015	0.108	90	250
Left Ventricle	2.8	0.03	0.176	0.264	1.31	18.3	2000	5.00E-05	0.011936	0.318	115	350
Right Atrium	0.08	0.08	0.088	0.176	1.31	9.1	4000	0.0005	0.0015	0.085	75	250
Right Ventricle	0.6	0.015	0.176	0.264	1.31	9.1	2000	0.0002	0.011936	0.318	102	350

Cardiac Valves	A_ann	DP_close	DP_open	K_vc	K_vo	M_rg	M_st
Mitral valve	5	0	0	20	40	0	1
Aortic valve	5	0	0	20	20	0	1
Tricuspid valve	5	0	0	30	40	0	1
Pulmonary valve	5	0	0	30	30	0	1

Minimum pericardial pressure	Pericardial pressure constant	Pericardial volume constant	Pericardial volume constant 2	Atrial septal stiffness	Ventricular septal stiffness
-2	1	300.4	50	10	10

P-3

BlockName	$R_{\text{Poisuille}}$	E	L	Stenosis Coeff
	$\text{g cm}^{-4} \text{s}^{-1}$	$\text{g cm}^{-4} \text{s}^{-2}$	$\text{g cm}^{-4}$	-
Aortic Root	0.0029966	12808.63	0.27224979 --	
Ascending Aorta	0.3289765	109089.47	3.78630744	0.00000192
Proximal Aortic Arch	0.1039807	1336477.83	0.76210490	0.00182152
Distal Aortic Arch	8.0348863	152481.90	28.50672221	0.35569471
Descending Aorta	4.0066889	101547.11	20.52743973	0.00190477
Peripheral Arteries	5.6185480	3274.19	5.10468358 --	
Resistance Arteries	14.3639760	14713.88	0.31861004 --	
Right Carotid Artery	3.5611773	16840.16	30.16224802	0.00001079
Right Carotid Resistance Arteries	83.7898601	171661.88	1.85855857 --	
Right Carotid Capillaries	1.3092166	1072.89	0.00001162 --	
Right Carotid Vein	0.7855299	35.76	0.27878379 --	
Left Carotid Artery	6.1268599	25297.61	39.56269655	0.00004689
Left Carotid Resistance Arteries	83.7898601	171661.88	1.85855857 --	
Left Carotid Capillaries	1.3092166	1072.89	0.00001162 --	
Left Carotid Vein	0.7855299	35.76	0.27878379 --	
Systemic Capillaries	0.2805464	229.90	0.00000249 --	
Capacitance Vessels	0.1683278	7.66	0.05973938 --	
Superior Caval Vein	0.0306720	2932.45	2.13354938 --	
Inferior Caval Vein	0.0511200	1759.47	3.55591564 --	
Pulmonary Trunk	0.0096979	5722.06	0.77439941 --	
Pulmonary Artery	0.0193958	2288.83	1.54879881 --	
Pulmonary Resistance Arteries	0.3788242	14901.21	0.04839996 --	
Pulmonary Capillaries	0.3927650	321.87	0.00000348 --	
Pulmonary Small Veins	0.4794494	69.85	0.10889992 --	
Pulmonary Veins	0.0613440	7819.87	1.06677469 --	

Patient's Parameters	Value
Height (cm)	163
Weight (kg)	54.8
BSA ( $\text{m}^2$ )	1.58
Blood Volume (mL)	4110

Cardiac Chambers	E <sub>max</sub> (mmHg/ml)	E <sub>min</sub> (mmHg/ml)	alpha 1	alpha 2	m1	m2	Q <sub>max</sub> (mL)	R <sub>wall</sub>	sigma	tdelay	v0	V <sub>max</sub>
Left Atrium	0.12	0.12	0.088	0.176	1.31	9.1	4000	0.0005	0.0015	0.108	92	250
Left Ventricle	2.8	0.03	0.176	0.264	1.31	18.3	2000	5.00E-05	0.011618	0.318	122.35	350
Right Atrium	0.08	0.08	0.088	0.176	1.31	9.1	4000	0.0005	0.0015	0.085	50	250
Right Ventricle	0.6	0.015	0.176	0.264	1.31	9.1	2000	0.0002	0.011618	0.318	103	350

