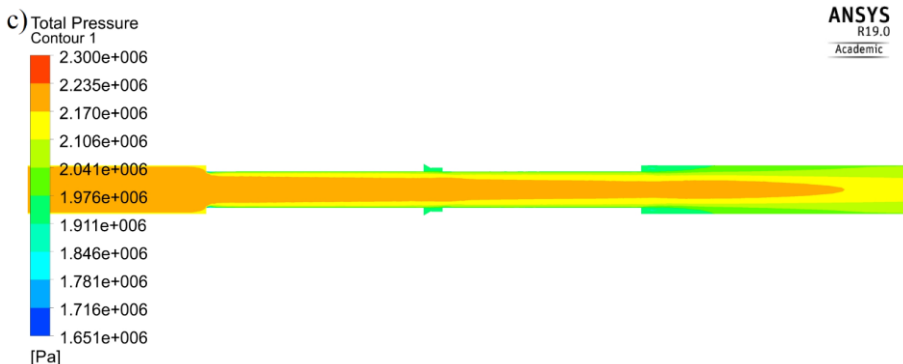
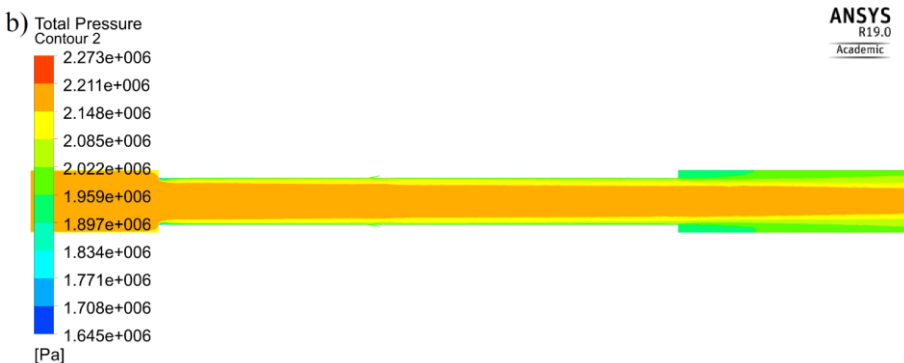
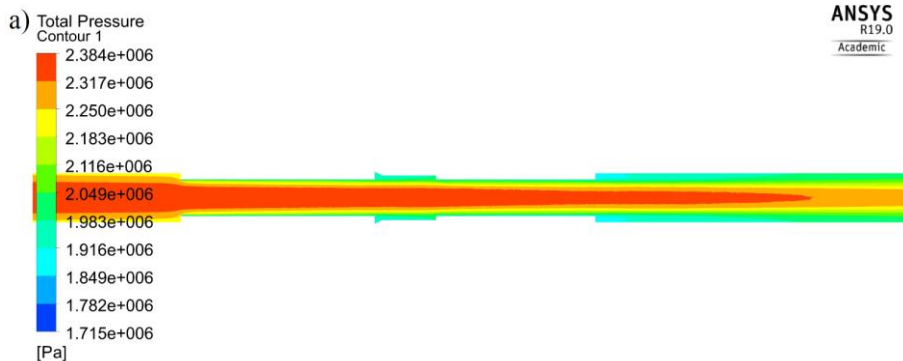


