

Materials List for

Particle Image Velocimetry Investigation of Hemodynamics *via* Aortic Phantom

Jihun Kang¹, Hojin Ha¹

¹Interdisciplinary Program in Biohealth-Machinery Convergence Engineering, Kangwon National University

Corresponding Author

Hojin Ha
hojinha@kangwon.ac.kr

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jove.com/video/63492

Materials

Name	Company	Catalog Number	Comments
3D Printer	Prusa Research		Original Prusa i3 MK2; FDM printer
Aluminum bar (square)	APSPRO	KHP-3030, KHP-6060	Dimension: 30 mm x 30 mm, 60 mm x 60 mm
Bulb pump	Skyhope		MHL-1
Camera controlling software	Phantom	PCC 3.4 software	The software controll the high speed camera
Check valve	HANJU STEEL PIPE		Check valve; 1/2 inch (15A)
Digital Aquisition device	National Instruments		USB-6001
Glycerin	ANU Korea		It used for making a working fluid
High-speed camera	Phantom		Phantom VEO 710E-L
Laser	Changchun New Industries Optoelectronics Technology		MGL-W-532; CW Nd:YAG Laser
Linear actuator	THOMSON		PC-40; it converts the rotational motion to lenear motion
Macro lens	Nikon		VR Micro-NIKKOR 105mm, f/2.8 G
Motor	KOLLMORGEN		AKM33H-ANCNR-00; DC servo motor
Motor controlling software	KOLLMORGEN		Kollmorgen software; the software controll the motor driver
Motor driver	KOLLMORGEN		AKD-B00606-NBAN-0000
Open-source electronic prototypic platform	Arduino	A000066	Arduino Uno R3. It used for making a external trigger
Optic table	SMTECH		1800 (W) x 900 (B) x 800 (H)
Particle	Dantec Dynamics	80A6011	Hollow Glass Sphere. Mean diameter: 10 μm , Density: 1090 kg/m^3
PIVlab	PIVlab		Open source algorithm based on MATLAB https://kr.mathworks.com/matlabcentral/fileexchange/27659-pivlab-particle-image-velocimetry-piv-tool-with-gui

Pressure gauge	OMEGA		PX309-015A5V. Measurement range: 0~15psi
Refractometer	ATAGO	2350	R-5000. Hand held refractometer; measurement range: 1.333-1.520
Resistance valve	HANJU STEEL PIPE		Ball valve; 1/2 inch (15A)
Saline	DAI HAN PHARM		It is used for making a working fluid and for preserving the TAV
Silicone hose	HSW		Inner diameter 26mm, Outer diameter 30mm; Inlet length 5m, Outlet length 1.5m
System engineering software	National Instruments		LabVIEW software. The software controls the DAQ.
Transcatheter Aortic Valve, TAV (23 mm) and TAV (26 mm)	Edwards Lifesciences		SAPIEN3 23mm, SAPIEN3 26mm. It is supported by Seoul Asan Medical
Viscosimeter	Brookfield		DVELV; Measurement range: $1-2 \times 10^9$ cp