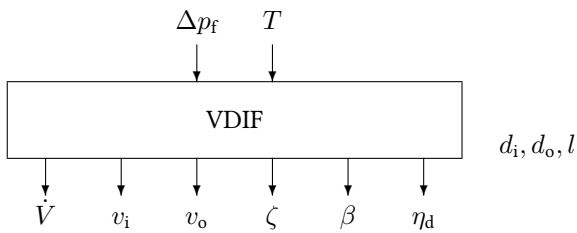


Block VDIF

The VDIF block calculates the Volume flow in a diffuser due to friction of an incompressible one-phase turbulent tubular flow.



Name	VDIF
Function	st0018
Inputs	2
Outputs	6
Parameters	3
Strings	0
Group	S

Inputs

- 1 Pressure drop Δp_f / Pa
- 2 Air temperature T / °C

Outputs

- 1 Volume flow $\dot{V}$ / m³ h⁻¹
- 2 Inlet flow velocity v_i / m s⁻¹
- 3 Outlet flow velocity v_o / m s⁻¹
- 4 Zeta value ζ
- 5 Opening angle β / m s⁻¹
- 6 Diffuser efficiency η_d

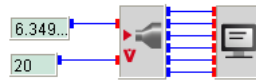
Parameters

- 1 Inlet diameter d_i / m
- 2 Outlet diameter d_o / m
- 3 Length l / m

Strings

None

vdif.vseit



A diffuser of length 1 m with an inlet diameter of 0.25 m and an outlet diameter of 0.4 m is simulated for a pressure drop of 6.34972 Pa and an air temperature of 20 °C as defined by two **CONST** blocks.

A **SCREEN** block displays all six outputs of the **VDIF** block.

1800.00049 10.18592 3.97887 0.10302 8.57831 0.87843