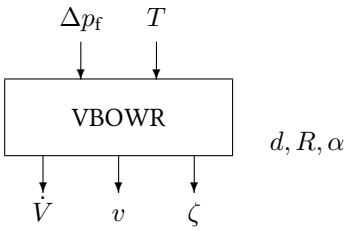
Block VBOWR

The VBOWR block calculates the Volume flow of a round bow due to friction of an incompressible one-phase turbulent tubular flow.





Name	VBOWR
Function	st0021
Inputs	2
Outputs	3
Parameters	3
Strings	0
Group	S

Inputs

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

Outputs

1	Volume flow $\dot{V}$ / $\mathrm{m^3\,h^{-1}}$
2	Flow velocity v / $\mathrm{m\,s^{-1}}$
3	Zeta value ζ

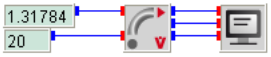
Parameters

1	Tube diameter d / m
2	Bow radius R / m
3	Angle α / °

Strings

None

vbowr.vseit



A round 90° bow with a tube diameter of 0.4 m and a bow radius of 1 m is simulated for a pressure drop of 1.31784 Pa and an air temperature of 20 °C as defined by two CONST blocks.

A SCREEN block displays the three outputs of the VBOWR block.

```
1800.00269      3.97888      0.14012
```