Annex A. Additional Graphical Results from the ANSYS CFD Modelling



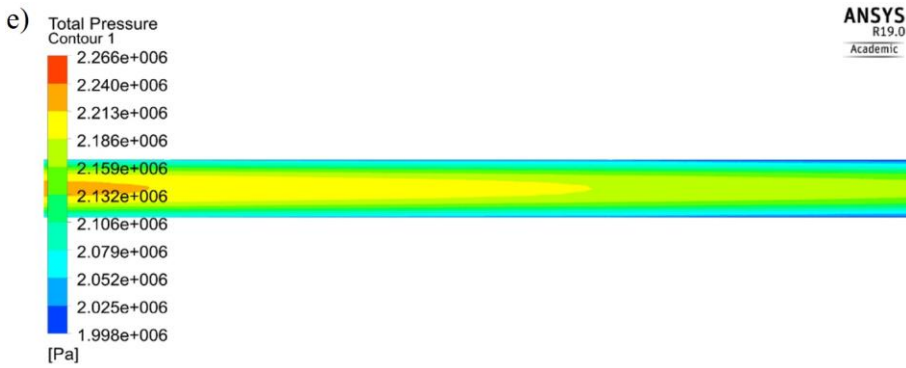
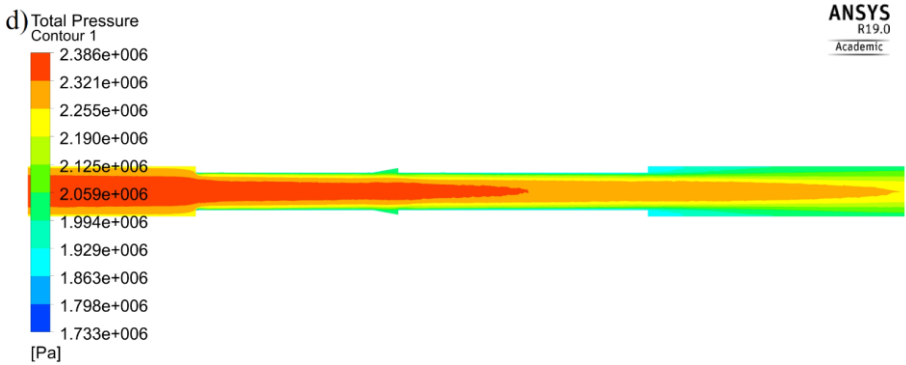
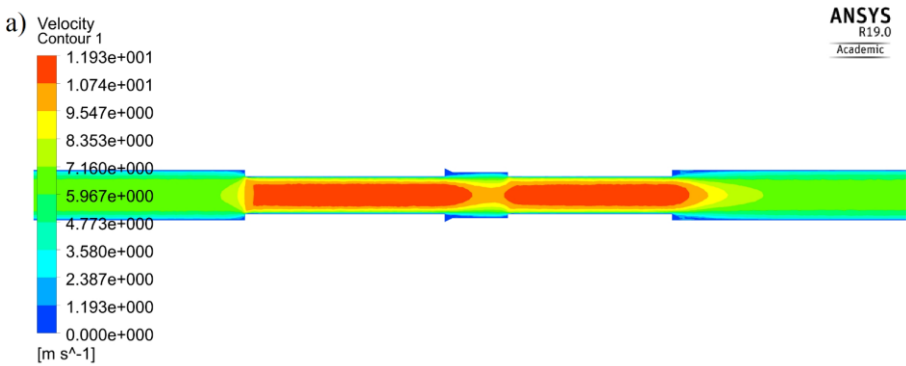
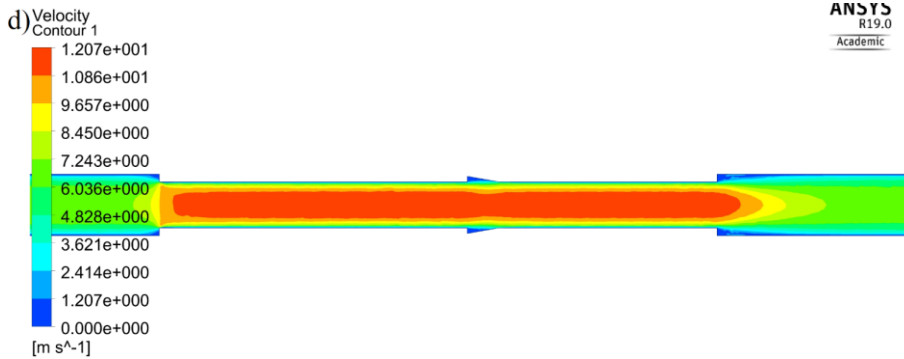
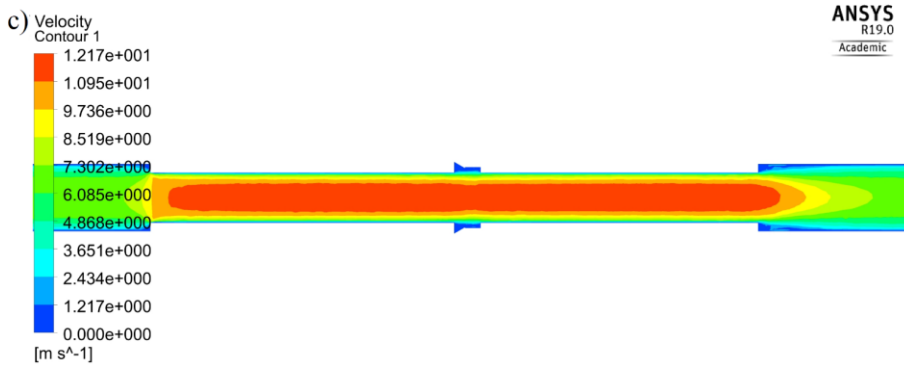
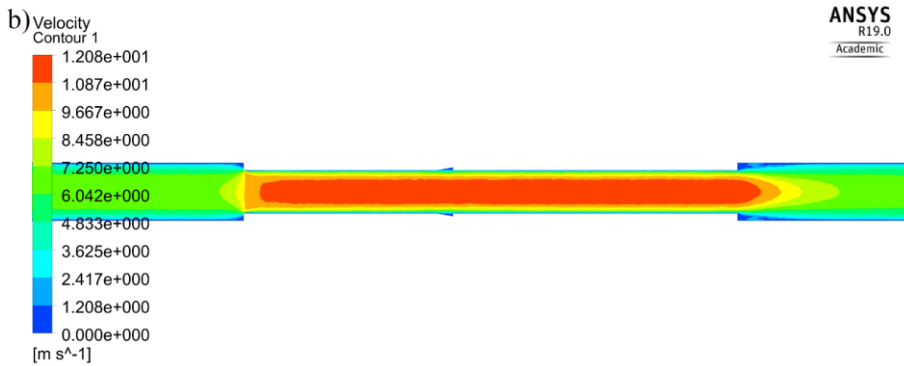


Fig. A.1. Total fluid pressure across fitting connections (by Fluent modelling): a) BSP fitting connection; b) JIS fitting connection; c) DKOL fitting connection; d) ORFS fitting connection; e) equivalent length straight pipe.