Cardiac Valves	A <sub>ann</sub>	DP <sub>close</sub>	DP <sub>open</sub>	K <sub>vc</sub>	K <sub>vo</sub>	M <sub>rg</sub>	M <sub>st</sub>
Mitral valve	5	0	0	20	40	0	1
Aortic valve	5	0	0	20	20	0	1
Tricuspid valve	5	0	0	30	40	0	1
Pulmonary valve	5	0	0	30	30	0	1

Minimum pericardial pressure	Pericardial pressure constant	Pericardial volume constant	Pericardial volume constant 2	Atrial septal stiffness	Ventricular septal stiffness
-2	1	300.4	50	10	10

P-4

BlockName	$R_{\text{Poisuille}}$	E	L	Stenosis Coeff
	$\text{g cm}^{-4} \text{s}^{-1}$	$\text{g cm}^{-4} \text{s}^{-2}$	$\text{g cm}^{-4}$	-
Aortic Root	0.0022403	8691.04	0.24709261 --	
Ascending Aorta	0.2080639	53725.21	3.53268794	9.05E-10
Proximal Aortic Arch	0.0058250	13756.34	0.39843605 --	
Distal Aortic Arch	0.0142766	7643.04	0.87104462 --	
Descending Aorta	2.9953202	20470.39	28.83723941	0.002638799
Peripheral Arteries	4.2004970	2221.64	4.63298636 --	
Resistance Arteries	10.7386888	9983.80	0.28916895 --	
Right Carotid Artery	3.5611773	16840.16	30.16224802	0.029053251
Right Carotid Resistance Arteries	62.6423511	116477.66	1.68681886	
Right Carotid Capillaries	0.9787867	727.99	0.00001054 --	
Right Carotid Vein	0.5872720	24.27	0.25302283 --	
Left Carotid Artery	6.1268599	25297.61	39.56269655	1.119594675
Left Carotid Resistance Arteries	62.6423511	116477.66	1.68681886 --	
Left Carotid Capillaries	0.9787867	727.99	0.00001054 --	
Left Carotid Vein	0.5872720	24.27	0.25302283 --	
Systemic Capillaries	0.2097400	156.00	0.00000226 --	
Capacitance Vessels	0.1258440	5.20	0.05421918 --	
Superior Caval Vein	0.0229308	1989.76	1.93639920 --	
Inferior Caval Vein	0.0382179	1193.85	3.22733200 --	
Pulmonary Trunk	0.0072503	3882.59	0.70284119 --	
Pulmonary Artery	0.0145005	1553.04	1.40568238 --	
Pulmonary Resistance Arteries	0.2832138	10110.91	0.04392757 --	
Pulmonary Capillaries	0.2936360	218.40	0.00000316 --	
Pulmonary Small Veins	0.3584424	47.39	0.09883704 --	
Pulmonary Veins	0.0458615	5306.02	0.96819960 --	

Patient's Parameters	Value
Height (cm)	176
Weight (kg)	73.3
BSA ( $\text{m}^2$ )	1.89
Blood Volume (mL)	5497.5

Cardiac Chambers	E <sub>max</sub> (mmHg/ml)	E <sub>min</sub> (mmHg/ml)	alpha 1	alpha 2	m1	m2	Q <sub>max</sub> (mL)	R <sub>wall</sub>	sigma	tdelay	v0	V <sub>max</sub>
Left Atrium	0.12	0.12	0.088	0.176	1.31	9.1	4000	0.0005	0.0015	0.108	90	250
Left Ventricle	2.8	0.03	0.176	0.264	1.31	18.3	2000	5.00E-05	0.01	0.318	115	350
Right Atrium	0.08	0.08	0.088	0.176	1.31	9.1	4000	0.0005	0.0015	0.085	75	250
Right Ventricle	0.6	0.015	0.176	0.264	1.31	9.1	2000	0.0002	0.01	0.318	102	350

Cardiac Valves	A <sub>ann</sub>	DP <sub>close</sub>	DP <sub>open</sub>	K <sub>vc</sub>	K <sub>vo</sub>	M <sub>rg</sub>	M <sub>st</sub>
Mitral valve	5	0	0	20	40	0	1
Aortic valve	5	0	0	20	20	0	1
Tricuspid valve	5	0	0	30	40	0	1
Pulmonary valve	5	0	0	30	30	0	1

Minimum pericardial pressure	Pericardial pressure constant	Pericardial volume constant	Pericardial volume constant 2	Atrial septal stiffness	Ventricular septal stiffness
-2	1	300.4	50	10	10

