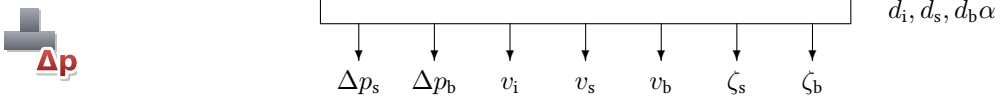
Block DPJUNR

The DPJUNR block calculates the pressure drop of a round junction.



Name	DPJUNR
Function	st0023
Inputs	3
Outputs	3
Parameters	4
Strings	0
Group	S

Inputs

1 Inlet volume flow $\dot{V}_\mathrm{i}$ / $\mathrm{m^3\,h^{-1}}$
2 Branch volume flow $\dot{V}_\mathrm{b}$ / $\mathrm{m^3\,h^{-1}}$
3 Air temperature T / °C

Outputs

1 Pressure drop Δp_s / Pa
2 Pressure drop Δp_b / Pa
3 Flow velocity v_i / $\mathrm{m\,s^{-1}}$
4 Flow velocity v_s / $\mathrm{m\,s^{-1}}$
5 Flow velocity v_b / $\mathrm{m\,s^{-1}}$
6 Zeta value ζ_s
7 Zeta value ζ_b

Parameters

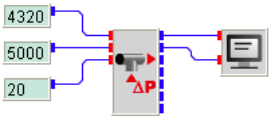
1 Inlet tube diameter d_i / m
2 Straight tube diameter d_s / m
3 Branch tube diameter d_b / m
4 Branch angle α / °

Strings

None

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dpjunr.vseit



A round junction with inlet and straight tube diameter 0.9098 m and a branch tube diameter of 0.2764 m is simulated for an inlet volume flow of 4320 m^3/hand a branch volume flow of 5000 m^3/h of air at a temperature of 20 °C, as defined through three CONST blocks.

The resulting pressure drops in Pascal are displayed by a SCREEN block.

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98.187    261.715
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