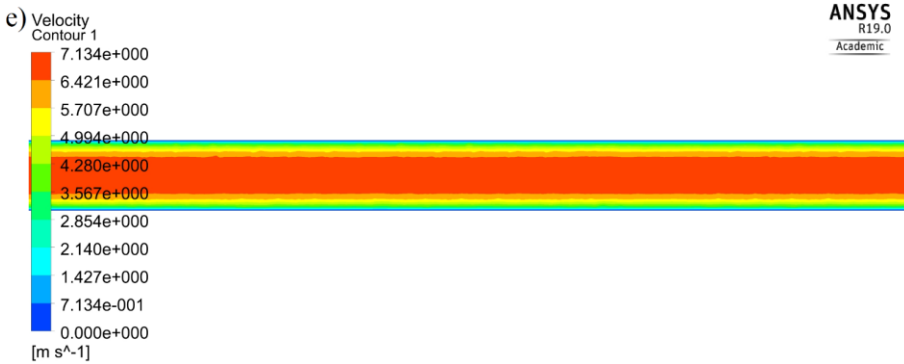
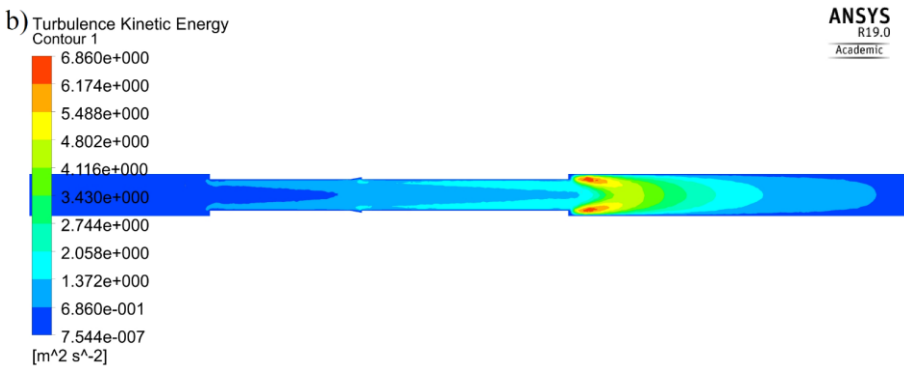
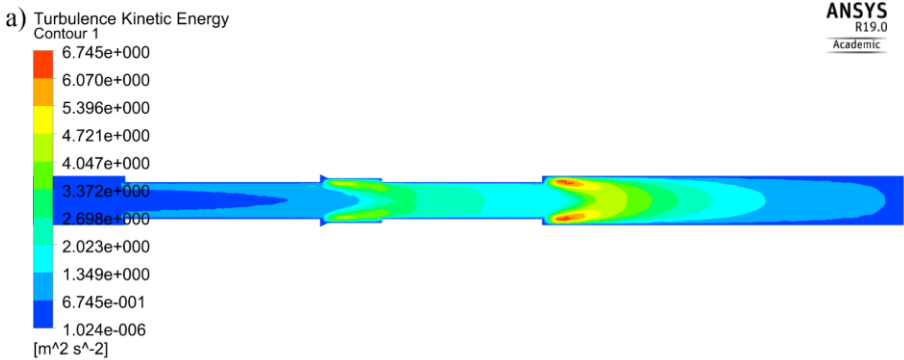


Fig. A.2. Velocity magnitude by fluid flow vectors across fitting connections (by Fluent modelling): a) BSP fitting connection; b) JIS fitting connection; c) DKOL fitting connection; d) ORFS fitting connection; e) equivalent length straight pipe.