P-5

BlockName	$R_{\text{Poisuille}}$	E	L	Stenosis Coeff
	$\text{g cm}^{-4} \text{s}^{-1}$	$\text{g cm}^{-4} \text{s}^{-2}$	$\text{g cm}^{-4}$	-
Aortic Root	0.0018660	6811.35	0.23248781 --	
Ascending Aorta (segment 1)	0.0106693	113193.78	0.38035047	0.00000427
Ascending Aorta (segment 2)	0.0134238	99445.53	0.46283090	2.58E-09
Proximal Aortic Arch (segment 1)	0.4272928	414986.25	2.88739404	0.04708531
Proximal Aortic Arch (segment 2)	0.0169111	230366.98	0.40801432	0.000000536
Distal Aortic Arch	0.8233546	26458.13	11.19193389	0.000443528
Descending Aorta	0.5043361	42433.05	6.89623713	0.000000283
Peripheral Arteries	3.4988230	1741.14	4.35914641 --	
Resistance Arteries	8.9448396	7824.52	0.27207716 --	
Right Carotid Artery	3.5611773	16840.16	30.16224802	0.0000169
Right Carotid Resistance Arteries	52.1782311	91286.04	1.58711677 --	
Right Carotid Capillaries	0.8152849	570.54	0.00000992 --	
Right Carotid Vein	0.4891709	19.02	0.23806752 --	
Left Carotid Artery (segment 1)	6.1268599	25297.61	39.56269655	0
Left Carotid Artery (segment 2)	4.7692159	260139.61	16.84985049	0.407686867
Left Carotid Resistance Arteries	52.1782311	91286.04	1.58711677 --	
Left Carotid Capillaries	0.8152849	570.54	0.00000992 --	
Left Carotid Vein	0.4891709	19.02	0.23806752 --	
Systemic Capillaries	0.1747039	122.26	0.00000213 --	
Capacitance Vessels	0.1048223	4.08	0.05101447 --	
Superior Caval Vein	0.0191003	1559.41	1.82194528 --	
Inferior Caval Vein	0.0318338	935.65	3.03657546 --	
Pulmonary Trunk	0.0060391	3042.87	0.66129866 --	
Pulmonary Artery	0.0120783	1217.15	1.32259731 --	
Pulmonary Resistance Arteries	0.2359042	7924.14	0.04133117 --	
Pulmonary Capillaries	0.2445855	171.16	0.00000298 --	
Pulmonary Small Veins	0.2985662	37.14	0.09299512 --	
Pulmonary Veins	0.0382006	4158.44	0.91097264 --	

Patient's Parameters	Value
Height (cm)	181.4
Weight (kg)	88
BSA (m <sup>2</sup> )	2.09
Blood Volume (mL)	6600

Cardiac Chambers	E <sub>max</sub> (mmHg/ml)	E <sub>min</sub> (mmHg/ml)	alpha 1	alpha 2	m1	m2	Q <sub>max</sub> (mL)	R <sub>wall</sub>	sigma	t <sub>delay</sub>	v0	V <sub>max</sub>
Left Atrium	0.12	0.12	0.088	0.176	1.31	9.1	4000	0.0005	0.0015	0.108	90	250
Left Ventricle	2.8	0.03	0.176	0.264	1.31	18.3	2000	5.00E-05	0.008656	0.318	115	350
Right Atrium	0.08	0.08	0.088	0.176	1.31	9.1	4000	0.0005	0.0015	0.085	75	250
Right Ventricle	0.6	0.015	0.176	0.264	1.31	9.1	2000	0.0002	0.01	0.318	102	350

Cardiac Valves	A <sub>ann</sub>	DP <sub>close</sub>	DP <sub>open</sub>	K <sub>vc</sub>	K <sub>vo</sub>	M <sub>rg</sub>	M <sub>st</sub>
Mitral valve	5	0	0	20	40	0	1
Aortic valve	5	0	0	20	20	0	1
Tricuspid valve	5	0	0	30	40	0	1
Pulmonary valve	5	0	0	30	30	0	1

Minimum pericardial pressure	Pericardial pressure constant	Pericardial volume constant	Pericardial volume constant 2	Atrial septal stiffness	Ventricular septal stiffness
-2	1	300.4	50	10	10