ANSYS AIM - Flow in a S-Duct

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Flow in a S-Duct

Created using ANSYS 18.1

Problem Specification

S-ducts, or serpentine inlets, are commonly found in jet engines due to their ability to allow shorter fins and rudders closer to the engine in the longitudinal direction. S-ducts are found in many other applications, from basic HVAC to complex F1 racing.

In this tutorial, the velocity vectors and pressure profile will be simulated in an S-duct. The flow volume has been provided. Flow will enter the large volume upstream of the S-duct and exit from the end protruding from the large volume. The pressure at the inlet will be 88744 [Pa] and the outlet will be supersonic.

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