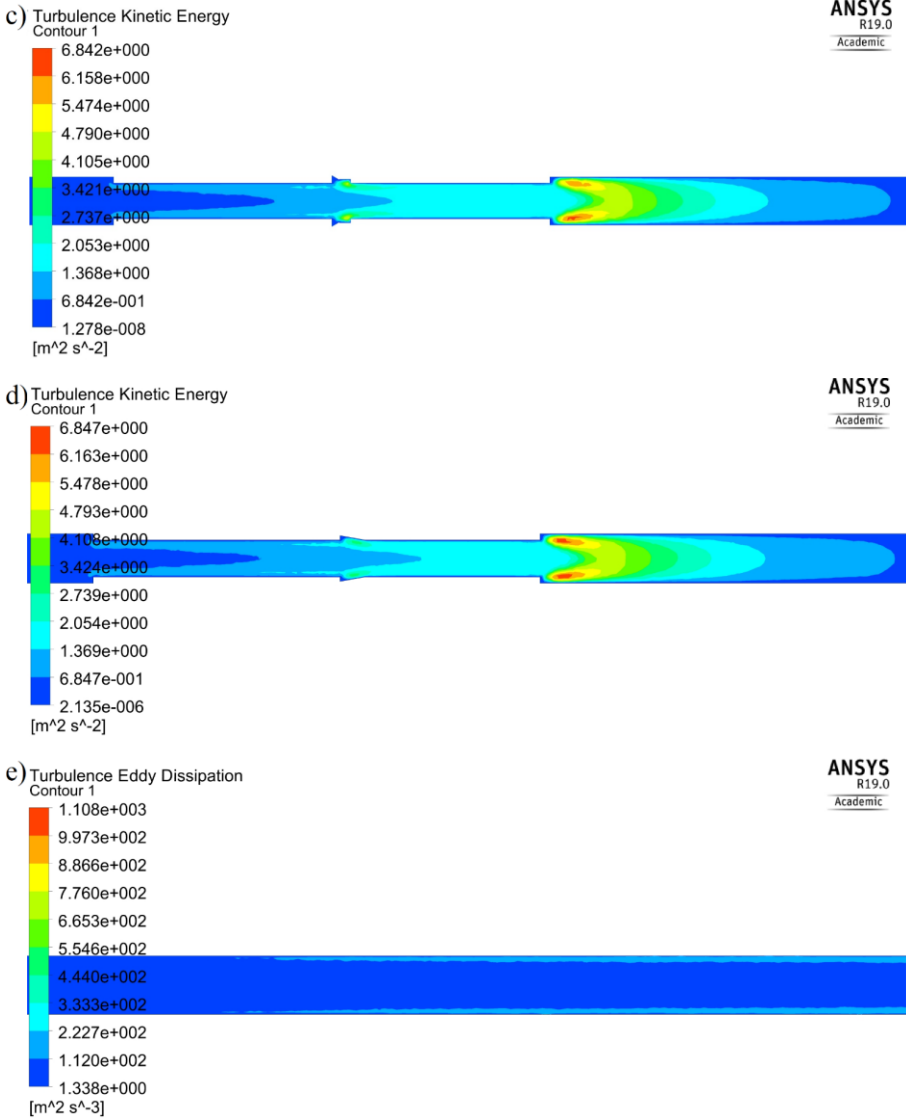
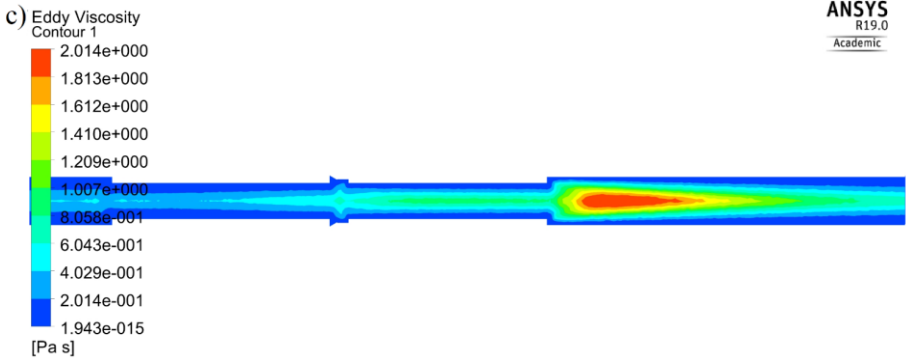
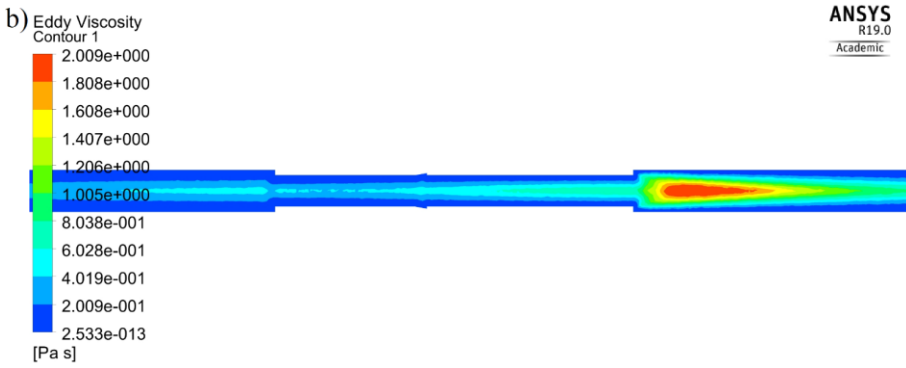
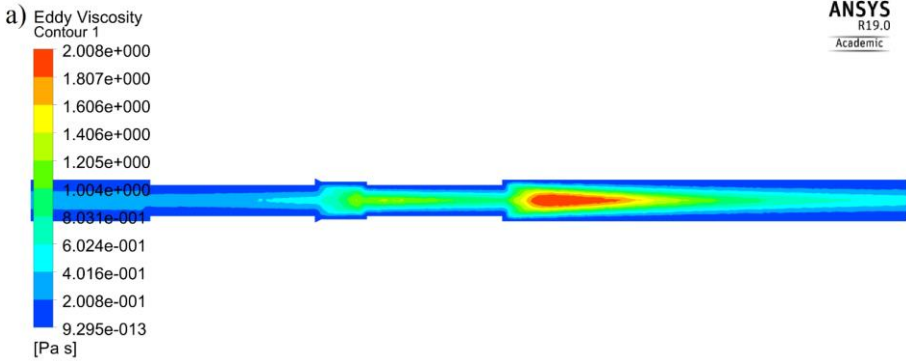


Fig. A.3. Turbulence Kinetic Energy of fluid flow across fitting connections (by Fluent modelling): a) BSP fitting connection; b) JIS fitting connection; c) DKOL fitting connection; d) ORFS fitting connection; e) equivalent length straight pipe.



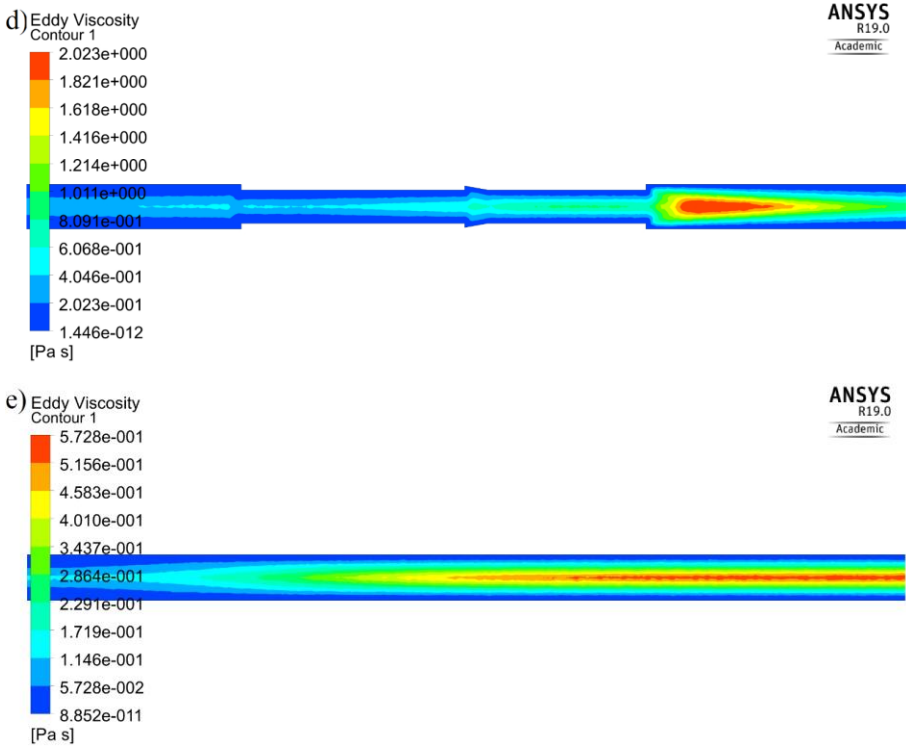
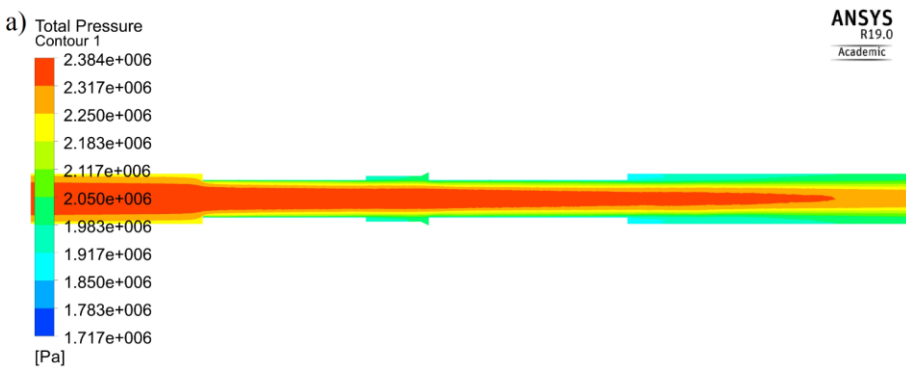
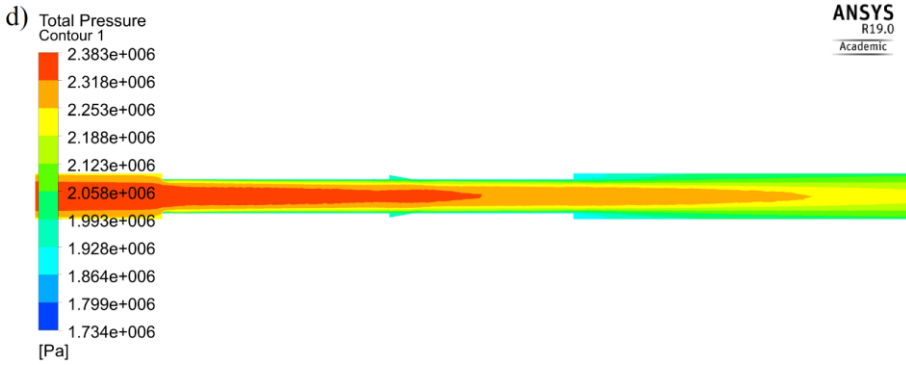
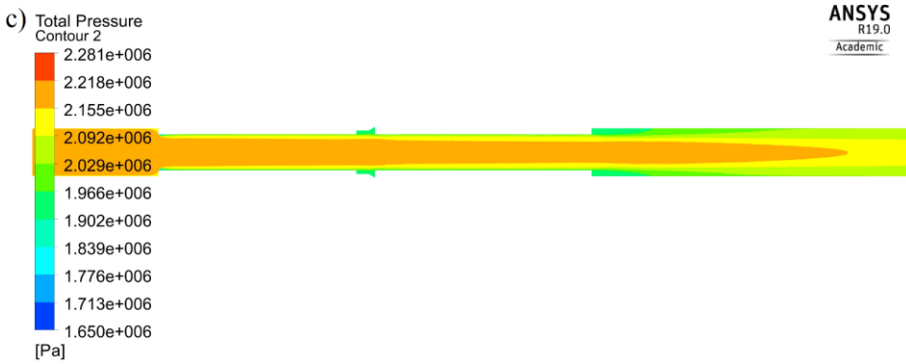
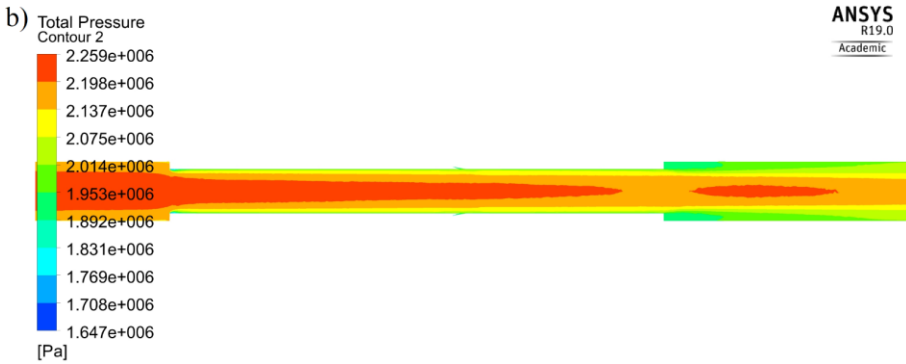


Fig. A.4. Eddy Viscosity of fluid flow across fitting connections (by Fluent modelling): a) BSP fitting connection; b) JIS fitting connection; c) DKOL fitting connection; d) ORFS fitting connection.





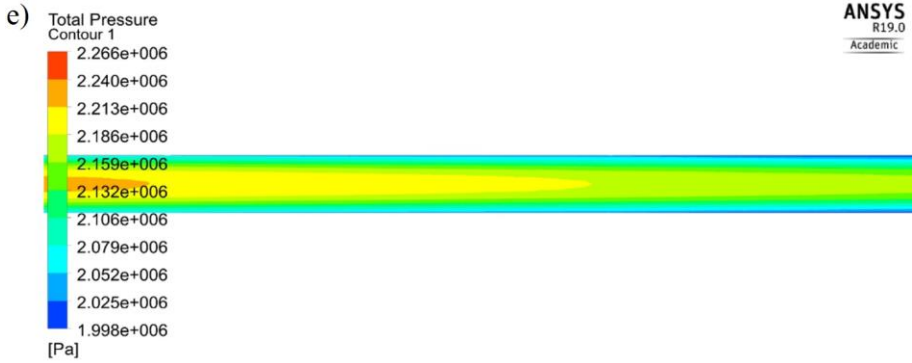
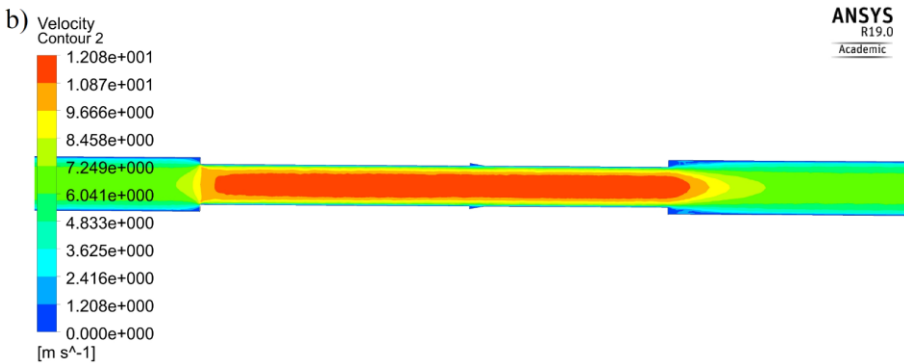
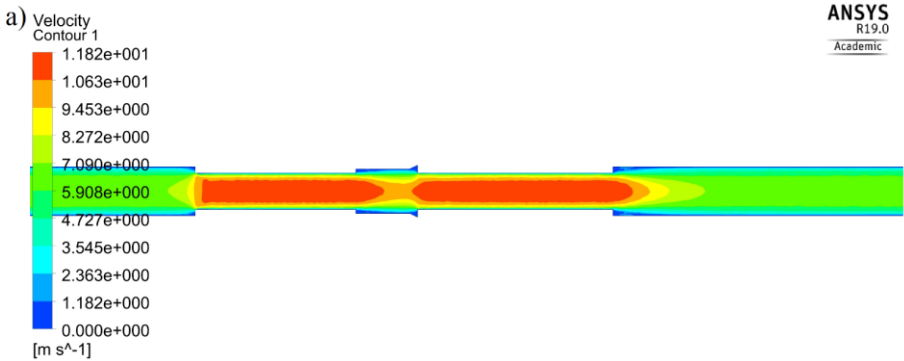


Fig. A.5. Total fluid pressure across fitting connections in backflow (by Fluent modeling): a) BSP fitting connection; b) JIS fitting connection; c) DKOL fitting connection; d) ORFS fitting connection; e) equivalent length straight pipe.



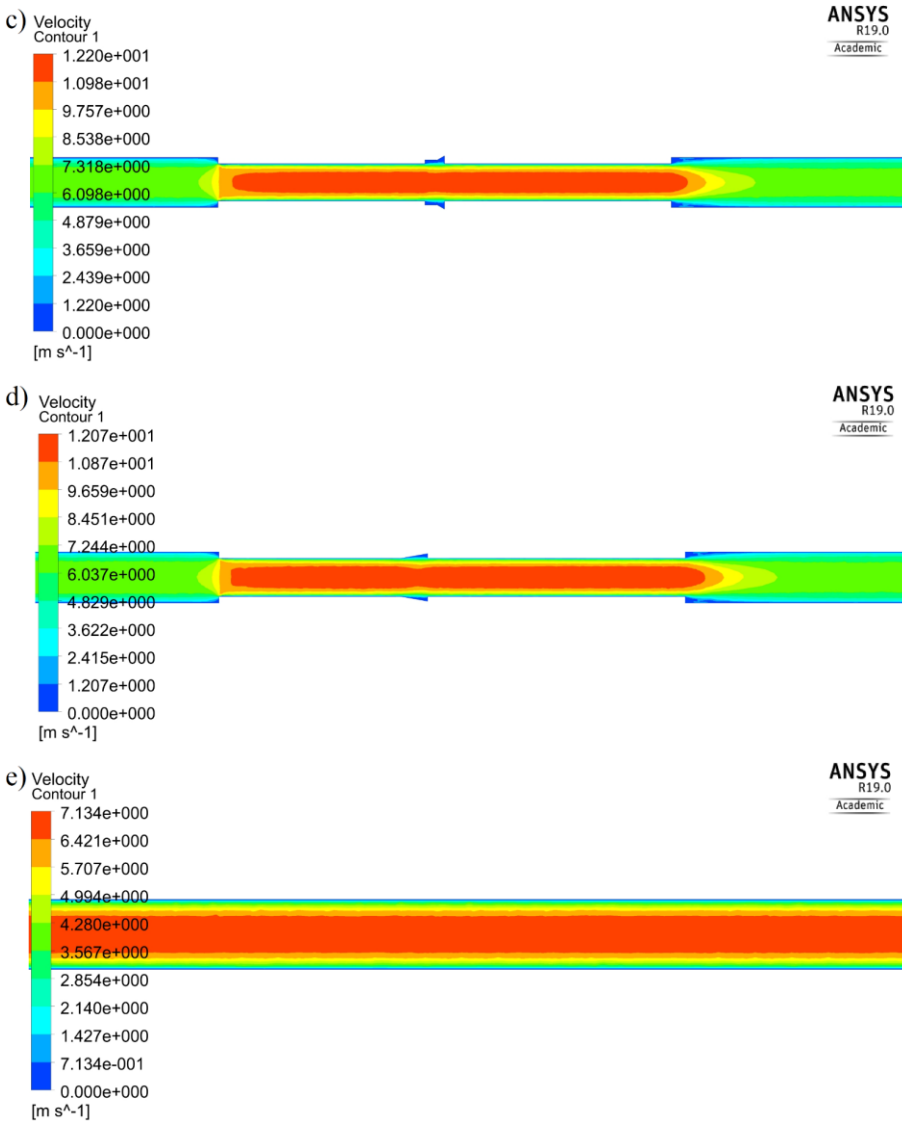
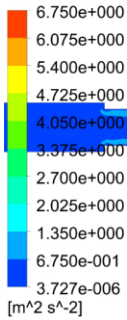


Fig. A.6. Velocity magnitude by fluid flow vectors across fitting connections in back-flow (by Fluent modelling): a) BSP fitting connection; b) JIS fitting connection; c) DKOL fitting connection; d) ORFS fitting connection; e) equivalent length straight pipe.

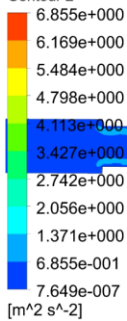
a) Turbulence Kinetic Energy

Contour 1

ANSYS
R19.0
Academic

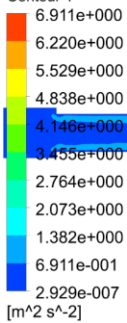
b) Turbulence Kinetic Energy

Contour 2

ANSYS
R19.0
Academic

c) Turbulence Kinetic Energy

Contour 1

ANSYS
R19.0
Academic

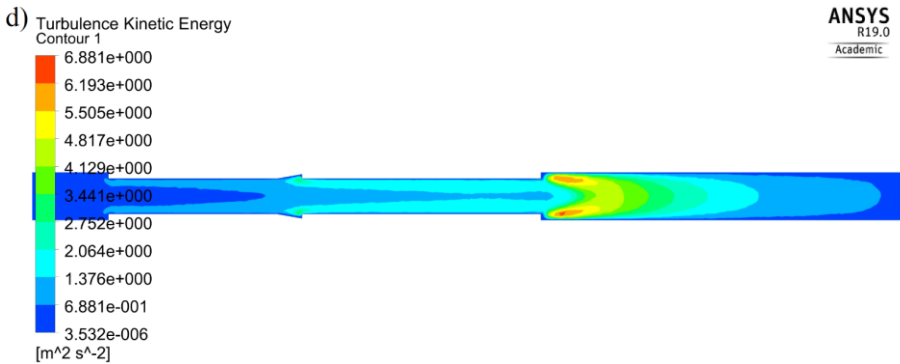
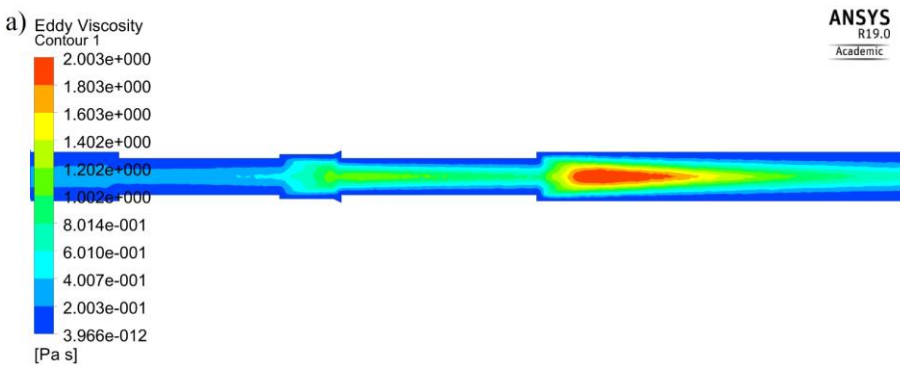
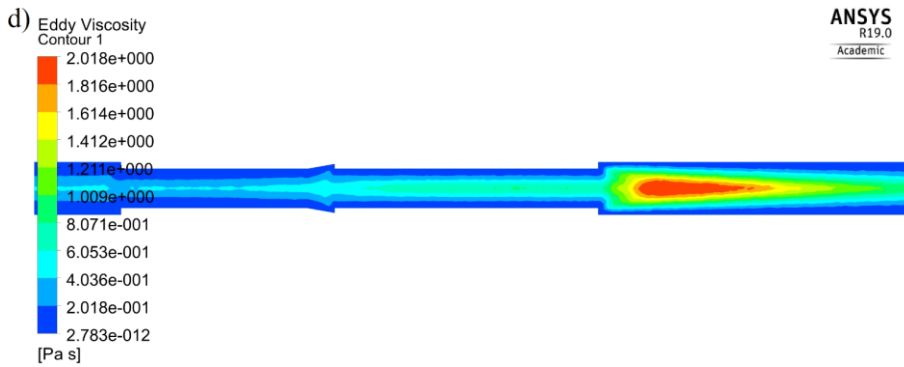
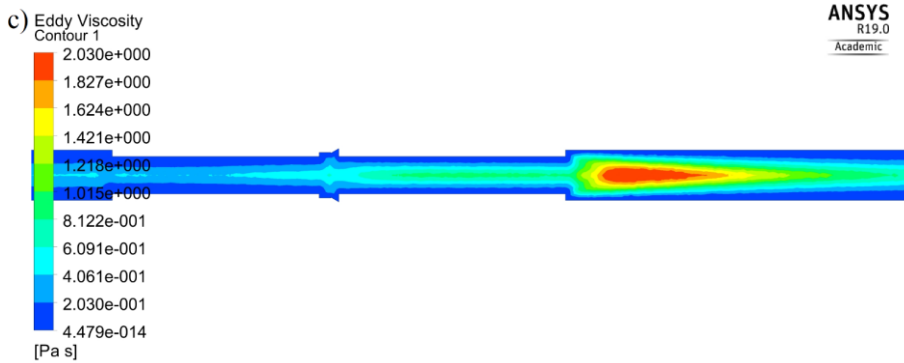
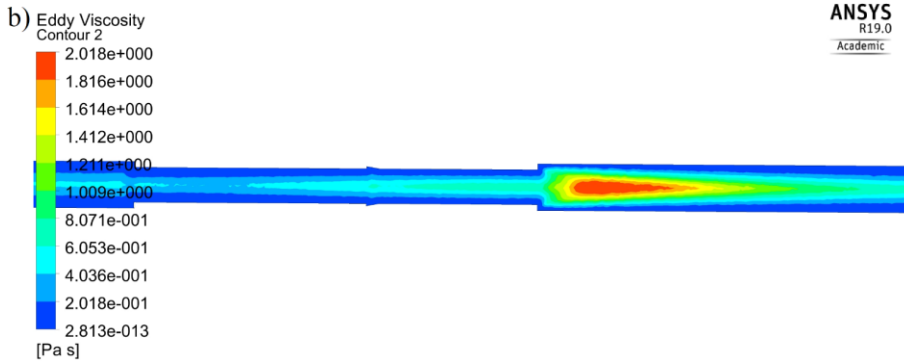


Fig. A.7. Turbulence Kinetic Energy of fluid flow across fitting connections in backflow (by Fluent modelling): a) BSP fitting connection; b) JIS fitting connection; c) DKOL fitting connection; d) ORFS fitting connection; e) equivalent length straight pipe.





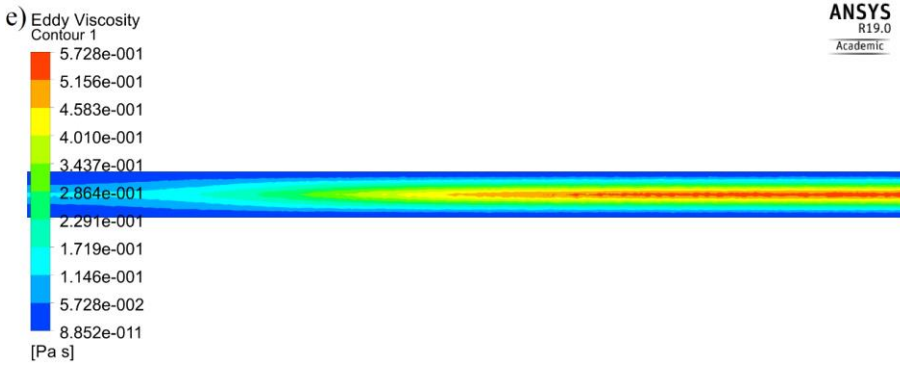


Fig. A.8. Eddy Viscosity of fluid flow across fitting connections in backflow (by Fluent modelling): a) BSP fitting connection; b) JIS fitting connection; c) DKOL fitting connection; d) ORFS fitting connection.